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Teaching Chinese Language in the International School Context

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Jia-Fei Hong · Chung-Mou SI
Editors

Teaching Chinese Language in the International School Context

🐎 Springer

Editors
Jia-Fei Hong
Department of Chinese as a Second
Language
National Taiwan Normal University
Taipei, Taiwan

Chung-Mou SI
Department of Chinese Language Studies
The Education University of Hong Kong
Hong Kong, China

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Chapter 1
Introduction

Jia-Fei Hong and Shih-Hsuan Hsiao

In the nineteenth century, British scholar, Herbert Spencer, mentioned in his 1857 work, *What Knowledge is Worth Most?* that curricular activities must be beneficial to the development of society, with "the application of knowledge" and "how to achieve self-preservation" as the standards of judgment. In order of importance, knowledge of worth should constitute "those activities which directly minister to self-preservation," "those activities which, by securing the necessaries of life, indirectly minister to self-preservation," "those activities which have for their end the rearing and discipline of offspring," "those activities which are involved in the maintenance of proper social and political relations," and "those miscellaneous activities which fill up the leisure part of life, devoted to the gratification of the tastes and feelings." To sum up Spencer's claim, all learning activities of worth must be related to "science."

Spencer was influenced by Utilitarianism and Charles Darwin's "Theory of Evolution," and the essence of his theory shows that after the Scientific Revolution, the development of all disciplines has been based on the spirit of rational science, and its goal to promote the overall well-being of humans and the harmonious development of the world by implementing the concept of curricular professionalism in life through education. Educational philosophy, hand-in-hand with scientific development and globalization, has entered the digital age, exhibiting a completely different look compared to the past few centuries. In an era in which science prospers, information flows rapidly, and values and morals are represented in diverse fashions, the type of education we must acquire to gain knowledge of worth has become an urgent problem waiting to be solved. In the early twentieth century, American education

J.-F. Hong (✉)
National Taiwan Normal University, Taipei, Taiwan
e-mail: jiafeihong@ntnu.edu.tw

S.-H. Hsiao
Kang Chiao International School, New Taipei City, Taiwan

scholar John Dewey, in his book *Schools of Tomorrow* (2018), compared the United States at that time with the Rousseau era:

> If it was true in Rousseau's day that information, knowledge, as an end in itself, is an "unfathomable and shoreless ocean," it is much more certain that the increase of science since his day has made absurd the identification of education with the mere accumulation of knowledge.

Dewey points out here that educators are often caught up in "accumulating information in the form of symbols" and "mechanical and meager teaching of the three R's(reading writing arithmetic)" which he considers to be the most efficient way to teach students to face the future, which Dewey calls "teaching which imposes adult accomplishments." Although this educational model attaches great importance to the accumulation and transferability of knowledge and the quantification of learning achievement, it is very suited to act as an indicator of globalized competition. However, the above contradicts Dewey's philosophy of "education as natural development" and "learner-centered." We are now more than a century away from Dewey and facing an unpredictable and endless ocean of knowledge in the Digital Age. Can we achieve a balance between the accumulation of knowledge and understanding innovation, and construct a curriculum module or education system suitable for the new global context? Perhaps the International Baccalaureate Programme can provide a better answer in today's global learning environment.

After the end of the Second World War, the global economy recovered and flourished. Due to the urgent demand for professional talents, international migration rapidly increased. Immigrant children are often confronted with various problems related to adapting to local or international schools, cultures, and educational systems, making it an imperative need to construct a system of international curriculum with a global background, multicultural learning, and fair assessment. Looking back in time, we may find the trajectory for the development of International Baccalaureate (IB). In 1947, the United Nations International Schools was established in New York City, U.S.A. Its educational purpose was to implement the "denationalization" principle of the UN, and its aim was to meet the educational needs of the children of UN workers. Later on, the International Schools Association (ISA) was established in Geneva, Switzerland in 1951. It was the world's first international educational organization recognized by the United Nations Educational, Scientific and Cultural Organization (UNESCO). With the core values of "peace, freedom, equality, tolerance and the celebration of both diversity and similarity," it has made significant contributions to the promotion of international education and the establishment of the International Baccalaureate Organization (IBO). In 1968, the IBO applied for its establishment in Geneva, Switzerland, with its first program called the Diploma Programme (DP). During the 1980s, the International Program for Middle Schools was set up, which in turn urged the IBO to carry out its Middle Years Programme (MYP). Subsequently, the Primary Years Programme (PYP) was developed in 1997 and the Career-related Programme (CP) in 2012 (Peterson, 2003; Cambridge & Thompson, 2004; Bunnell & Denmark, 2008). With more than half a century of

improvement, development, and promotion, there are currently 5649 schools participating in various IB courses around the world (IBO, 2022). It is now the largest and most national-educational-institution-recognized educational system, providing standardized curriculum and assessments for students aged 3 to 19. In addition to its "globalized" curriculum planning and educational standards, to avoid the loss of learners' own cultural awareness under a globalized learning system, IB requires all participating schools to propose language learning policies. This helps to maintain traditional language and culture learning, looking forward to building an educational system that is compatible with global backgrounds and local cultures.

In response to the current situation of globalization and the rapid flow and evolution of knowledge and information, and to meet the needs of global participants in the curriculum, the IBO has stated its intention as:

> to provide a challenging and comprehensive education that would enable students to understand and manage the complexities of our world and provide them with skills and attitudes for taking responsible action for the future. Such an education was rooted in the belief that people who are equipped to make a more just and peaceful world need an education that crosses disciplinary, cultural, national and geographical boundaries. (*What is an IB education*, 2012)

IBO is dedicated "to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect." It further defines its educational philosophy as "student-centered," "developing effective teaching and learning methods," "teaching in a global context," and "exploring important matters" (*What is an IB education*, 2012). Based on cosmopolitanism, IB shows profound humanitarian and humanistic care. It has become a widely welcomed system by providing stable, consistent, flexible, multicultural, and high-quality education in the era of accelerated globalization.

The promotion of the IB program was relatively late in the Asia–Pacific region. However, since the foundation of the IB Global Centre in Singapore in 2012, IB schools have risen substantially in various countries. In Chinese-speaking areas, Singapore and Hong Kong took the lead in creating IB schools in the 1970s. The main reason was that Singapore and Hong Kong had become globalized earlier, and they were also important ports for international business and travel exchanges, with strong regional economic functions and greater demand for international education. Owing to the advantages of having a multilingual and multicultural environment, comprehensive educational system, and high social acceptance, the number of IB schools in these two regions has maintained a steady increase for over half a century.

Compared with Singapore and Hong Kong, Mainland China and Taiwan have been relatively late in introducing IB programs. In the early years, most of the IB schools in both of the regions were international schools or overseas Westerners' schools established by European countries and the United States. Around the turn of the century, both Mainland China and Taiwan carried out a series of educational reforms. The system and educational philosophy have been greatly revised, and multicultural perspectives and international sentiments have been incorporated into the curriculum. Therefore, under the circumstances of urgently needing to promote international education, the International Baccalaureate was the first choice because

of its long-established and sound structure. From 2000 to 2012, the growth of IB schools in Mainland China and Taiwan was in its embryonic stage. However, after 2012, growth accelerated. According to statistics, in the past five years (2018–2022), the number of IB schools in Mainland China has increased from 142 to 263, and the number of IB schools in Taiwan has increased from 8 to 15. Compared with the speed of expansion of IB schools globally or locally, the rapid growth in both regions demonstrates the high reception of their education systems and social atmospheres to the international curriculum. There is also a highly positive correlation between technological innovation, its application in teaching, and growth in the number of schools. Since the end of 2019, COVID-19 has swept the world. In addition to bringing about catastrophe to public health, causing labor shortages and suspension of social activities, it has also resulted in serious damage to international trade, business exchanges, and the global economic market. The human lifestyle has been completely changed. However, benefiting from the advantages of technological applications and widespread computerized technology, frontline education has the impetus for a complete overhaul. Moving from the physical classroom to virtual spaces, a quiet revolution in the application of educational technology is underway. The IBO, with sound digital learning platforms and well teaching technology support, breaks through the limitations of time and space and provides whenever necessary education services for IB students around the world. Under the condition that people look forward to keeping their education moving, but constrained by various technical issues, IBO has displayed its educational strength, which has led to an increase in the number of IB schools. Nowadays, there are 1201 IB schools in the Asia–Pacific region (IBO, 2022), and IB schools in Mainland China, Hong Kong, Taiwan, Australia, and Singapore also show steady growth.

The IB programs have taken root and grown in Singapore and Hong Kong, and in the past fifteen years, they have become gradually more accepted in Chinese-speaking areas. The main reason is that the IB curriculum meets the developmental needs and educational precepts of modern society, and constructs a visible blueprint for a happy and harmonious world, which makes the IB programs very popular. On a large scale, countries utilize national resources to bring in the programs, while on a small scale, schools at the local level also adopt these programs. The promotion of the IB curriculum in the Asia–Pacific has been a smooth process. In addition to the well-developed system and curriculum resources, the promotion is also led by pre-service education in institutions of higher education. Currently, 50 universities around the world offer the International Baccalaureate Educator Certificate (IBEC) program, and so 25 of those universities are in the Asia–Pacific. In Chinese-speaking regions, there are four universities that offer the program, which are East China Normal University, Hong Kong University, the Education University of Hong Kong and Taiwan Normal University (IBO, 2022). Support and services for local IB, international pre-service education, and on-the-job training are stably provided.

The number of IB schools in the Asia–Pacific accounts for about 21% of the total number of schools in the world, and half of the universities in this area offer IBEC courses. Taking a closer look, there are 348 IB schools in Mainland China, Hong Kong, and Taiwan, accounting for about 29% of the IB schools in the Asia–Pacific.

However, only four universities provide IBEC courses. This phenomenon shows that the adoption of IB courses in the Asia–Pacific, especially Chinese-speaking areas, is still in its early stages and requires considerable investment of time and resources. There is still considerable room for growth in the development of IB schools in the abovementioned regions due to the following: rapid economic growth, the need for professional talents in response to industrial transformation, stable school population, and the accelerated pace of globalization.

As a leader in education, IB focuses on keeping up with the ever-changing world, academic trends, and industrial development needs. Every 7–10 years, there is a review of the overall curriculum of the program, and revisions are made based on the results of new research and development as part of a course implementation cycle. For example, compared with the previous version of the syllabus released in 2013, the new syllabus of language A released in 2019 emphasizes the understanding, interconnection, and transfer of various "concepts" in six subjects. The original main focus of language A on critical thinking has switched to an Areas-of-Exploration-centered (AoE) mode, integrating five global issues. Under the better interaction of global issues and AoE, a new age course which leads to autonomous thinking, deepened exploration of topics and better problem-solving abilities in interdisciplinary fields can be established.

In recent years, the number of IB schools in the Asia–Pacific has rapidly increased. Coupled with the strong growth of IB schools in Chinese-speaking countries, it has also led to a new wave of Chinese language learning. However, the IB language course is not aimed at cultivating specific language and literature-related talents but aims to guide learners with the values of diversified thinking, telling right from wrong, independence, neutrality, and keeping pace with the times through the literacy of various types of texts in language and literature. In the digital age, as the creation of ideas and concepts is presented through various materials, and facilitated by the rapid and large-scale dissemination of the Internet, the definition of a "publication" (in paper or non-paper form) has grown tremendously in variety and quantity compared with the traditional definition of literary texts left by the trajectory of human society in the past thousand years. Although this is an inevitable phenomenon of technological development, people are glad to have an equal and convenient channel for expressing personal opinions. However, the huge amount of information available now makes it difficult for the audience to extract knowledge. Due to the increasing difficulty of obtaining accurate information and knowledge, learners nowadays not only need to possess the skills of interpreting traditional literary texts, but also need to have the ability of "media literacy" and "information processing." This has become an important issue in IB language and literature courses; the curriculum needs to be able to help learners appropriately extract, interpret, apply, and integrate concepts and knowledge across multiple subjects, in order to construct their own models of autonomous thinking in the infinitely expanding digital space.

New-age education requires a new type of thinking. This book gathers the teaching experiences and scholarly achievements of many experts in the field of Chinese language education in Mainland China, Hong Kong, and Taiwan, and discusses the current situation of IB and international Chinese language education through

different topics. This book is divided into three parts: (1) Explorations in IB program and curriculum; (2) Chinese teaching and learning in international schools; (3) Assessment of Chinese Learning Outcomes. This book first introduces readers to the curriculum teaching of IB international schools, then focuses on Chinese teaching in international schools in the second part, and finally evaluates the effectiveness of students' Chinese learning. This book combines theory with practice, allowing readers to learn from practice after reading the theoretical content. It is a book that can inspire others, and I hope to call on more international education partners to share it with us. In the era of globalization and digitalization, we will explore the possibility of future theoretical development and practice in different disciplines.

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Part I
Explorations in IB Program and Curriculum

Chapter 2
How an IBDP Chinese Program is Born

Chen-Cheng Chun, Ling-Wan Hsu, and Ching-Yi Chen

Abstract This research study focuses on the Chinese language acquisition planning of a case-study school developing an initial International Baccalaureate Diploma Programme (IBDP) Chinese program stage. We would like to identify the thoughts and decision-making process regarding Chinese language acquisition planning at international schools and then provide practical suggestions for the schools that plan to develop an IBDP Chinese program.

Regarding methodology, we applied multi-sited ethnography (Heller and Pujolar, 2009; Marcus, 1995). Data sources were mainly interviews, school documents, and surveys. Participants included one IBDP Chinese teacher, two school language policy makers, and 15 students studying IBDP Chinese. We are especially interested in acquiring more insight into how students view their IBDP Chinese program and the challenges that they face during their studies.

Several research results were found:

1. The IBDP Chinese is considered as a norm for the internationalization of an educational institute.
2. The IBDP Chinese program is developed through school-based language acquisition planning that recognizes students' diversity in students' learning rights and linguistic resources.
3. To respond to mixed-level classes, and to help students integrate smoothly into the IBDP, the case-study school has planned to extend Chinese language acquisition planning down to the lower grades and provide more learning support.

C.-C. Chun · C.-Y. Chen (✉)
National Kaohsiung Normal University, Kaohsiung, Taiwan
e-mail: eunice.cy@gmail.com

C.-C. Chun
e-mail: t3230@mail.nknu.edu.tw

L.-W. Hsu
Yew Chung International School – Secondary Hong Kong, New Kowloon, Hong Kong

This research describes the origin, development, and implementation of a Chinese language program in an international school. We expect that it can provide international school language planners, Chinese language teachers, and parents whose children attending international schools around the world with a broader perspective to understand the ecology of the Chinese language program in the Chinese-speaking regions.

Keywords Chinese program · The IBDP · International school · Acquisition planning · Language orientation

2.1   Research Background

In many studies of international schools, we rarely see the birth of a program depicted. In the past few years, the number of International Baccalaureate (IB) programs in Asian international schools has proliferated. Decades ago in Taiwan, the Taipei American School was the only international school offering the International Baccalaureate Diploma Programme (IBDP) in 1981, followed by the Taipei European School in 2002. However, the I-Shou International School was the first IB school offering three IB programs,[1] including IBDP, MYP (Middle Years Programme), and PYP (Primary Years Programme), in 2010 in Taiwan. Later, the Taipei Kuei Shan School was established with its three IB programs in 2015. IB is no longer an unknown term; rather, it has established itself in Taiwan's education system and is gradually making an impact. However, as in the global research literature on IB, there is minimal research on how IB programs are developed. We believe that such research will help more educators and researchers understand the communication issues, curriculum challenges, and teacher dilemmas that schools may experience as they adopt the IB philosophy and practice.

Therefore, after a series of discussions, we received permission from an international school to include it as a case-study school and spent a year following the school's process of establishing an IBDP. We focused mainly on the establishment of a Chinese language teaching program. During this process, we applied ethnographic research, analyzed official school documents, and conducted one or more interviews with each administrator, teacher, and student. Through this research, we could depict a vivid and detailed picture of the conversations, preparations, and atmosphere on campus during the establishment of the IBDP. This research includes representations of the scenarios with a range of data (interviews, surveys, and school documents) to make the thinking of an IB school and its future version transparent.

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[1] International Baccalaureate Organization (IBO) offers four programs International Baccalaureate Diploma Programme (IBDP) for ages 16–19, Middle Years Programme (MYP) for ages 11–16, Primary Years Programme (PYP) for ages 3–12, and Career-related Programme (IBCP). The programs are listed in the established time order (IBO, 2005–2022).

Table 2.1 Background of AS

Item	Content
Location	City A, Taiwan
School system	PreK–Grade
Number of staff	53
Number of Chinese teachers	4
Number of students	505
Compulsory grades for Chinese learning	Grades 1–6
Choice of Chinese characters	Traditional Chinese
Choice of pinyin system	Zhuyin, Pinyin
Choice of pinyin system	Zhuyin, Pinyin

Note Collected and sorted by the researchers

2.2 Research Context

The school that we studied is henceforth referred to as AS. AS is a well-known international school in City A. It is relatively typical among the international school systems in Taiwan, where Chinese language teaching has been practiced since the 1980s and has a well-established teaching pattern. Regarding the academic structure, AS offers a PreK–12 education with a student population of around 505. In terms of management, in addition to the superintendent, there is a principal for the middle school, a principal for the elementary school, and a staff of over 50 teachers, assistants, and intern teachers, including four Chinese language teachers. Table 2.1 below provides background information on AS.

As shown in Table 2.1, regarding Chinese language acquisition planning, only half of the students in grades 1–6 at AS are required to take a mandatory Chinese language course. From the seventh grade and onward, the Chinese language course is an elective language subject. The IBDP Chinese language course was initiated in the second year after the IBDP was approved to be implemented in high school at AS. AS offers Language A (Studies in Language and Literature) at the standard level. In terms of selecting the characters and phonics, traditional characters are taught primarily in Zhuyin and supplemented by Hanyu Pinyin.

2.3 Research Purpose and Questions

The purpose of the research is to examine the planning process of the IBDP Chinese language course at AS and investigate the phenomenon of Chinese language acquisition planning and its implementation at AS. Ultimately, we hope to understand the reasons for implementing the IBDP in international schools and the diversity within Chinese language teaching. Meanwhile, we would like to provide language

acquisition planning perspectives and recommendations for implementing the IBDP Chinese language course at an international school.

Based on the purpose mentioned above, we proposed the three research questions:

1. Based on the perspective of Chinese language acquisition planning, what variables impact the case-study school's implementation of the IBDP Chinese language model?
2. Based on Language Orientation Theory (Ruiz, 1984), what are the case-study school's orientation choices?
3. To meet its school-based Chinese language acquisition policy, what strategies does the case-study school apply to take care of high school Chinese language students' learning needs?

2.4 Literature Review

2.4.1 Language-In-Education Planning

There are three critical components of language planning: corpus planning, status planning, and acquisition planning. Haugen (1966) initially described the corpus planning process of standardization as involving a 4-stage model. Kloss (1969) then defined language status planning vis-a-vis corpus planning. Corpus planning refers to the form of a language, such as normative orthography, grammar, and dictionary, in a speech community. Status planning refers to a deliberate effort to allocate the function of languages; for example, in 2008, the US Department of Education listed Chinese as one of the critical-need foreign languages (US Department of Education, 2008). Cooper (1989) then brought forth the third part of language-in-education planning, called acquisition planning, which focuses on teaching and learning languages that can be national, second, or foreign languages. The focus is on language users. Primarily, language planning is developed by the government and policy makers instead of educators. However, Kaplan and Baldauf Jr. (1997) re-developed the language planning components mentioned above. Based on previous theories, they asserted that language-in-education planning should result from corpus and status planning and should be interweaved with language teaching and learning. Due to internationalization and globalization, providing language resources suitable for immigrant students has become crucial. Bilingual education has also shown many examples of using instruction to promote different languages, suggesting that language planning can be done from either a macro or a micro level by all kinds of participants. Ingram (1989) mentioned that language-in-education planning should be between language policy-making and the classroom and its curriculum. In this study, we applied Baldaulf Jr.'s (2004) language-in-education planning (acquisition planning) framework, looking at the IBDP curriculum, methods and material policy, community policy, and evaluation policy of the case-study school.

2.4.2 Language Planning Orientation Theory

Before a language policy can be planned, the policy makers usually have an assumption or idea of how the language should be managed, developed, promoted, or conserved. The decision might lead to the formation of a language disposition of a nation, an organization, or an institution. Ruiz (1984) proposed three orientations to language policy planning based on previous language planning results and numerous theories, including the ones mentioned above before 1984. The three orientations are language-as-problem, language-as-right, and language-as-resource.

In the language-as-problem orientation, linguistic diversity threatens assimilation or national unity, so the language policy might be better implemented by having one common language. In a monolingual nation or society, bilingual children might be viewed as having low academic achievement because they cannot utilize the dominant language, as well as monolingual children can. As a result, the policy makers in this situation think that these bilingual children should be exposed to the dominant language environment.

The language-as-right orientation is more of an inverse problem, looking for ways to address language inequalities by applying legal mechanisms. In comparison, Ruiz's language-as-rights examples are mainly from a US context (which involves civil rights legislation and leads to problems such as which minority language to choose under what circumstances and whose language should be taught in class). It is essential to think from the standpoint of the language-as-right orientation to address the language planning needs. The language-as-resource orientation seeks ways to view linguistic diversity as a resource, as planners can and should be aware that languages can be resources even before language planning. As Ruiz (1984, p. 18) wrote, "Orientation, as it is used here, refers to a complex of dispositions toward languages and their role in society." Therefore, orientations are crucial because policy makers make language plans according to how they view the language. Here in our study, we would like to investigate how an IBDP Chinese program has developed and what the policy makers' philosophy is based on Ruiz's language orientation theory.

2.4.3 International Schools

Our research was carried out at an international school located in Taiwan. The number of international schools has increased, with many revisions in curriculum and admissions among the schools (Bunnel et al., 2016; Hayden & Thompson, 1995, 2013). Therefore, it is essential to update our current understanding of the research field to understand the educational background of the case-study school and the philosophy of its curriculum.

Hayden and Thompson (2013, p. 5) have categorized international schools into three types: Type A "traditional," Type B "ideological," and Type C "non-traditional." Type A "traditional" international schools were established initially to cater to the

mobile expatriate families in which the parents work outside of their countries, and the educational system might be considered a poor fit for their offspring. Initially, most of these schools offered education and curriculum based on western countries, so when the children returned to their home nations, their education could align with their national curriculum. After World War I, the term "international school" emerged when the International School of Geneva (1924) was founded for the children whose parents worked for the International Labor Office and League of Nations in Geneva. The Yokohama International School was also established a few weeks later (Hill, 2007, 2012; Sylvester, 2002). What was unique about the international school in Geneva was that the parents tried to promote world peace by educating the children via intercultural understanding. After World War II, the United Nations replaced the League of Nations, and later the International School Association (ISA) was created in 1951 to support other international schools around the globe and provide teaching pedagogy and curriculum (Hill, 2012). In the late twentieth century, the growth of the global economy led many parents to work in different countries, thus necessitating even more international schools to be built.

Type B "ideological" international schools were created to gather young people from different parts of the globe to learn the differences between diversified cultures with the hopes of eliminating the ignorance and prejudice that cause war. Hill (2012) described Sylvester's research (2002) regarding the concept of international mindedness for world unity and peace proposed by John Amos Comenius in the seventeenth century. As a result, the United World Colleges was developed to offer comprehensive scholarships and opportunities to bring young people from around the world to study in different countries. While Type A and B schools share to some extent characteristics such as promoting international or intercultural understanding, Type B schools are characterized as ideology-driven.

Type C "non-traditional" international schools were profit-oriented and created to cater to the offspring of the socio-economic elites in the host country. These elites seek a better education that is different from the national education system and makes it easier for their children to attend a western university. This type of school has contributed to the vast increase in international schools since 2000 (Brummitt & Keeling, 2013).

All three categories of international schools mentioned offer a different curriculum from that of country in which they are located, and English is usually the medium language of instruction (Carder, 2013; Hayden & Thompson, 2013). For example, the curriculum might be a national education curriculum program, such as British international schools offering the General Certificate of Secondary Education (GCSE) and A Levels, or US international schools offering Advanced Placement International Diploma or the IBDP, which have been developed since the 1960s. In this study, the case-study school is a Type A school that initially adopted its own national curriculum. However, at the time of our case study, the school had implemented the IBDP curriculum for a year.

2.4.4 The IBDP Curriculum

IB was originated by a group of teachers at the International School of Geneva in 1962 to meet the educational needs of internationally mobile students and to break down the barriers of national education systems to create a diploma system that would be widely accepted by universities around the world (Hill, 2012). The IBO was then established officially in 1968. The IBDP is a two-year program taught to students ages 16–19 and is well-recognized by the world's leading universities. The IBDP aims to provide students with critical thinking skills, intercultural understanding, and an international perspective (IBO, 2005–2022).

The IBDP curriculum includes first, the DP core which consists of the Theory of Knowledge (TOK) course, completing the Creativity, Action, and Service (CAS) course, and writing a 4,000-word Extended Essay. The IBDP consists of six subject groups: "Studies in Language and Literature", also called Language A; "Language Acquisition" also called Language B; "Individuals and Societies"; "Sciences"; "Mathematics"; and "The Arts." Each subject has different courses and offers both a higher and a standard-level class. To graduate, students are required to take the compulsory core courses, write the 4000-word Extended Essay, and study three of these subjects at the higher level and three at the standard level. However, Language B has an extra Ab Initio option for students with limited target language ability (IBO, 2005–2022). In our study, we observed the Language A Standard Level Chinese course.

2.5 Research Method

Our research focuses on the initial thinking involved in implementing the IBDP Chinese language course at AS. At the same time, we seek to observe the phenomenon of Chinese language acquisition planning that implementation brings about. We adopted the comparative perspective of multi-sited ethnography to collect and analyze data qualitatively and quantitatively (Heller & Pujolar, 2009; Marcus, 1995).

The data were collected through school background documents, a survey, and semi-structured interviews to examine the issues and decisions that emerged during the IBDP Chinese language acquisition planning process at AS. Regarding administrative and teacher participation, two language planners and one IBDP Chinese language teacher were interviewed, each of whom was interviewed between one and three times in Chinese, English, or both. The interviews lasted between 10 and 30 min, and the venue was chosen according to the respondent's preference. The interviews focused on the following three points:

1. Describe the interviewee's personal IB Chinese language acquisition planning and teaching experience.
2. Examine respondents' reflections on and examinations of their past and current IBDP Chinese language acquisition planning and teaching experiences were

examined. We explored the phenomenon of the transformation of Chinese language roles, curriculum, teaching objectives, and planning guidelines under this implementation.

3. Explain how the interviewees link their professional experiences with the school, the region, and the global language learning situation in the future planning of Chinese language acquisition in the IBDP. This helps us understand how they position the role, function and form, and content of IBDP Chinese language learning in international schools.

We also obtained 15 consent letters from the parents whose children were taking the IBDP Chinese course and then conducted an average of 10 to 15 min of interviews with these students individually. The interviews focused on the student's motivation for taking the IBDP Chinese course, the challenges that they encountered while taking the course, and their perceptions of the course. The interview data of the students were used as counterpoints in relation to the interview data of the teacher and the language planners.

The interview data were the primary source for data analysis, with secondary data coming from documentary files, essential background information questionnaires, and classroom notes. The transcriptions were organized into several parts: first, we transcribed the audio recordings of the interviews and the languages used in the transcript depending on the interview language. For example, if English were used during the interview, the transcript would be in English. If both Chinese and English were used during the interview, the transcript would be presented in Chinese and English. We then coded, defined, compared, categorized, and summarized the main issues that emerged from the transcript and corresponded to the three research questions. Finally, we compiled and analyzed various data to sort out the progress of AS in implementing the IBDP Chinese language courses. Table 2.2 below shows the coding system of the data presented in this study.

Table 2.2 Research data encoding table

Type	Encoding	Explanation
1	Tim, Language Planner	This refers to an individual interview; "Tim", a language planner
2	Alo, Language Planner	This refers to an individual interview; "Alo", a language planner
3	Apple, IBDP Chinese Teacher	This refers to an individual interview; "Apple", a teacher
4	S1, IBDP Chinese Student	This refers to an individual interview; "S1", Student 1
5	School Document, AS	This refers to the school documents of AS; "AS", the school
6	R	This refers to the researchers

Note Edited by the researchers

2.6 Results and Discussions

To answer the three proposed research questions respectively, according to the data analysis, we will explain the phenomena of the IBDP Chinese language acquisition planning at AS and discuss how the development of the IBDP influences the overall Chinese acquisition planning at AS.

1. IBDP Chinese is Considered as a Norm for the Internationalization of an Educational Institute

As mentioned in the literature review, the IBDP was established in the late 1960s to meet the needs of internationally mobile students to break down the national educational system barriers and create a diploma system that would be widely accepted and recognized by universities around the world (Hill, 2002; Renaud, 1991).

The IBDP development at AS can be traced back four years to the arrival of the school principal (superintendent), Tim. Before Tim came to AS, he promoted the IB program at two schools in the United States. AP courses were provided for the high school division at AS. Tim thought that although AS was an American education polity, as an international school, it should have international education as its core goal. For this reason, the IBDP was chosen as the primary curriculum. Below is what Tim said about the school during the interview.

> "We are an international school when it comes to our curriculum, International Baccalaureate Diploma Programme. But we are truly an American school."
>
> (Tim, Language Planner)

Regarding educational ideals, Tim promoted the IBDP from an international perspective. In terms of further education, since the IBDP has been recognized by the world's leading universities (IBO, 2005–2022), students who have the IB diploma or subject certificates can receive extra points on their GPA when applying for universities. Therefore, the IBDP is also considered a guarantee of admission to the top universities (Culross & Tarver, 2011; Kyburg et al., 2007). Tim, as a school principal as well as a superintendent in language planning, also stressed the above point by saying:

> "IB is the most rigorous curriculum in the world. If you are going to be an IB lead school, you will have a better chance than in a not IB school."
>
> (Tim, Language Planner)

Language planner Alo has also mentioned that compared with the IBDP, AP is a single subject-oriented course design, so it is easier for students to study. However, the IBDP is a curriculum-oriented design with a well-described curriculum system that will be more effective for the students in terms of the overall learning plan:

> "AP is one subject, right? So it is one subject individually, IB is a program, so, in that aspect, the IB is a way more complex and more…. beneficial, from my point of view…".
>
> (Alo, Language Planner)

In addition to the opinions from the language planner Tim and Alo, student S8 also mentioned the following during the interview:

R: Do you know IB before you come to AS?

S8: Yes, my father would like me to take IB. And, he knows this school is going to have IB courses.

R: So he sends you here because of this?

S8: Yes. Plus, my academic performance back in Canada was not ideal……

R: Then why does your father want you to take IB?

S8: He heard that it's more challenging and it could help you prepare for university, sort of things…

<div align="right">(S8, IBDP Chinese Student)</div>

The above descriptions of the language planners and the student echo the IBDP Chinese teacher Apple's point of view: once the school becomes an IB school, there definitely will be parents who will send their children to the school:

"From a more utilitarian perspective, I think it's for future school enrollment. Parents would think, if the school has IB, then their children might get a smoother path and advantages toward university, as IB is now a trend…"

(以比較功利的講法，我覺得是升學率，因為家長的期許，他會覺得這個學校有IB，那他們把小孩送進來之後，那小孩走向大學之路會不會比較平穩，比較平順，因為IB是一個趨勢嘛……)

<div align="right">(Apple, IBDP Chinese Teacher)</div>

According to the Chinese teacher Apple, before AS became an IB school, AS's Chinese teachers used to design the Chinese curriculum or decide on the Chinese learning materials all on their own. During the process of AS becoming an IB school, as the IBDP became the core curriculum, it was only natural that the high school's Chinese curriculum must also meet the IBDP curriculum requirements. Of all the language courses at AS, besides English, the Chinese course had the most significant number of students, leading to the number of Chinese subject teachers being the highest. Therefore, during the implementation of the IBDP process, the Chinese course was inevitably included in the curriculum. Below is what the Chinese teacher Apple said during the interview:

"Now we are an IB school, and we have to be a real IB school, so we must have Chinese, and Chinese is a big department in school…… (R: yes) language…… one Spanish teacher, and then one Japanese teacher, but in Chinese, we have three teachers. The other two languages have already become IB courses, so there is no reason that Chinese is not. So, yes, we are an IB school now, so every subject should become an IB subject."

(現在我們是一個IB School，我們要我們是一個完整的IB School，所以我們必須要有中文，而且中文是一個這麼大的部門，(R:嗯嗯),language……Spanish 一個老師,然後hmmm   Japanese一個老師,可是中文部有三個老師,他是一個很大的部門,如果其他兩個都已經開IB了,中文不開IB就是說不過去。對,就變成說,我們變成一個IB學校,應該每一科都要有IB……)

<div align="right">(Apple, IBDP Chinese Teacher)</div>

To summarize, in response to research question 1, although AS was initially aligned with the American education polity, the reason for AS to adopt the IBDP was to develop the school to fit the name of an international school. Moreover, the IBDP is widely recognized by universities worldwide for meeting school development and parents' expectations. Therefore, in this study, we observed that as AS became an IB school, the IBDP Chinese curriculum was gradually developed into an IB-compliant high school Chinese curriculum in the context of the overall internationalization of the school.

2. The IBDP Chinese Program is Developed Through School-Based Language Acquisition that Recognizes Diversity in Students' Learning Rights and Linguistic Resources

As AS was aligned with the American educational system, where language acquisition was planned with English as the primary medium of instruction. Therefore, Chinese was categorized as a second language option at AS, as were other world languages (Spanish and Japanese). The three languages share the same second language status. However, Table 2.3 shows that English was the primary language of instruction (except for in the Chinese classes) and the working language at school. Both planners ranked English and Chinese first and second in terms of the importance of student language learning, respectively, but Tim ranked Spanish and Japanese the same, while Alo, the Spanish teacher, listed Chinese as the top language with English. This was related to most students' Chinese cultural and linguistic backgrounds.

Alo also made it clear that Chinese was the primary language spoken by the majority of the students in school and that the school hoped that the students would maintain their Chinese language ability as a bridge to their native culture:

> "……we do want them to take Chinese……Chinese is definitely something connects students to their heritage, and it is something that…hmmm…it is useful for them…"
>
> (Alo, Language Planner)

Moreover, an inspection of the AS's language policy revealed that Chinese alone was depicted alone as a mother tongue. AS offered Chinese language courses sequentially from primary to middle school, while Spanish and Japanese were only offered as electives at the middle school level. Furthermore, the primary level required the students to take the Chinese language course from grades one to six. The above description echoes Ruiz's (1984) language-as-right orientation, where Chinese is the

Table 2.3 Language status of Chinese

Item		Language Planner Tim	Language Planner Alo
Administrative language	English	V	V
Importance of languages to students	English>Chinese> Spanish= Japanese	V	
	English>Chinese		V

Note Edited by the researchers

Table 2.4 Parents' motivation for their children to study the IBDP Chinese

Item	Tim	Alo	Apple
Instrumental			V
Sentimental			V
Integrated	V	V	V

Note Edited by the researchers

native language of most students, and schools consider learning Chinese as a fundamental right and necessity for students. In addition, the description also matched the IBO language and learning policy (IBO, 2011). Not only is the local language viewed as a *fact*, which means it should be recognized and promoted, but also the students have rights maintaining and developing their mother tongues while learning other languages.

Based on the background data questionnaire, the language planners and the IBDP teachers' perceptions of students' motivation for taking the IBDP Chinese language course are shown in Table 2.4 below. It reveals that both language planners and the IBDP Chinese teachers felt that parents' motivation for their children to take the IBDP Chinese language course was integrated.

In addition, Ding and Saunders (2006) indicated that the rising economy in Mainland China has gradually made Chinese language learning one of the most popular choices among world languages. For language planners, trends in the target language countries also influence the choices that schools make when implementing language programs. For example, Tim, a language planner who has led two IB schools in the US, said that compared to five years ago, when schools typically chose Spanish, Japanese, or French as their IBDP language courses, he now included Chinese as one of his choices in the IBDP language program, saying:

> "Today I will. Five years ago, no……we offered Spanish and Japanese……we offered Spanish and French, but if it were today, if it comes to me, I will probably offer French and Mandarin."
>
> (Tim, Language Planner)

However, Chinese language acquisition planning was not only emphasized academically at AS, but also the Chinese language is the foundation of AS for communication and connection with its host community.

> "There is an old saying that think globally, act locally. So that's what we are trying to teach our students, the first commitment, is their community… outside of the academic curriculum, is to try to contribute to our community…"
>
> (Tim, Language Planner)

In terms of the IBDP Chinese language acquisition planning, the IBDP curriculum rendered the education of AS more international than before, and the IBDP Chinese course can also be seen as the AS internationalization indicator of AS. It was also responding to the concept of not giving up the local resources and the heritage background of the students proposed by Chun (2015). It fully embodied the phenomenon

that Chun (2009) called "Chinese language glocalization" by implementing Chinese courses at AS. Regarding the language orientation, part of the Chinese language acquisition planning at AS focused on the instrumental value, which Ruiz referred to as language-as-resource.

3. To respond to mixed-level classes, and to help students integrate smoothly into the IBDP, the case-study school has planned to extend Chinese language acquisition planning down to the lower grades and provide more learning support

In the first year after receiving approval for the IBDP implementation, to provide students with an entire diploma program, AS needed to offer a curriculum that met the requirements of the IBDP while adhering to the IBO curriculum guidelines. As mentioned previously, all the courses offered a standard and a higher level for students. However, the number of the AS high school population was insufficient to support many classes. As a result, language planner Tim said, at first, the IBDP courses at AS were generally mixed level, and teachers had to assign different tasks to the students at two different levels in the same class:

> The teachers find it (IB) very very hard. In fact, in classes, we have IB HL students, and IB SL students at the same time, so the teachers have to differentiate, they have to do different projects with different groups…
>
> <div align="right">(Tim, Language Planner)</div>

Additionally, there were situations where students who took the IBDP courses and those who did not were taught in the same class. Since the IBDP at AS was not mandatory, the students could take the full IBDP, take a single IBDP course, or take the course without receiving a certificate or diploma. However, Chinese teacher Apple said that AS could only open one class per grade level in high school due to the limited number of students. Therefore, the students who took the IBDP Chinese course in the 11th and 12th grades would be in the same class regardless of whether they were taking the full IBDP curriculum. However, this situation did not happen to them in the first year of the IBDP Chinese course, as all the students decided to take the IBDP Chinese course.

> "We don't have other choices in Chinese, as long as you are in Grade 10, you need to take Chinese, and no matter if you are taking IB or not, all students will be in my class…… and we found out that they all take IB after they get up to Grade 11."
>
> (我們不開其他的中文班,反正你只要是十年級的學生,你要學中文,不管你要不要拿IB,你全部到我的班……那一旦他們十一年級進來我們中文課的時候,我們一問之下,他們沒有人不拿IB。)
>
> <div align="right">(Apple, IBDP Chinese Teacher)</div>

Due to the AS language policy, Chinese was required from grades one to six, and after the seventh grade, students could choose between Chinese and Spanish and Japanese. According to Chinese teacher Apple, most students chose to take another language course once Chinese was not required. However, during the last two years of high school, many students returned to Chinese because they could no longer cope with the increasing difficulty of other foreign language courses and because their

parents expected them to continue learning and maintaining their Chinese language skills. The following compares what Apple and the student said in their interviews.

> "Once Chinese is no longer a compulsory subject, students will flow to Spanish and Japanese…… but when they move up to Grade 10, 11 or 12, they will graduate soon, and their parents would expect them to go back to Chinese again, because parents still wish students to learn Chinese properly as a priority."
>
> (他們只要中文一不必修之後,他們就一味的衝向那個Spanish跟Japanese這樣子…因為他們已經10年級…11年級、12年級,再兩年就要畢業了,父母不希望他們再修Spanish跟Japanese…父母還是希望他們先把中文先學好,不管你學得怎麼樣,就是繼續走中文的路…)
>
> (Apple, IBDP Chinese Teacher)

> S10: Japanese is too difficult……
>
> R: But you have taken Japanese before, still cannot cope with it?
>
> S10: I cannot nail its grammar, I have learned it for two years, but the grammar is becoming more and more difficult.
>
> (S10:日文太難了……
>
> R:可是你過去是修過日文的,你還是覺得不行嗎?
>
> S10:學不會他的文法,學了兩年Japanese,文法太難了,越來越難……)
>
> (S10, IBDP Chinese Student)

However, from the above transcripts, we found that AS only offered one IBDP Chinese course, and even though the students' primary language was Chinese, the number of years for which the students had been studying Chinese was inconsistent. Therefore, there was still a problem with students having different levels in the IBDP Chinese course. This was especially easy to spot in their writing ability. To ameliorate this situation, after implementing the IBDP Chinese course, AS began to make some adjustments to the IBDP Chinese language acquisition planning. According to Chinese teacher Apple, AS was planning to revise the requirements for seventh-grade students to make the transition to the IBDP Chinese course smoother. The requirement for taking Chinese courses from grades one to six would remain the same, and the seventh-grade students could continually choose to take elective Chinese or take Spanish and Japanese each for half a year. After that, they could continue taking Spanish or Japanese or return to their Chinese course. However, the eighth-grade students must decide on one language for their second language course through the 12th grade. Once the 8th graders decided on what language they would take through high school, they could not switch the language afterward. Under this plan, not only the students in the IBDP Chinese course but also the students in the Spanish or Japanese courses would be able to make decisions about their language learning at least a year earlier than they were able to then. As a result, the students would not be weaving in between different language courses:

> "This year, for Spanish and Japanese, students are separated into half and half. If they take Spanish in the first semester, then they will take Japanese in the second semester. No matter what they choose at first, they will switch it in the second semester anyway, and they will settle their language choices in Grade 8."

(今年在排課上,Spanish跟Japanese上……七年級砍成一半,如果你是上學期修Spanish
的,你下學期就是修Japanese,不管你一開始選什麼,你就是下學期要換,兩個就是對調
就對了,然後到八年級的時候就是定下來去做一個選擇。)

(Apple, IBDP Chinese Teacher)

Thus, implementing the IBDP not only changed the Chinese language curriculum at AS but also allowed AS's Chinese language acquisition planning to be extended to the elementary school, making the Chinese language curriculum more coherent from elementary to high school.

Culross and Tarver (2011) also indicated that the IB school administration must provide the students with as many learning resources as possible to facilitate student learning. This idea developed by Culross and Tarver corresponded to what Tim, the language planner, and the superintendent, said about his work. He was responsible for providing learning resources and access to help students develop and cultivate the skills that they needed to meet the IB curriculum designing. Tim hoped that he could help the students perform better with the greater resources and learning support offered.

"My job as a superintendent is to provide resources for people to become successful, so when I discovered our writing is weak here, then I think it's my responsibility to bring in some courses… that's why we have a summer writing program."

(Tim, Language Planner)

Figure 2.1 below shows an AS school document that promoted writing classes during the summer to encourage all students to strengthen their writing skills. The writing classes were offered to the elementary school, the middle school, and high school students. Particularly for high school students, good writing skills are essential to complete the 4,000-word Extended Essay required to graduate.

To summarize, AS had just completed its first year of implementing the IBDP Chinese course. Due to the limited student numbers, they could only offer one class per grade. To bridge the gap between different levels of Chinese writing skills and help the students transition to the IBDP more smoothly, AS Chinese language acquisition

Summer Writing Institute

Session 1

June 11-15 & June 18-22

1. *Writing and the Arts for First Time Summer Institute Students* for grades 4 and 5.
2. *Emerging Writers Workshop* for students in grades 6-8.
3. *Emerging Writers' Workshop II* will be offered primarily to students entering grade 9&10. This course will introduce students to the college essay in addition to beginning to prepare students for college writing expectations.
4. *Personal Narrative Writing for University II* will be offered primarily to students going into grades 11&12 and beyond. The students will focus on their college essay and will discuss the extended IB essay.

Fig. 2.1 School Document—Summer Writing Institute (*Note* Provided by AS)

planning was extended to the elementary level. Moreover, AS also provided learning resources to the students to empower them and help them academically.

2.7 Conclusion

Regarding this chapter's title, we examined how an IBDP Chinese program was born in an international school. AS revised its Chinese language acquisition planning to offer the IBDP Chinese language program because of its drive to be internationalized itself and its desire to become an IB school. In the process of creating and implementing the IBDP Chinese program, AS demonstrated that its language planning approach fully embodied Ruiz's (1984) language orientations of language-as-right and language-as-resource. This also echoes IBO's language concept shifted from Bilingualism to Multilingualism as a "fact, a right and a resource" (IBO, 2011, p. 9). As noted in the document, diversified languages are being seen as an integral part of learner's path as the act of teaching these languages can help connect learners to the host country as well as its culture. This makes a bond that benefits students as they continue their studies (IBO, 2011). Also, the approach confirms the concept that bilingual/multilingualism is a norm in international schools (Carder, 2006, 2007); therefore, mutual respect and recognition between/among languages are part of basic philosophy of international schools. A whole year was spent observing the IBDP Chinese language acquisition planning process at AS from genesis to implementation. Even now, all the IBDP courses are moving toward greater integrity and pragmatism. As language planner Alo said:

> "This is an ongoing process."
>   (Alo, Language planner)

The Chinese language acquisition planning at AS must be aligned with the adjustment of other languages to allow the students to experience a positive language and knowledge transfer, and simultaneously assist the students' transition from elementary to high school. Thus, the next focus of the IBDP Chinese language acquisition planning will be integrating each subject as it becomes more complex with the students' progression from elementary to high school, supported by the teachers. This might also be an indicator of why IB now provides PYP, MYP, and CP to facilitate the interconnectivity that allows students to progress smoothly from elementary to high school. In addition, while English is the main medium of instruction language; however, it is the second language of most of the students. Therefore, language acquisition planning will be a continually challenging issue for language planners and policy makers. This can be an area rich in research possibility for the future.

This article has described the birth, development, and implementation of a Chinese language program in an international school. Through the data of interviews and materials we collected that allowed us to gather detailed insiders' perspectives, we hope that we can provide a broader perspective to any and all of the following: international school language planners; Chinese language teachers; and parents whose

children are attending international schools around the world. In this way they can understand the ecology and challenges that may face of the Chinese language program in the Chinese-speaking regions.

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Chapter 3
Applying Didactics and Inquiry Method in International Baccalaureate Diploma Programme Language A Chinese Curriculum: From Theory to Practice

Shih-Hsuan Hsiao

Abstract In response to changes in learning fields in modern times, various educational systems worldwide have been advocating the gradual replacement of the traditional "didactic" method with the "inquiry" method. This trend corresponds to International Baccalaureate Diploma Programmes (IBDP) expectations for the cultivation of core competencies, such as "active inquiry" and "in-depth thinking," in its learner profile. It encourages students to practice autonomous learning and develop a spirit of research through its curriculum. Through the core "concepts" of its sundry disciplines, students may construct their own systems of thought from various types of knowledge that appear to be fragmented and irrelevant, while deepening and utilizing the core concepts of these disciplines to facilitate knowledge transfer and integration across several disciplines. However, the implementation of the inquiry method in Chinese A courses should be based on solid knowledge. Teachers have to assess the prior knowledge students should equip themselves with before class and effectively apply the characteristics of the didactic method, namely, unidirectional teaching and real-time impartation of knowledge to course design and implementation. In addition, teachers should combine the inquiry method to cultivate the skill of bidirectional interaction, as well as the skill of connecting, exploring, and integrating diverse types of knowledge among students, while training them to become lifelong learners who possess the abilities to "closely observe details," "compare abstract concepts," and "think in both forward and reverse lines of logic."

Keywords Concept learning · Critical thinking · The inquiry method · Interdisciplinary learning · Knowledge transfer

S.-H. Hsiao (✉)
Kang Chiao International School, New Taipei City, Taiwan
e-mail: babybear680614@gmail.com

3.1 Concept-Based Learning

One of the first subjects developed by the International Baccalaureate Diploma Programme (IBDP), the Language A curriculum has since expanded and is now available in as many as 55 languages. The IBDP Chinese curriculum was introduced in 1988. Initially intended to help non-native speakers in learning Chinese, the curriculum was designed along a similar line to the current Chinese language teaching system. The IBDP Language A Chinese curriculum was further installed in 1997. The curriculum comprises two types of courses, that is, Language A1 and Language A2, a classification comparable to the division between advanced and general courses commonly adopted today. In 2013, the Language A curriculum officially comprised three courses: literature; language and literature; and literature and performance. Among these three, the first two types offer advanced and general Chinese classes.

Compared with the previous version released in 2013, the new curriculum syllabus published in 2019 attaches greater significance to the understanding, interconnection, transfer, and application of the various "concepts" in six subject groups. The Language A curriculum has shifted from a teaching model that focused on critical thinking and text engagement to one that takes three Areas of Exploration (AoE) as its core, incorporates five global issues, and strengthens interactions with three International Baccalaureate (IB) Diploma core courses that is, the Creativity, Action, Service (CAS), Extended Essay, and Theory of Knowledge (TOK) courses. The new syllabus aims to develop a next-generation curriculum that guides students to create their own ideological thinking systems and deepens their ability to discover and solve interdisciplinary problems.

In terms of curriculum planning, the Language A Chinese curriculum emphasizes students' cultural background, language proficiency, and learning attributes. Graded learning programs are developed, with different courses designed for each class according to the levels of students, in hopes of constructing and implementing curriculum modules that are best tailored to the learning of students. Regarding curriculum evaluation, "External Assessment" involves unified examinations composed of "Paper 1," which focuses on analysis and comprehension abilities, "Paper 2," which assesses students' meta-analysis and critiquing skills, and "Individual Oral," which tests students' capability of delivering general critiques and responses based on literary and nonliterary texts along with global issues. For advanced courses, students are required to submit a formal "essay" that develops a particular line of inquiry and analysis in relation to the work. To effectively implement courses and design tests that fulfill the stipulated evaluation criteria, teachers should identify what type of conceptual framework should be adopted for curriculum development, and, most importantly, weigh the selection of "textbooks." Choosing textbooks relatively better connected to the core concepts of the curriculum (i.e., three AoE, seven key concepts,[1] and five global issues) helps in cultivating students'

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[1] The seven key concepts for the IBDP Language A curriculum are identity, culture, creativity, communication, representation, transformation, and perspective.

competence of reading comprehension and analysis, aesthetic perception, inquiry and reflection, interdisciplinary learning, and global exploration under the curriculum values of diversification and openness. In addition, provided with the depth and breadth of pluralistic courses and textbooks, students of different levels are liberated from rigid thinking patterns and encouraged to eventually develop the same ability, whereby the educational goal of adaptive teaching is realized.

According to the contentions of H. Lynn Erickson (2007), concepts range from the macro-level to the micro-level, and all concepts conform to the definition as ideas that are timeless, universal, abstract, and represented by one or two words or a short phrase. Since 2019, the IB has been adopting a "concept"-based philosophy for teaching and learning in reforming its curricula. The development of all subject areas in the six subject groups has been integrated through "concepts," while the same "concepts" exist across all subject areas as well. Consequently, IBDP curricula are constructed based on the interrelationship among concepts, teaching content, and learning skills. This kind of curriculum, one that focuses on conceptual understanding, requires the integration of concepts and content. Furthermore, Erickson (2013) characterized a curriculum model as a solid foundation that emphasizes transcending disciplinary boundaries and involves facts and key knowledge. If a curriculum can be designed to facilitate conceptual understanding, the barriers between curriculum design and teaching implementation shall be eliminated (Fig. 3.1).

In a revision of Bloom's taxonomy of cognitive objectives, Anderson and Krathwohl (2001) stated that conceptual knowledge plays a crucial role in the process of guiding students to develop an understanding of knowledge. They argued that students attain the level of understanding when a connection is established between new and prior knowledge. At this point, the cognitive patterns and frameworks of new and prior knowledge will be integrated. Since concepts are the modular blocks of such patterns and frameworks, conceptual knowledge can form the basis of understanding for students. *Language A: Literature Guide* and *Language A: Language and Literature Guide* (hereinafter referred to as the *Guides*) also note that the courses are

Fig. 3.1 Interrelationship among skills, concepts, and content (IBO, 2015)
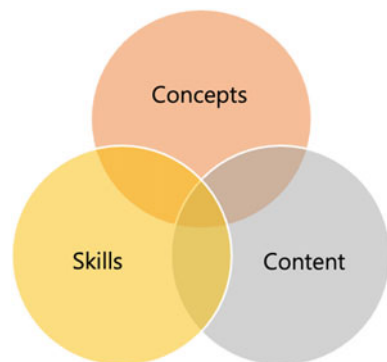
designed on the basis of conceptual learning (IBO, 2019). In addition, Yu (2021) indicated that the most prominent feature of concepts is that they are present across disciplines and shared by different disciplines. In designing a curriculum, teachers should apply "concepts" throughout the entirety of the curriculum design and teaching process while ensuring their interaction and connection with the AoE. Moreover, they may take students on an in-depth exploration into the course concepts through discussions on various global issues, including the following fields of inquiry: culture, identity, and community; beliefs, values, and education; politics, power, and justice; art, creativity, and the imagination; science, technology, and the environment.

The new IBDP curriculum syllabus released in 2019 employs the "concept-based" philosophy as a core of the integrated curriculum. The syllabus emphasizes the demonstration of international mindedness while strengthening the association between various learning areas and simultaneously providing greater freedom for curriculum development. To effectively apply concepts to enhance the relationship between learning various subjects and reinforcing the combination and transfer of knowledge, IBDP further employs the viewpoints proposed by Drake (2007) on curriculum integration by performing the interdisciplinary approach among the three models for the relationship between the various subjects and curriculum organizations. This is illustrated in the diagram of the studies in language and literature model provided by the *Guides*:

According to Drake's exposition, the interdisciplinary model should promote interdisciplinary transfer through the process of inquiry to blur the boundaries of disciplines by incorporating interdisciplinary concepts, skills, attitudes, and actions, using big ideas characterized by sustainability, mobility, and continuity, comprehensively applying critical thinking skills, problem research ability, civic awareness and other capabilities, and comprising skills shared by different disciplines. The studies in the language and literature model of the IBDP present the best practice that combines Drake's contention with conceptual learning. In Fig. 3.2, from the inside to the outside, the first circle represents the AoE, the second circle indicates the seven key concepts, and the third circle comprises four essential practical methods: the TOK, the approaches to teaching and learning, CAS; international mindedness. Teachers should select one to three concepts for each AoE in collaboration with students following the core values and recommendations of the IBDP and using the three AoE as curriculum module blocks. Subsequently, inquiry-based learning is launched to explore an AoE as per the *Guides* as well as related issues described by the TOK. The courses are designed with international mindedness as the background (with one global issue selected). After a comprehensive discussion with the students, textbooks and learning materials are selected based on the aforementioned elements. These materials (both literary and nonliterary texts) should fulfill the requirements of curriculum design. Moreover, during curriculum implementation, teachers should guide students to contemplate how concepts are positioned in and applied to the curriculum, whether the concepts contribute to textual analysis and understanding, and what connection or commonality exists between the curriculum and other subjects (e.g., history, psychology, earth and environmental sciences, and mathematics) sharing the same concepts that engender exchange and integration

Fig. 3.2 Studies in language and literature model (IBO, 2019)
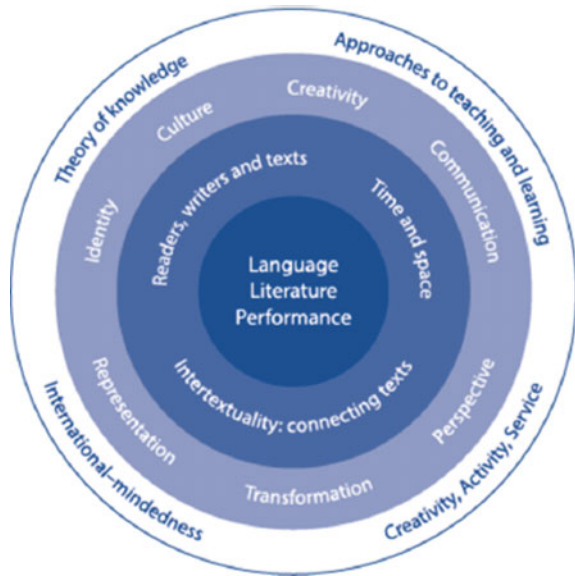
across different subjects. Further, students are led to ponder how to apply these inter-disciplinary insights and innovations to the practice of CAS, one of the three DP cores, and thesis research and writing.

3.2 An Inquiry Approach: Constructivism and Inquiry-Based Learning

With a history of over half a century, the IBDP has drawn on the viewpoints of myriad distinguished education scholars and incorporated the strong points of different schools. In terms of curriculum implementation, the concept-based approach is employed to achieve interdisciplinary learning. In addition, the theory most commonly applied in developing the overall structure of the DP curricula is "constructivism." *The Approaches to Teaching and Learning in the Diploma Programme* (2016) states that the DP adopts a constructivism-based and student-centered approach to education. According to the constructivist model of curriculum development proposed by Driver and Oldham (1986), five steps of teaching are summarized as follows: (1) establishing a direction of discussion; (2) eliciting ideas from students; (3) reconstructing new concepts through discussion, conceptual conflict contexts, and experimentation; (4) applying newly developed concepts to various contexts to reinforce the meaning of new concepts; (5) reflecting on the course of conceptual changes to learn the technique of learning. Schunk (2012) suggested that learning should be a process that involves an individual's active participation and

construction, focusing solely on "people" or "individuals." Therefore, the learning process should be learner-centric, wherein students regain control of their learning.

The theory of constructivist learning suggests that teachers should provide and create abundant experiences to encourage students to learn. Unlike traditional curricula that emphasize learning basic skills and knowledge, constructivist learning focuses on learning key concepts in a curriculum and encourages students to engage in teamwork. In constructivist learning, teachers' most important aim is to build an appropriate learning environment for students to effectively create new knowledge systems and skills (Schuh, 2003). In the DP Approaches To Teaching, three methods are found to align with the spirit of constructivism: teaching based on inquiry (inquiry-based teaching), teaching focused on conceptual understanding (concept-based teaching), and teaching focused on effective teamwork and collaboration. Through inquiry-based teaching, students may develop active participation in learning and shoulder responsibilities. In addition, there is a special focus on interdisciplinary learning. Teachers from different subject areas shall collaborate to design courses, while students work as a team to learn in all subjects and implement CAS planning and practice.

DP teachers should formulate comprehensive and effective curriculum plans, create a suitable and liberal learning environment, and stimulate students' intriguing and inquiring behavior. More importantly, they should focus on the process of textbook (learning material) selection. The changes in the DP Language A curriculum syllabus allow for greater flexibility in textbook selection. Both "literature" and "language and literature" courses provide basic and advanced programs. Each of these four types of courses is designated with a different number of textbooks. Students themselves should select some of their textbooks (learning materials) according to the number of prescribed reading books. Specifically, under the curriculum framework designed by their instructors, students select textbooks (learning materials) that accord with the spirit of the curriculum and are positively correlated with other texts in terms of concepts by following the elements of the curriculum framework and the recommendations of their teachers, and referring to the official *Prescribed Reading List*. A "complete" selection of learning materials referred to in a curriculum should comprise the textbooks (learning materials) selected by teachers in the curriculum plan and the works selected by students themselves, with "literary" and "nonliterary" texts in approximately equal numbers. These materials combined are used for the study of a two-year curriculum.

Such curriculum planning presents a tremendous challenge for both teachers and students. From the teachers' perspective, they should not only have a profound understanding and familiarity with the courses but also require the ability to integrate the knowledge of various subjects. In addition, they should be able to discuss with experts of different subjects and implement interdisciplinary learning projects. Only with such abilities can they formulate maximally thorough curriculum plans, thereby guiding students to develop activeness for independent learning and inquiry. As for students, they should utilize their prior knowledge and experience to deeply understand the spirit of curriculum planning, ruminating about and weighing up the connection between curriculum elements and self-selected works. This is because the

Fig. 3.3 Diagram of the relationship between inquiry, action, and reflection (IBO, 2012)

self-selected texts will not only influence the closeness of mutual support between different knowledge system structures during the learning process but also directly affect the results of future evaluations on learning effectiveness. The concept behind delegating some of the power of textbook selection to students is derived from IBDP's belief in learners' innate and previously acquired abilities. Such a practice sets an exemplary model of constructivism.

Using constructivism as the core philosophy for curriculum design, how should the DP curriculum apply the pedagogical approach of inquiry-based learning to achieve the objective of holistic education? The article *What is an IB Education* (2012) argued that IB teaching and learning encourages people to cooperate in multiple ways to construct meaning and make sense of the world. Through the interaction between questioning, action, and thinking, the constructivist approach creates open and democratic classrooms. An IB education cultivates a community of learners who respond to global challenges through inquiry, action, and reflection (Fig. 3.3).

Before curriculum design and implementation, test evaluation, and reflection analysis, the following questions should be considered:

(1) Should inquiry-based learning be built upon a solid knowledge foundation?
(2) How should students' literary competence be effectively evaluated before curriculum implementation?
(3) What literary competence (level) fulfills the learning requirements of IBDP?
(4) How can students' prior knowledge be awakened?
(5) How can different formats (media) of texts be more systematically applied to teaching to train students on how to apply "concepts" in their reflection and even integrate knowledge across different subjects?
(6) If students lack adequate background knowledge, how can they be motivated to learn?
(7) How and what teaching techniques and media applications (such as guided reading and discussion, virtual classes, and online teaching) should be used in the teaching process (before, during, and after class) to construct students' background knowledge of texts and execute learning assessment?

According to the relevant curriculum reference materials of the IBDP and the pedagogic theories mentioned in the *Guides* of Language A, all the following aspects

are closely associated with the cognitive objectives listed in *Taxonomy of Educational Objectives* by Bloom and Krathwohl (1956): designing the teaching strategies for students' knowledge system structures, planning the formative and summative assessment for the internal assessment during curriculum implementation, developing competence indicators that students are required to achieve in the external assessment. After Anderson and Krathwohl (2001) revised the knowledge dimension and cognitive process dimension in Bloom's knowledge objectives, the IBDP integrated worthy arguments from various educational scholars and became a major carrier for holistic education implementation.

The revised version of Bloom's cognitive objectives retains the six main categories of the cognitive process dimension in the original version: remember, understand, apply, analyze, evaluate, and create. In the new version, the six main categories are further subdivided into 17 subcategories, transforming knowledge learning into an increasingly complex hierarchy. As far as the cognitive process dimension is concerned, the IBDP is built upon the viewpoints of constructivist learning, with the aim of guiding students to conduct meaningful learning in various fields of knowledge. Under the guidance of the categories and subcategories specified in the new version of Bloom's cognitive classification, the learning indicators in the IBDP curriculum design have been established and used to perform various learning activities and evaluations through the reliable cognitive process. A summary of the new version of Bloom's cognitive process dimension combined with some critical tasks in the actual learning of the Language A Chinese curriculum is provided as follows (Table 3.1).

Teachers of the IBDP may follow the recommendations for the cognitive process dimension provided by the new version of Bloom's cognitive objectives. They may develop a table similar to this sample before curriculum planning and teaching implementation. By examining the content of teaching materials and the design of learning activities and evaluations for the overall curriculum, teachers are able to accomplish the teaching objectives in the cognitive domain. Moreover, this table can help teachers in effectively applying curriculum elements, such as the concept-based philosophy, AoE, and global issues, to their teaching actions while implementing the new syllabus.

3.3   Complementarity: A Teaching Approach Combining Primarily Inquiry-Based Instructions and Secondarily Didactic Instructions

With advances in science and technology today, all subject areas have experienced rapid development. Subject knowledge defined over the past few centuries has lagged behind the advancement of civilization. Traditional disciplines have undergone paradigm shifts, which have engendered the rise of more subjects and studies in new domains. Within their established scope, the existing subject areas have been

Table 3.1 Summary of the new version of Bloom's cognitive process dimension integrated with critical learning tasks to be implemented in the Language A Chinese curriculum [2]

Category	Subcategory	Related words	Critical tasks students may implement during a curriculum
1. Remember	1.1 Recognizing	Identifying	Identifying new words in the reading text
	1.2 Recalling	Retrieving	Providing the names and biographical notes of at least three contemporary writers who were introduced previously
2. Understand	2.1 Interpreting	Clarifying Paraphrasing Representing Translating	Explaining the main idea of the paragraphs in the text and interpreting their meanings
	2.2 Exemplifying	Illustrating Instantiating	Giving an example of writing on the topic of nostalgic memories
	2.3 Classifying	Categorizing Subsuming	Properly classifying the texts selected for the three Areas of Exploration in the curriculum
	2.4 Summarizing	Abstracting Generalizing	Draft an appropriate abstract for a nonliterary text
	2.5 Inferring	Extrapolating Interpolating Predicting	Infer the implicit connotations of the paragraphs from context
	2.6 Comparing	Contrasting Mapping Matching	Compare the commonalities and disparities of women's situations described in two novels composed in different eras by different authors
	2.7 Explaining	Constructing Models	Explaining whether an author's social context, family life, emotional education, employment status, and other background factors will affect the creation of a text
3. Apply	3.1 Executing	Carrying out	Being able to understand the reasons for the creation of a contemporary poem and emotions expressed therein and read it aloud
	3.2 Implementing	Using	Judging the accuracy of the materials used in a text based on the previous learning experience

[2] Summarized from Anderson and Krathwohl (2001) and Hsiao (2019).

Table 3.1 (continued)

Category	Subcategory	Related words	Critical tasks students may implement during a curriculum
4. Analyze	4.1 Differentiating	Discriminating Distinguishing Focusing Selecting	Producing a character map to show and explain the relationship of the characters in the text
	4.2 Organizing	Finding Coherence Outline Passing Structuring	Charting the rhetoric techniques used in the text and explaining their effects in the text and impacts on readers
	4.3 Attributing	Deconstructing	Analyzing the motivation for creating the characters in the text and their influences on the plot
5. Evaluate	5.1 Checking	Coordinating Detecting Monitoring Testing	Participating in class project presentations, critiquing the organization and argumentation logic of peers' presentations and articles, and offering appropriate feedback
	5.2 Critiquing	Judging	Developing common evaluation indicators for learning projects to assess whether a project fulfills the criteria
6. Create	6.1 Generating	Hypothesizing	Proposing some suggestions for improvements on the presentation and writing based on the project evaluation criteria
	6.2 Planning	Designing	Conducting a SWOT analysis on the qualities of the female protagonists in Eileen Chang's novels; guiding students to complete this activity
	6.3 Producing	Constructing	Observing the phenomenon and pattern of Chinese proper noun abbreviations used in Taiwan, and writing a paper on this topic

subdivided into more professional research fields. Alternatively, interdisciplinary research has emerged to fulfill the requirements of learning and development of human society today. These developments show that the knowledge that was previously considered atypical has now evolved into a category of emerging knowledge that new generations of learners should focus on. As such, the Language A curriculum hopes that students could develop a better understanding of the spirit of a subject and the objectives of learning, and further choose a variety of "texts" that present knowledge in different forms as their learning materials to explore this incredibly diverse world. On the basis of this, students may embody the learning values that are equally important as knowledge within and without the classroom. Moreover, the curriculum exhibits a macroscopic vision and forward thinking in its overall development.

In view of such a dramatic reform in the educational field, the traditional teacher-centered, didactic-teaching approach that transfers knowledge in a single direction can no longer satiate the learning needs of students today. Accordingly, inquiry-based learning should be adopted as the primary instructional approach in response to emerging educational trends, thereby training students to interact with teachers, establish connections among multiple areas of knowledge, and develop abilities to explore and integrate knowledge. Admittedly, the mode of interactive inquiry-based learning is the learning ability and objective that IB trains and requires students to achieve. However, the majority of students taking the Language A Chinese curriculum at the actual education sites have a multicultural background. Although Chinese is their native language, it is simply one of the multiple languages they use. In a bilingual or multilingual learning environment, students have a relatively weaker knowledge of the cultural implications behind the Chinese curriculum and the overall literary development owing to the multitude of learning materials. In this light, teachers should employ the didactic-teaching approach to moderately and efficiently extract background knowledge regarding culture, times, and other elements that are missing from the learning materials. By strengthening students' fundamental theoretical background knowledge, a balance in learning may be achieved between developing students' advanced Chinese literacy application skills and cultivating their theoretical foundations. In addition, teachers may guide students to conduct contextualized learning according to the curriculum plan. Such integration of teaching approaches poses a great challenge for both teachers and students.

The problem that teachers encounter most frequently at education sites is students' inadequate knowledge of literature and history referred to in curriculum texts. This is not a problem of the students per se. As discussed in the preceding paragraph, most of the IBDP students belong to multicultural families. Regardless of the reason, students migrate across the globe with their families. Under the influence of the histories and civilizations of various regions, they may feel detached from the culture, civilization, writing, and literature of their native countries. The IB was established with a view to provide a comprehensive range of courses for students moving worldwide. The courses for all subjects are designed according to the global field and in line with the current development and trends of human civilizations and technologies. The IB aims to cultivate students' ability to proactively inquire about the knowledge of various fields, constantly think, and actively reflect on problems while further achieving the educational goal of holistic development. The images constructed by the Language A curriculum are beyond word senses, rhetorical grammar, and literary history imparted by teachers in a unidirectional manner or literary knowledge accumulated through the interpretation of a large number of single, incoherent text composed by different authors. Instead, students are guided to conduct professional, comprehensive, and in-depth text analysis and interpretation with the interaction, collaboration, and facilitation of teachers. Students are expected to understand the context language constructs in various texts and the core philosophies implied therein by reading different types of literary and nonliterary texts and leveraging analysis, interpretation, and other related skills. As such, Qian (2018) indicated that the IB curriculum has moved away from encouraging students to derive a single conclusion toward motivating students to

always find a new angle of interpretation, thereby inspiring them to discover and solve problems in the process of continuous inquiry. Moreover, this learning process conveys an important message to students: your solution is not necessarily perfect or unique, so you must always stay enthusiastic about acquiring new knowledge. In addition, students would come to realize that the pursuit of knowledge is far more meaningful and interesting than the answers they obtain.

However, a closer observation on the latest syllabus released in 2019 reveals a significant increase in the number of prescribed and self-selected textbooks in the overall curriculum. This measure bears two critical meanings. First, it aims to enhance students' independent learning ability. The Language A curriculum endows students the right to select some literary or nonliterary texts, seeking to balance the power between students and teachers in learning, transform the two parties into collaborative partners in learning, and thereby motivate students to assume a greater proportion of learning responsibilities. Particularly with the sheer number of texts, teachers can squeeze complete textual interpretation into only a limited proportion of time considering the total number of learning hours allotted for each course. Consequently, students themselves should allocate time to read and explore the meanings of various texts. Second, the multiple-text inquiry is conducive to curriculum practice. The new syllabus integrates myriad repeatedly verified, effective, and rigorous educational theories, in combination of emerging modern learning trends, to construct a sophisticated and intricate curriculum system. Through this course series, the IB hopes to help learners in achieving the learning objectives of the IBDP. Learning based on diversified text types reflects the true state of development of language and literature in the world today.

The total amount of texts prescribed by the *Guides* (for Language A: Literature and Language A: Language and Literature) imposes an overwhelming learning load on students. However, because students have the right to choose literary texts and a corresponding number of nonliterary texts as their learning materials, teachers should meticulously and properly handle and evaluate students' "prior knowledge" for a course before teaching them to adopt "reading strategies" for extensive textual reading during a short-term and intensive learning process. Students should have an adequate amount of fundamental language knowledge to comprehend and analyze a great number of highly specific texts and to rediscover and reinterpret the values and concepts contained in the texts. Only then can language teaching reach the stage of combining new and existing knowledge through "concepts," while further enabling the propagation and integration of knowledge and skills across all subjects (Fig. 3.4).

Governed by the core philosophy of concept-based learning in the curriculum, teachers guide learners to narrate and analyze the texts and explore the authors' social background and life experience through a deep understanding of the texts. From the two-dimensional textual plane, students reconstruct a three-dimensional space for the original context, wherein the authors created the texts. Using the concepts of "time and space" in the AoE, students compare and observe the commonalities and disparities between themselves and the authors in the perceptions and solutions toward life issues developed owing to spatiotemporal differences. Based on the understanding

Two dimensional   **Three dimensional space**

Text

Learher   Writer's life experience

Text

Constructing a writer's creative experience

Text analysis   Contextualized interpretation

Four dimensional spacetime

Space   Space

Fusion of new and original knowledge

Text   Text

New creation   Original context   Reconstruct context

Writer   Learner
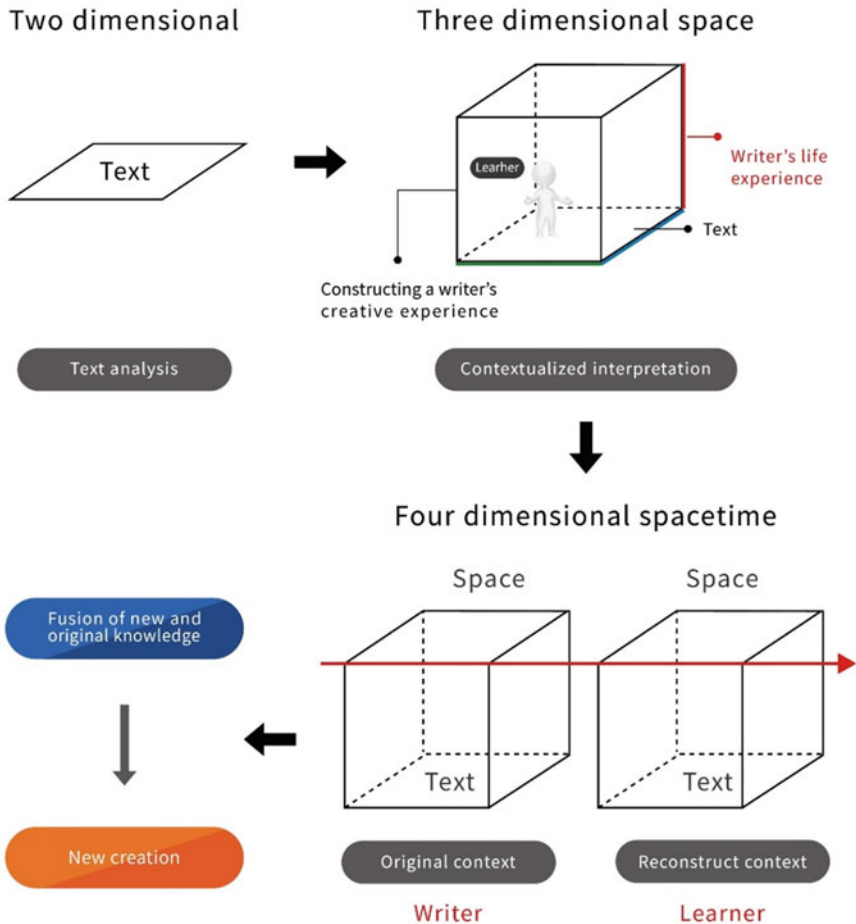
Fig. 3.4 Flow chart of contextual reconstruction by learners (*Source* own elaboration)

of these similarities and contrasts, they may further reflect on and integrate new and prior knowledge and experience to produce innovative ideas.

3.4 Conclusion

The greatest difference between the learning process of the Language A Chinese curriculum and the requirement for extensive reading of literary works and a massive accumulation of literary knowledge lies in its ultimate educational objective of applying acquired knowledge to real life. This does not mean neglecting the role of language and literary texts on human mind development and spiritual dependence.

Instead, equal attention should be paid to the current state of diversified development of language and literature today. The existence of each literary text reflects its historical context and epochal iconicity while presenting a sublime and paramount manifestation of human civilization and philosophy. Since the beginning of the Internet age, the tools for recording language and text have been reformed. As such, literary works are no longer confined to merely paper-based records. In fact, they have undergone diversified development through the application of different media and materials. In the meantime, various nonliterary texts have come into being accordingly. The *Guides* of the Language A curriculum recommends the following thirty text types for the selection of nonliterary texts by teachers and students: advertisements, encyclopedia entries, parodies, appeals, cinema/TV, imitative works, biographies, guides, photos, blogs, online information graphic design tools, radio broadcasts, brochures/flyers, interviews, reports, animations, formal letters, film and TV scripts, illustrations, informal letters, specialized instructions, journals, magazine articles, speeches, electronic materials/texts, declarations, textbooks, essays, memoirs, and travel notes (IBO, 2019). Based on the aforementioned text types, students choose nonliterary texts that correspond to the AoE, key concepts, and global issues specified for literary texts in the curriculum as learning materials. Under heterogeneous conditions (e.g., different text types, spatiotemporal frames, cultures, and ethnicities), textual analysis and conceptual understanding are implemented using homogeneous clues (e.g., the same topic or global issue). The curriculum aims to cultivate in learners erudite and interrogative research skills and critical and discerning academic attitudes. Moreover, learners are encouraged to delve into the core values of various texts, apply the values to observations on the development of life courses and reflections on everyday routines, and generate the effect of knowledge application and interdisciplinary skill transfer. Further, the learners are guided to develop a new understanding of knowledge and to deliver novel and innovative ideas.

The Language A curriculum does not aim to cultivate specialized language and literary talent. Rather, the curriculum seeks to nurture learners equipped with pluralistic perspectives; discernment ability; and independent, neutral, and up-to-date values through reading of various types of language and literature texts. In the Internet age, all sorts of ideas and concepts are created and presented through a broad range of materials and disseminated in massive quantities at a breakneck speed with the help of the Internet. Compared with the traditionally defined literary texts left behind by human society developed over the past millennia, the commonly defined "publications" (in paper or non-paper forms) have experienced unprecedentedly dramatic growth in text types and quantities. This is an inevitable phenomenon resulting from technological development, and a pleasant sight, wherein relatively equal and convenient channels are provided for the expression of personal opinions today in comparison with the past. However, the huge amount of information has substantially increased the difficulty for the audience to extract knowledge. Confronted with the mounting difficulty in acquiring valid information and knowledge, it is required that learners nowadays not only possess the competence to interpret traditional Chinese texts but also the ability of "media literacy" and "information processing" to accurately capture, interpret, and use relevant knowledge in different subject areas in the

infinitely expanding digital space. To adapt to the latest development and learning style of language and literature while transitioning into an era of nonlinear revolution, the IBDP Language A curriculum has also proposed corresponding approaches to curriculum planning. In addition to the reforms in the curriculum structure discussed earlier, students are empowered to select some textbooks. That is, students are required to develop an adequate understanding and recognition of the core concepts of a course before enrolling in the course; subsequently, they may choose learning materials that fulfill the requirements of the course with their teachers' assistance and guidance. Learners proactively and unambiguously position themselves at the center of learning. During the two-year learning process, starting from participation in curriculum planning, students establish their learning objectives and plans in a punctilious and explicit manner. With a sufficiently prepared and stable mental state, they launch collaborative learning with their teachers, seeking to achieve the ultimate goal of integrating knowledge across various subject areas and constructing their own ideological thinking systems.

Appendix

Inquiry Question

1. Can knowledge in different disciplines be integrated and innovated through the application of "concepts"?
2. Does the new version of Bloom's cognitive process dimension effectively support our plan to structure curriculum learning and clear educational goals? Is there a better theory to apply? Is there a better solution?
3. In the process of reconstructing the original context of the author, will there be misunderstandings caused by different factors such as time, space, culture, religion, gender, economy, etc., so that the understanding of the text is decontextualized?

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Chapter 4
Teaching Boule de Suif in IB MYP Chinese Language and Literature

Chih-Ling Yang and Jia-Fei Hong

Abstract After the Diploma Programme (DP) was introduced in 1968, the Middle Years Programme (MYP) was established in 1994. For students aged 11–16, the MYP offers eight subject groups designed to help them connect what they learn in school with what they experience outside of it. (IBO, 2014). Based on Guy de Maupassant's Boule de Suif, this unit plan incorporates IB concepts and theories. Boule de Suif illustrates the division of social classes in the context of the Franco-Prussian War. An increased level of tension was created as the journey began and was followed by a series of morality and ethics self-examinations. As a result of the complexity of the historical background and the provocative lessons offered in the piece of work, it has been determined to be worth studying. Moreover, it is evident from the previous observations that communication and social skills need to be facilitated in the class. With backward design implemented in unit planning, the whole unit is focused on making decisions between ideals and realities. It was planned to run for eight hours. As part of the research, we observed, planned, delivered class, reflected and revised the unit structure. According to my conclusion in the last section of this paper, the course could be taught in the following order: First, introduce the author and setting. In the second step, we draw the story mountain in order to better understand the details and plots of the story, followed by a character analysis. Then, dissect the text for literary devices and social issues. Last but not least, analyze other selected short stories. As a result, students will be able to relate texts to a global context, and student-centered learning is facilitated.

Keywords MYP · Chinese A · Unit plan

C.-L. Yang
I-Shou International School, Kaohsiung, Taiwan

J.-F. Hong (✉)
National Taiwan Normal University, Taipei, Taiwan
e-mail: jiafeihong@ntnu.edu.tw

4.1 Introduction

IB education program provided Diploma Programme (DP) in 1968. Later in 1994 and 1997, the Middle Years Programme (MYP) and Primary Years Programme (PYP) were established successively. MYP is designed for students from 11 to 16 years old to establish their identity and to approach academic challenges. Guided by three principles, holistic learning, intercultural awareness and communication, the MYP framework not only aligns with IB mission but also implies in the IB learner profile (IBO, 2014).

In the inner core of the model lies the learner profile. The first ring is the approaches to teaching, approaches to learning (ATL), global contexts, and concepts (see Fig. 4.1). These elements describe that the learning will take place through MYP pedagogy in a concept-based and meaningful context.

Before teaching the class on my own, we had spent weeks observing and shadowing experienced teachers. We noticed that some students rarely spoke up, especially when their classmates were more confident to raise their voices. As the situations occurred often, they were more likely to stay silent. Also, adolescents tend to stay in a secure and comfortable social group, especially with peers (Harris, 1998).

Fig. 4.1 IB MYP program model (IBO, 2014)

Sense of belonging is vital for teens, but at the same time, they lose the opportunity to interact outside of their peer group.

Therefore, we decided to focus on two of the ATL skills, communication and social skills, by re-grouping and implementing group discussions into the course. As a Chinese language and literature instructor, we teach language in the context of literature. Boule de Suif is a classic that contains a wide variety of worth-discussing social issues from class to gender. At first, my biggest concern is the length of the text; given the fact that teens nowadays obtain information on social media and spend less time reading long text (Twenge et al., 2019) It took me quite a while to figure out a way to achieve the objectives while at the same time keep students engaged. In the end, we received positive feedback from both students and other teachers.

Teaching and lesson planning are based on experience, pedagogies and theories. In the below section, we would point out the IB concepts and the theories that WE incorporated into the course, followed by unit planner, class delivery, reflection and the future research.

4.2 Theory and Literature Review

IB education is based on the constructivist approach which is rooted in cognitive and social constructivism; Piaget and Vygotsky are considered two significant figures in the development of constructivism (Kaufman, 2004). With the cycle of inquiry, action and reflection (see Fig. 4.2), students will be prepared to face the complex reality and develop problem-solving skills (IBO, 2014). This approach can be seen throughout IB education, such as the core of language learning in MYP is inquiry. Furthermore, the unit planner provided by IBO is arranged with the steps of inquiry, action and reflection.

Developing interdisciplinary understanding is another key focus in MYP. The concepts and contexts can be transferred by making connections to and across subjects, including language and literature (IBO, 2014). Different from language acquisition, language and literature offers more options of text types and engage

Fig. 4.2 Constructivist approach (IBO, 2014)
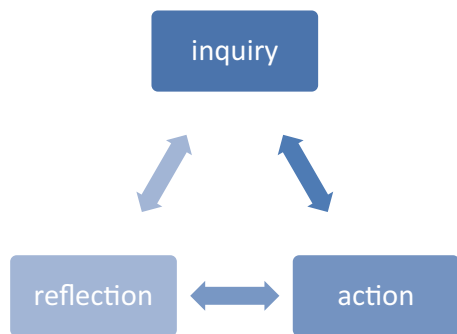
students in the communities and cultures of the text. Additionally, in MYP, every teacher is a language teacher. It is fundamental of communication and critical thinking. In the MYP language and literature, listening, speaking, reading, writing, viewing and presenting are the six areas that are centered within the inquiry-based classroom settings (IBO, 2014).

Studies showed that inquiry-based approaches and teacher-led activities improve students' learning performance (Furtak et al., 2012). The guidance from instructors or skilled peers provides assistance for learners to move from zone of achieved development (ZAD) to zone of proximal development (ZPD) (Vygotsky, 1978). Based on the prior knowledge, learners gain competence as the course progresses. In order to design inquiry-based instruction and effective scaffolding, we planned the course built with a series of how and why questions to promote their critical thinking skills from the lowest level of Bloom taxonomy, remembering, understanding and gradually moving toward analyzing (Anderson et al., 2001). Due to the fact that the composition of students' background, most of the students who take the class are Chinese L1 learners. They are fluent in Mandarin and are encouraged and expected to develop higher level of cognitive skills such as analyzing, organizing and producing text. This also implies the ATL thinking skills.

In addition, learning is also a consistent process. We used Google classroom to make learning visible so as to reflect during and after the course. The online platform is useful to keep track of the progress both short term and long term.

As for the planning of the unit, the concept to "begin with the end in mind" was first addressed by Dr. Stephen R. Covey in *The 7 Habits of Highly Effective People* (1989). With a clear goal in mind, we would be able to reach the destination and be conscious of the direction forward. The same concept adapts to education; teachers plan the curriculum reversely. The backward design includes three stages. First, start with the desired results and expectations, then, determine and assess the acceptable outcome and performance, finally, design the instruction and activities (Wiggins & McTighe, 2005). The IB unit planner is the backward design model that begins with establishing the purpose of the unit and ends up with the reflection. The details of the Boule de Suif unit plan will be addressed in the next section.

4.3   How the Course Was Designed: Details of Unit Planner

The following section will be about the unit plan of Boule de Suif in Chinese A: language and literature in G9 (MYP year 4). The world literature is well-translated into Mandarin. The whole unit is about the decision-making between ideal and reality and the unit duration was 8 h. This unit plan, inspired by Guy de Maupassant's Boule de Suif, integrates key concepts and theories from the International Baccalaureate curriculum. Boule de Suif serves as a powerful portrayal of social class divisions during the Franco-Prussian War. The story builds up tension as the characters embark on a journey, leading to thought-provoking introspections on morality and ethics. Due

to the rich historical context and the stimulating lessons it offers, studying this literary work has been deemed highly valuable.

Exploring Boule de Suif can be particularly significant for teenagers. Firstly, it sheds light on the societal dynamics and inequalities that existed during a critical historical period, providing valuable insights into the impact of class divisions. Secondly, the story's exploration of morality and ethics encourages teenagers to reflect on their own values and decision-making processes. It prompts them to question the ethical dilemmas faced by the characters and consider their own moral compass. This self-examination fosters critical thinking skills and cultivates a sense of empathy and empathy in teenagers, enabling them to navigate similar ethical challenges in their own lives. Finally, studying Boule de Suif as part of an IB curriculum introduces students to sophisticated literary concepts and theories. It enhances their analytical and interpretive abilities, while also expanding their knowledge of different literary genres and historical contexts. These skills are valuable not only for academic pursuits but also for personal growth and lifelong learning.

According to the official document, the inquiry embedded in MYP language and literature promotes a deeper cognitive process (IBO, 2014). IB emphasizes the conceptual understanding within global contexts; students can transfer the big concepts into various disciplines. The concepts that will be covered in the whole unit include the key concept, creativity and the related concept, purpose and style. The key concept creativity is the development of novel perspectives and thoughts, which promotes interdisciplinary connection. The 2 related concepts facilitate the profound understanding of language and literature (IBO, 2014). These concepts are under the context of "fairness and development."

To better connect to the text, Boule de Suif, the statement of inquiry of the course was re-adapted. Students will be able to ponder and decide the ways to solve the problem throughout the literary text, and later apply in their lives. The followings are the inquiry questions:

- **Factual:** In the novel full of sarcasm and hypocrisy, please define the hypocrisy of human nature. Which characters showed the value? In your perspective, does the problem exist nowadays?
- **Conceptual:** Please analyze the female image in Boule de Suif and provide evidence from the text: (1) The description of her physical appearance; (2) The description of her personal traits and inner values; (3) How did the author interpret the characters' values and belief? (4) What kinds of important connection does the existence of Boule de Suif have with the theme of the text?
- **Debatable**: In which point of view did the author use to write Boule de Suif? How does the narrator's perspective affect the gist of the text?

There are 5 objectives of the course. After taking the course, students will be able:

1. To know the background of Guy De Maupassant and understand his works as well as his writing purposes
2. To learn to analyze the images and values of characters in Boule de Suif
3. To understand the plot structure of the story

4. To compare the class and gender inequity in the society under the historical background of the literature
5. To compare how Guy De Maupassant built the characters in his works.

The summative assessment includes character analysis and social issues addressed in the text with reference to criteria A. After perusing the texts and having group discussions, students will gradually be able to identify the author's purpose and social issues, and subsequently promote authentic reflection and critical thinking. The ATL skills applied in the course are communication, thinking, social, self-management and research skills.

With the guiding questions, students read and discussed in groups. Not only were they familiar with the text, but also had a deeper understanding of the characters and settings. From analyzing the characters and picturing their behaviors and thoughts, students put themselves in different roles and were able to relate to the characters.

The next section would be the delivery of the course. Without further ado, the details and the lesson plan are clearly addressed below.

4.4   Put into Practice

In the beginning, the whole class spent the first block researching the author, Guy De Maupassant, and the settings of Boule de Suif. They worked in groups to find out Guy De Maupassant's biography, work pieces, writing styles and artistic techniques. This came along with the presentation in the form of slides, posters or infographics.

Secondly, we dived into the text. Teenagers nowadays are more used to reading shorter texts with visual content; teaching a rather "long" short story like Boule de Suifis quite challenging. Therefore, we used the story mountain— opening, build up, climax, resolution and ending— as the framework to help students better visualize the structures and plots. They browsed through the stories, separated and labeled the plots. We played story solitaire as a review afterward and it is the hook of the following lesson as well. After overviewing the whole stories, we then focused on the micro elements in the text, including characters and literary images.

Analyzing characters includes their names, appearances, occupation/background, social status and economic status. The dissective analysis of the roles gives students a comprehensive concept of each character. Utilizing the questions as guidance, students needed to read thoroughly and looked for the evidence to support the answer. Here are some questions discussed in the class:

- What were the women's first impressions and attitudes toward Butterball? Please provide concrete behavior as evidence. Why did they act like that?
- According to the text, how did the passengers' behaviors, attitudes and reactions, or thoughts change before and after Butterball shared the food? How did the changes show who they were?
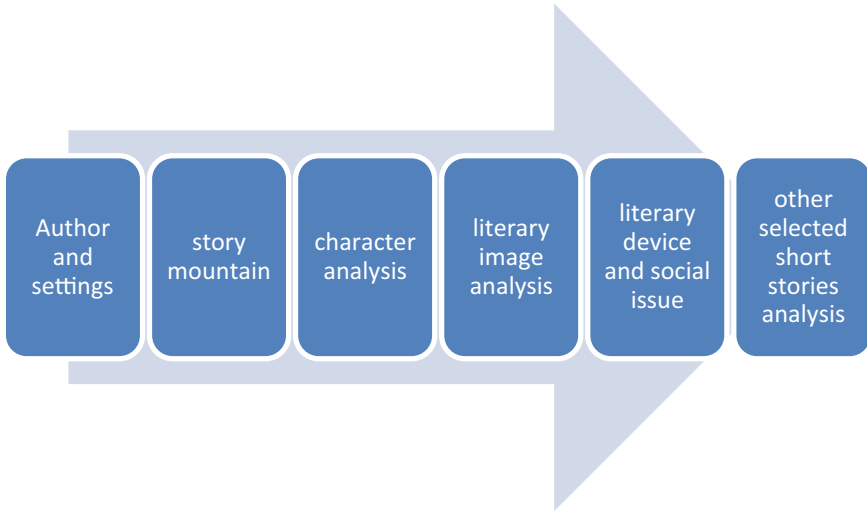
Fig. 4.3 Lesson plan

- In the section when everyone tried to persuade Butterball to sleep with the Prussian soldier, take a closer look at the words chosen, their conspiracy and techniques, to what extent did these show the characters' personality and values?

The group discussions allowed students to develop ATL skills in thinking, communication and social skills. They then put their work on Jamboard and Google slides, which were our two main platforms in the course.

The last two sections were planned to identify the literary device and social issue. They can subsequently transfer the literature analysis skills into other short stories written by Guy De Maupassant. However, due to the course arrangement, we could not finish the course as we planned. Consequently, the course wrapped up in a hurry without getting to assess how well students could analyze short stories on their own (Fig. 4.3).

4.5 Reflection and Future Research

Even the best-laid plans could go wrong. There are various factors that affect a course, including pacing, time and unexpected events. Thus, being flexible is important.

Before the course started, we tried to squeeze as much context as possible. Even though we eliminated some activities that are less related to the objectives, we still thought it was hard to finish the course within two weeks. Without a doubt, teaching should be flexible under limited time. The packed schedule might seem enough, but we should ask ourselves, are students able to take in that much? Is every single discussion/activity necessary? We realized that a teacher is more than a designer

of the course. We are also a filter, who discards the weeds and retains the flowers. Instructors should do their best to be time efficient and maximize the effectiveness of each lesson.

During the class, what matters more is the interaction with students. A director once told me, relationship comes first, and the rest will follow. From their feedback, some students told me that they engaged in the class more, others said they were willing to speak up and answered the questions, and still others enjoyed the group discussions. They told me that they love the analysis of the characters and the behavior changes in the stories, which included a huge amount of sharing and discussions. From the discussions, they could gain new perspectives from peers.

After the course, we received feedback from other students and other teachers. Effective classroom management enhanced student engagement; students felt comfortable expressing their perspectives in the class. By implementing technology along with diverse formative assessments, instructors could monitor students' output and provide chances for them to learn at their own pace. In the end, the analysis, story mountain and the history background gain the top 3 positive feedback.

As for the suggestions and pieces of advice from experienced instructors, they approved the teacher–student interaction, whereas the time for student–student interaction could be increased. At the end of every lesson, there should also be a short reflection either on the context of the class or self-evaluation. In addition, advanced phrases should appear more in the classroom in order to promote students' oral and written expressions. Finally, time management is key. Though the course covered multiple topics and objectives, it is essential to stick to the objectives and concepts. Time is limited, so be aware of the most important knowledge and skills that students should acquire in the lessons.

The structure of the unit plan could be applied to the other literature analysis. The course is made up of both macro- and micro-analysis. With the appropriate guiding questions, students will be able to interpret the stories and analyze the characters under scaffolding. Fig. 4.4 is the revised version of the course.

The literary image was removed. The social issue is worth discussing because it could connect to the global context and reality. The social issues are possibly relatable to the news, such as Ukraine–Russia War[1] in this case, and students could reflect on the certain issue they are interested in. This refers to the student-centered learning which learners explore under autonomy. We strongly believe in this way literature can resonate with students.

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[1] The course was delivered in May. Ukraine–Russia War began in February 2022.
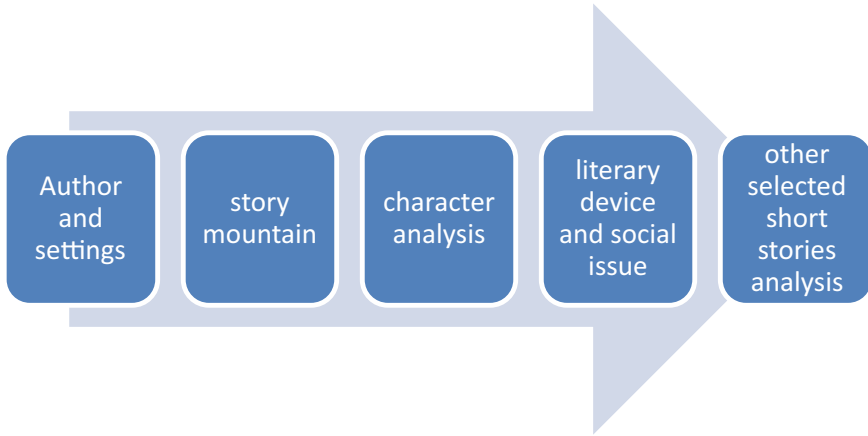
Fig. 4.4 Revised lesson plan

Inquiry Questions

1. In what ways can communication and social skills be facilitated in the classroom, particularly when teaching literature?
2. How effective is the use of backward design in unit planning for literature courses, and what are the benefits of student-centered learning?
3. How can the teaching of selected short stories in a global context help promote student-centered learning and facilitate the connection between what students learn in school and their experiences outside of it?

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Part II
Chinese Teaching and Learning in International Schools

Chapter 5
Pedagogical Issues of Collaborative Teaching in "Learning Communities": An Exploratory Study of Co-teaching Chinese

Tung-Fei Lam and **Kwok-Ling Lau**

Abstract This study explores pedagogical issues arising from the practice of collaborative teaching using co-teaching strategies as adopted by Chinese teachers at schools where a "Learning Community" approach is advocated. The issues identified include factors which have to be taken into consideration when implementing collaborative teaching in a new context, the different co-teaching strategies adopted and the challenges perceived by teachers. Multiple cases from two international education schools in Hong Kong and Guangzhou were studied. Three Chinese teams, two from lower secondary and one from primary, participated in the study. Classroom observation and post-observation focus group interviews were conducted to collect data. The findings suggested that the school's expectations regarding pedagogical shift and teacher's perceptions as shaped by previous experience were key factors in determining ways of collaborative teaching. It was also found that teachers demonstrated different qualities of co-teaching strategies such as team teaching defined by Friend's study (2010) as opposed to the models defined. The perceived challenges of implementing the strategies were related to administration, such as timetabling and collaboration time, and teachers' readiness, such as their beliefs about teaching effectiveness and their student's preparedness in relation to the pedagogical changes. The result of this study illustrates issues related to collaborative teaching and offers practical reference for teachers to work collaboratively in a manner which is responsive to their circumstances and learning environment (225).

Keywords Collaborative teaching · Co-teaching strategies · Learning communities

T.-F. Lam (✉) · K.-L. Lau
Curriculum and Professional Development Division, Yew Chung Yew Wah Education Network, Hong Kong, China
e-mail: tungfei.lam@ycef.com

K.-L. Lau
e-mail: kwokling.lau@ycef.com

Suggested Questions for Reflection:

1. How would you describe your own classroom learning environment?
2. In your context, do you see any potentials/challenges to adopt a collaborative teaching approach?
3. What co-teaching strategi(es) do you think might help you better cater to the individual needs and characteristics of students?

5.1 Introduction

A "Learning Community" approach has been formally adopted in the participant schools, which offer international education programs in Hong Kong and Guangzhou, since August 1, 2018. Commitment to the approach is articulated in their Mission, Principles and Practices as "We believe that 'Learning Communities'[1] best enable students and teachers to creatively and holistically explore different fields of knowledge, fostering individual and collaborative learning skills that are critical for the 21st Century". In the same year, a guiding statement on "Learning communities" was also published and their characteristics were defined. It was stated that learning communities "allow for flexibility in modes of learning and teaching, in order to cater for the individual needs and characteristics of students".

In accordance with these characteristics, teachers are expected to:

- Model collaboration by engaging in shared problem-solving, proposing solutions, evaluating ideas, planning, implementing and evaluating outcomes;
- Be open to experimenting with new pedagogical approaches and
- Be flexible and proactive in adopting different roles; for example, facilitator, mentor, assessor, resource compiler and/or instructor.

The concept of "Learning Communities" adopted here differs from that proposed by Professor Manabu Sato (佐藤學, 2003, 2010), who refers to a pedagogical model of collaborative learning in junior high schools. Rather, it refers to various forms of communities for learning in which the individual learner is placed at the heart, within flexible learning spaces. Bielaczyc and Collins (1999, p. 4) identify four main features of the learning communities' approach which more closely resemble the approach adopted by the participant schools. These features include "(1) diversity of expertise among its members, who are valued for their contributions and given support to develop, (2) a shared objective of continually advancing collective knowledge and skills, (3) an emphasis on learning how to learn, and (4) mechanisms for sharing what is learned".

Clearly this critical paradigm shift is likely to challenge teachers accustomed to teacher-centered classrooms who find themselves having to teach collaboratively in

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[1] From literature review, the notion of learning community could mean differently in different contexts. In this study, we refer the term "Learning Communities" to a specific meaning defined by the participant schools whereas we keep the terms learning communities or learning community without capital letters that were originally presented in papers.

the new context. In a recent study (Lai et al., 2020, p. 536) of flexible learning space and teacher's behavior in innovative learning environments, it was found that "individual teachers' identities, capacity and beliefs were found to play an essential role, in addition to cultural and structure factors, in shaping the teachers' sense-making of their social practice in the (open learning) space, and the subsequent becoming of the space and social practices". Other than making sense of the space, it is also essential to understand ways in which teachers make sense of working collaboratively, specifically by co-teaching, in the context of "Learning Communities".

Hence, this article aims to identify pedagogical issues related to collaborative teaching with co-teaching strategies as adopted by Chinese teachers in the early stages of such a paradigm shift. Three main research questions are raised in the study: (1) What are the major considerations when Chinese teachers plan collaborative teaching in the context of "Learning Communities", (2) What co-teaching strategies do the teachers adopt to achieve their set goals and (3) What major challenges do teachers perceive to be involved in enacting the strategies?

Research questions	Research methodology
(1) What are the major considerations when Chinese teachers plan collaborative teaching in the context of "Learning Communities"? (2) What co-teaching strategies do the teachers adopt to achieve their set goals? (3) What major challenges do teachers perceive to be involved in enacting the strategies?	Literature review, classroom observation, in-depth interview teachers, using semi-structured questions

5.2 Literature Review

As key concepts of this study, "collaborative teaching" and "co-teaching" should be carefully reviewed. Wadkins et al. (2004) defined "collaborative teaching" as "a method in which more than one instructor……typically, two or more instructors are in the classroom during class time for each class meeting". It was distinguished as a form of team teaching other than "tag-team teaching" and "coordinators of multiple guest speakers". "Co-teaching" is a form of collaborative teaching, but has been the subject of research development, primarily in the field of special education, since the 1950s. It has been defined as "the partnering of a general education teacher and a special education teacher or another specialist for the purpose of jointly delivering instruction to a diverse group of students" (Friend et al., 2010, p. 11). Honigsfeld and Dove (2010) point out that the term has been frequently used to describe collaborative partnerships between mainstream teachers and service providers or specialists other than special needs teachers, such as the English as a Second Language teacher in their case. However, Fluijt et al. (2016, p. 189) indicate that a contemporary definition of co-teaching is generally described as a form of collaboration. It commonly takes place in a classroom within a general education setting and is defined as:

> Multiple professionals working together in a co-teaching team, on the basis of a shared vision, in a structured manner, during a longer period in which they are equally responsible to good teaching and good learning to all students in their classroom. (Fluijt et al., 2016, p. 197)

In the field of co-teaching studies, five common strategies namely "one teach, one assist", "alternative teaching", "parallel teaching", "station teaching" and "team teaching" have been identified (Cook & Friend, 1995) and the sixth strategies "one teach, one observe" was added at a later stage (Friend et al., 2010). These six strategies are defined as follows (Friend et al., 2010, p. 12) (Table 5.1).

It is worthy to note that (a) some practitioners would simplify "one teach, one observe" and "one teach, one assist" to one strategy "one teach, one support" (e.g. Teacher Education Department, 2019), (b) team teaching as described in the table is a well-defined co-teaching strategies, in contrast to the more general concept indicated by the term "collaborative teaching" in the work of Wadkins et al. (2004), (c) the stated intention of adopting the strategies listed above was to "add a depth and richness to the co-taught class that is different from a classroom led by two general educators and should benefit all the learners" (Friend et al., 2010, p. 15).

In this study, the participant schools moved away from the early twentieth-century model of "Cells and Bells" (Nair & Fielding, 2005), by adopting the "Learning Communities" approach and the associated innovative learning environment in a context in which more than one general educator was increasingly involved. Many primary and secondary school case studies of collaborative team teaching in a broader sense involving this kind of environment have been reported and analyzed (Blackmore et al., 2011). To be specific, this study regards co-teaching as one form of

Table 5.1 The definitions of six co-teaching strategies (Friend et al., 2010)

Strategies	Definitions
One teach, one observe	One teacher leads large-group instruction while the other gathers academic, behavioral, or social data on specific students or the class group
One teach, one assist	One teacher leads instruction while the other circulates among the students offering individual assistance
Station teaching	Instruction is divided into three non-sequential parts and students, likewise divided into three groups, rotate from station to station, being taught by the teachers at two stations and working independently at the third
Parallel teaching	The two teachers, each with half the class group, present the same material for the primary purpose of fostering instructional differentiation and increasing student participation
Alternative teaching	One teacher works with most students while the other works with a small group for remediation, enrichment, assessment, pre-teaching or another purpose
Team teaching	Both teachers lead large-group instruction by lecturing, representing opposing views in a debate, illustrating two ways to solve a problem and so on

collaborative (team) teaching[2] in the context of "Learning Communities". It adopts the contemporary definition of co-teaching suggested in the latest work done by Fluijt et al. (2016) but also includes the specific application of co-teaching strategies suggested in Friend's study (2010) when interpreting the effects of the paradigm change on teachers' practices, since most case teachers worked together in pairs to adopt the new pedagogy in the early stages of professional change. Therefore, the term "collaborative teaching" here is used to describe the nature of the pedagogy applied to the new context whereas the term "co-teaching" is specifically referring to the six co-teaching models or strategies aligned with the pedagogy.

When investigating the implementation of co-teaching, many researchers have studied different factors which co-teachers or school administrators need to consider in order to make it effective. Previous studies (Brendle et al., 2017; Cook & Friend, 1995; Friend et al., 2010) all point out the importance of administrative support. Cook and Friend (1995, p. 12) identified support as the following actions by administrators "(a) to help the co-teachers to plan and schedule their programs, (b) to provide incentives and resources that allow co-teachers to design and reflect about desirable changes in the way they provide services, and (c) to assist teachers in setting priorities that will protect their limited time". In the same study, they also raised the issue of professional preparation, and described it as activities for "developing communication and collaboration skills, assessing one's readiness for collaboration and co-teaching, and designing the parameters of the co-teaching relationships (among two or more teachers)" (p. 12). Other research studies of pre-service or in-service teachers in inclusive education also showed that issues related to time allocation for discussion and planning (Bristol, 2014) and teacher's belief in co-teaching models (Shin et al., 2016) were potential challenges to the implementation of co-teaching. These findings suggest that, while analyzing the cases in relation to the research questions, the current study should mainly focus on aspects of administrative support such as collaborative planning time, and on teacher's readiness including their professional beliefs and preparation.

5.3 Methodology

In order to address the research questions, a multiple case study approach was adopted to collect qualitative data from participant teachers. The cases were identified upon discussion between the researcher and individual schools. Three cases from two different schools, School A in Hong Kong and School B in Guangzhou, were involved in this study in the academic year 2018–2019.

Two teaching teams from school A joined the study, including two Chinese teachers in Year 7 and three in Year 8. School B had a team of two Chinese teachers

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[2] In this study, the term "collaborative teaching" is used to describe the nature of the pedagogy applied to the new context "Learning Communities" whereas the term "co-teaching" is specifically referring to the six co-teaching models or strategies aligned with the pedagogy.

in Year 4. Their teaching experience ranged from novice to a master teacher with more than eighteen years of experience.

The study used pre-class observation meetings, class observations and post-class observation focus group interviews to validate data from multiple sources. Data was collected through classroom observations and in-depth interviews, which were coded and categorized by the researchers to identify how Chinese teachers adopted co-teaching strategies by thematic analysis. The resulting meaning was validated through cross-checking and analysis of empirical evidence.

In terms of types of data, the following table shows what exactly the data were being used and analyzed in this study (Table 5.2):

In terms of the context of the lessons selected for classroom observation, the following table outlines background information of the chosen units from two schools where different co-teaching strategies were analyzed (Table 5.3).

The data were triangulated in response to the research questions and finally interpreted with reference to the contexts, strategies and challenges of collaborative teaching, in particular co-teaching, observed in the lessons or perceived by the teachers.

5.4   Findings and Interpretation

1. "Learning Communities" Contexts: Considerations of Collaborative Teaching

The study identified that the teams from the two schools interpreted collaborative teaching in the context of "Learning communities" differently. This was mainly due to two major factors; firstly, the school's expectations and the extent to which these supported or hindered the implementation of collaborative teaching, and secondly, the individual teachers' perceptions and previous experiences of such teaching.

In terms of the school's expectations and related supports and obstacles, School A adopted a project-based learning approach to construct learning communities for junior secondary students. In principle, Chinese was perceived as part of the learning communities and expected to integrate with other subjects such as English, Humanities, Mathematics and Science. However, the timetable was an obstacle to this, as Chinese was not scheduled at the same time block as the other subjects did. It was an issue raised by Year 8 Teacher Z and Teacher W that,

> The main challenge in implementing the learning community is the limited time and space available, with only one cycle per class and coordination among three different classes being difficult. (Year 8 Teacher Z of School A, interview, November 2018)
>
> Students may ask when the class will be combined again because the class is not often combined. (Year 8 Teacher W of School A, interview, May 2018)

In terms of learning spaces, Year 7 and 8 students were allocated common flexible learning spaces with a maximum capacity of 150 and 200 students, respectively. The

Table 5.2 A summary of research method and type of data being used and analyzed

Methods	Data	Description
Pre-class observation	Minutes written by two researchers individually and cross-checked with each other	• An hour-long informal conversation with each team before class observation to understand the collaborative teaching context, including planned units, expectations and any temporal or physical conditions that may affect co-teaching methods • Three teaching teams were met without recording
Classroom observation	Lesson observation video recordings; Observational notes written by two researchers individually and cross-checked with each other	• At least one collaborative teaching class chosen by each team was observed in order to understand how teachers and students interacted while implementing co-teaching strategies in "Learning Communities" • Four classroom observations were recorded and detailed observational notes describing the behaviors of teachers and students were kept, including, – School A Year 8 2 lessons with 55 min each in September 2018 and 3 lessons with 55 min each in November 2018; – School A Year 7 2 lessons with 55 min each in May 2019; – School B Year 4 2 lessons with 45 min each in May 2019
Post-class observation	Focus group in-depth interviews by using semi-structured questions; Interview notes written by two researchers individually and cross-checked with each other	• Focus group interviews on the day of class observation with teachers and curriculum leaders were conducted – 20 min interview with 2 observed School A Year 8 teachers in September 2018; – 30 min interview with 3 observed School A Year 8 teachers in November 2018; – 35 min and 32 min interviews with 2 observed School A Year 7 teachers and 2 more Year 7 teachers who joined the class observation in May 2019; – 40 min interview with 2 observed School B Year 4 teachers and 2 School B leaders who joined the class observation in May 2019 • The interviews were audio-recorded and covered topics such as supporting collaborative teaching, reflecting on co-teaching strategies and addressing challenges

spaces supported the implementation of collaborative teaching by allowing teachers to structure different types of learning activities including collaborative teaching for students as a whole or an individual class.

School B also adopted a project-based learning approach to construct learning communities but the school did not expect the Chinese subject to integrate with other

Table 5.3 A summary of contextual information of the chosen units from two schools

	School A Year 7	School A Year 8		School B Year 4
1. Title of the unit(s)	Explanation Unit	Fable Unit	Fiction Unit	I am a campus ambassador
2. Size of the learning community	About 50 students	About 50 students in the first unit	About 70 students in the second unit	About 40 students
3. Focus of the co-teaching	How to write an explanation essay	How to write a fable	Understand chivalry in Chinese fiction	How to address a debatable issue on campus
4. The number of teachers observed	2 teachers	2 teachers	3 teachers	2 teachers
5. Types of co-teaching strategies	Team teaching; Station teaching; Alternative teaching	Team teaching	Team teaching; Station teaching	Team teaching
6. General approach to curriculum implementation[3]	Chinese as part of an interdisciplinary project	Followed Chinese language curriculum mainly	Followed Chinese Studies curriculum mainly	Project-based learning in Chinese subject

subjects which were taught in English. The school had tried out bilingual collaborative teaching prior to this study and found that it was not successful. As a result, Chinese teachers were asked to carry out projects in Chinese lessons without being necessarily aligned with other subjects. In this school, Year 4 students had Chinese class scheduled at the same time, but unlike School A, the school did not have flexible learning spaces and the students were based in their own classrooms. However, there was a big classroom on a different floor with a maximum capacity of 50 approximately students, which was used to create a learning community environment for classes combined.

In terms of teachers' expectations and their experience of collaborative teaching, participant teachers in School B aimed to improve the design of a project-based unit called "I'm a campus ambassador" (我是校園大使) (previously called "United Nations Summit"). In the previous year, co-teaching was used to introduce a project at the outset of the unit. After meeting with the researchers, the teachers decided to restructure the unit and adopt co-teaching throughout. They stressed in the focus group interview that classes were combined for collaborative teaching when learning objectives were related to the project, whereas students would stay in their own classes to consolidate the language skills prescribed in the textbook. At the time

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[3] General approach to curriculum implementation in this study refers to the positioning of Chinese in relation to other subjects in the context of "Learning Communities". In this regard, at the time when classes were observed, School A adopted project-based learning to include Chinese where appropriate, whereas School B adopted project-based learning in Chinese and English separately.

when the class was observed by the researcher, it was half way through the unit and the fifth collaborative teaching lesson from the outset in which the engagement and initiative of students in response to questions or tasks given by the teachers were clearly demonstrated.

School A teachers intended to explore both the potential advantages and the challenges of collaborative teaching in relation to flexible learning spaces. Year 8 teachers expanded the size of their learning community from approximately 50 (2 classes) to 75 (3 classes) students in two different topics, whereas Year 7 teachers aimed to find a better way to meet different learning needs through collaborative teaching within a unit.

None of the participant teachers had collaborative teaching experience and their students were taught in the flexible learning space but grouped in their own individual classes. Unlike School B, where teachers looked for a better option to implement the unit, School A teachers perceived this study as a taster of a new pedagogy known as collaborative teaching in the context of "Learning Communities".

Against this background, it is concluded that School A took the approach of collaborative teaching in a lesson in which few distinctive co-teaching strategies such as team teaching, alternative teaching and station teaching could be identified, whereas School B took a collaborative teaching approach in or throughout a unit, specifically the strategy of team teaching in the observed class. Details of the application and challenges of the identified co-teaching strategies will be further elaborated with the aid of supporting evidence from the cases studied.

2. Co-teaching Strategies: Team Teaching, Station Teaching and Alternative Teaching

The study identified three major types of co-teaching strategies in the observed classes and the focus group interviews that followed. They were team teaching, station teaching and alternative teaching. Data from the observed classes showed that team teaching was a common strategy applied by all participant teachers. Station teaching and Alternative teaching were used occasionally depending on different purposes planned by teachers.

Team teaching: In the study, participant teachers in all three cases adopted team teaching to teach two to three classes, ranging from 40 to 70 students, at the same time. School A Year 8 teachers stated in the group interview that team teaching allowed them to divide up work according to each member's expertise, skills and experience. Specifically, in the observed class on the topic of writing fables, a young teacher shared the creative writing process he had used when writing his own fable at university, and an experienced teacher who was a master teacher in Language A guided students to overcome possible difficulties in writing fables, such as how to choose characters to bring out the allegorical meaning.

In addition, School B Year 4 teachers mentioned attention training was a key to succeed in co-teaching although there were initial concerns about classroom management. In the group interview, Teacher J stressed that,

> Year 4 Chinese lessons have better discipline compared to other classes. Teachers have done a great job in attention training by reinforcing "eyes on me" and "viewpoint plus reason" concepts multiple times, and calling on calling on less attentive students to answer questions and ensure their understanding. (Teacher J of School B, interview, May 2019)

To ensure that all students understand the lesson material, the teachers make a special effort to call on less attentive students to answer questions. They emphasized that teachers could take turns to lead different stages of the lesson using a "one teach, one assist" model, which also allowed students to receive more support. With this model, an observer teacher pointed out that, especially in upper primary, both teachers and learners must have shared expectations with regard to instructional language (e.g. eyes on me and views followed by reasons).

Students benefited from the combination of different perspectives and well-reasoned argument offered by a wider learning community. Teacher J reflected that,

> I am shocked by the actual performance of the students. In addition, with more students in the combined class, they are able to hear more good perspectives and different voices, which broaden their knowledge and open up their horizons. (Teacher J of School B, interview, May 2019)

Regarding the implementation of team teaching, this study found that all teams adopted a one- lead-one-assist approach with structured turn-taking. The assignment of turn-taking was generally based on teachers' interests and/or experience and mostly resulted from negotiation. The frequency of turn-taking ranged from once a lesson to multiple times in a lesson. Table 5.4 shows how teachers in School B Year 4, who had co-teaching experience in the past, took turns with different stages as the lesson progressed.

Station teaching: In the lessons observed for this study**,** station teaching was used as a strategy to support student's learning on two occasions. In School A Year 7, it was used to address the issue of learning differences and in School A Year 8 it was used to motivate students to conduct deeper investigation of a topic by providing choices of task.

In the former case, the strategy of station teaching was adopted in the first observed lesson. Teachers presented it to students as a "scavenger hunt". There were three stations representing three different levels of reading and writing explanation essays suggested by the teachers, from the least challenging (Station 1/Level 1) to the most challenging (Station 3/Level 3). Station 1 required all students to identify the explanation devices of a text from textbook using socrative.com, whereas Station 3 required the students who had passed Station 2 to apply the explanation devices which they had learned to create a mind-map of their own explanation essay. At all stations, students worked independently with individual support from teachers as required.

In the latter case, the strategy of station teaching was applied to the third lesson of a topic called "Chivalry in Chinese Fiction". At the outset of the lesson, three pieces of student work were presented, each by a different teacher. The teachers gave positive comments and then described three options for the summative assessment task which

Table 5.4 Turn-taking in team teaching by Year 4 teachers in School B

Staging	Teacher A	Teacher B
Setting the lesson objectives	• Guided students to understand the topic and learning objectives of the lesson	• Mainly observed
Presenting the required skills	• Mainly observed	• Guided students to read and respond to Texts 1 and 2 in order to learn how to identify views
Applying the skills	• Guided students to discuss in groups to identify views in Text 3	• Facilitated discussion for several groups while Teacher A supported others
Posing challenges	• Supported Teacher B to manage the group activity and facilitated discussion for several groups while Teacher B supported others; • Chaired the whole class sharing session after group discussion	• Posed a debatable question to students and allowed several students to express different views; • Assigned different debatable questions to tables and asked them to have group discussion
Finishing the lesson	• Specified the requirements of homework	• Concluded several key points to learn in the lesson

followed. The options were stationed in three different learning spaces next to each other, and were run simultaneously, led by the three teachers. The station tasks were poster design, four-panel comic creation and flash fiction writing. The students were given two opportunities to choose the summative tasks. They made their first choice after the summative assessment and its requirements had been introduced and were given a chance to change their choice after further details of the chosen summative task and its requirements were specified in the station. After that, the students were asked to complete their chosen tasks independently or in a group at their stations, with teachers offering support.

In short, there were two major differences between the applications of station teaching in School A Year 7 and Year 8. The first difference concerns function. The Year 7 team used the strategy in the input stage of the unit, to help students develop the reading and writing skills necessary for an explanation essay, whereas the Year 8 team adopted it at the output stage of the unit, to motivate students to complete a summative assessment task by providing them with choices. The second difference is related to structure. The stations in Year 7 were placed in sequence and students moved from one to the next based on their readiness. The tasks in Year 8 were all open to students at the same time, and selection was driven by their personal choices, rather than by readiness. The actual staging of the lessons and the application of station teaching strategies presented by Year 7 and 8 teachers can be illustrated as follows (Table 5.5).

Table 5.5 Comparison of station teaching between Year 7 and Year 8 teachers in School B

Staging	Year 7 Team	Year 8 Team		
Setting the lesson objectives	Presented the problems (Year 7)/products (Year 8) arising from previous homework to all students and instructed them in the differentiated tasks for formative (Year 7's)/summative (Year 8's) assessments			
Assessing student's understanding or skills against the objectives	Station 1/Level 1: identify the explanation devices of a text from textbook by using socrative.com. (All students started this task at the same time)	The teachers at each station specified the requirements of tasks		
	Station 2/Level 2: identify the explanation devices of an unfamiliar text by completing worksheet questions (only for those who had passed Station 1/Level 1)	Poster design station	Four-panel comic station	Flash fiction writing station
	Station 3/Level 3: apply the learnt explanation devices to draw a mind-map of their own explanation essay (only for those who had passed Station 2/Level 2)	The students were allowed to change their choices of assessment tasks, followed by individual support from the teachers at each station		
		Poster design station	Four-panel comic station	Flash fiction writing station
Finishing the lesson	Asked students staying at different stations/levels to complete corresponding tasks as homework			

Alternative teaching: It was found that School A Year 7 had applied the strategy in the second observed lesson. Teachers explained in the interview that, a few weeks into the unit, students were progressing at very different paces. To address this issue, they used grouping and the available space to provide differentiated tasks.

> Teacher W: I assessed the students' abilities and decided to group them in fours and act as both their coach and player throughout the year. This approach to levelling up may divide the teacher's cognitive resources among various tasks. (Teacher W Year 7 of School A, interview, May 2019)

In the lesson, the students were divided into two big groups based on their learning progress in writing an explanation essay. The first group consisted of 34 students who were further grouped in mixed ability pairs to review the devices of writing an explanation essay and edit their own work on an iPad with their partner's help. This group stayed in an open space with flexible tables. The second group consisted of 14 students who were progressing more slowly than the first group. They stayed in a conference room with an oval-shaped table and were led by a teacher who guided them to complete a worksheet with structured questions and to edit their own essays using the structure shown in the worksheet. In comparison with the majority group (led by Teacher C), shown in the following table, the alternative group (led by Teacher D) in the lesson also shared two stages of learning, i.e. group learning

and peer/individual learning though the details of scaffolding in the strategy applied were different (Table 5.6).

To summarize, the co-teaching strategies as implemented by the teachers showed variations from their original definitions. This was due to the fact that the strategies were adopted by two or more general educators who aimed to improve teaching effectiveness through collaborative teaching in the context of "Learning Communities".

Firstly, "team teaching" did not only manifest itself as "both teachers lead large-group instruction" but could also be observed as teachers taking equal responsibility for learning by taking up or interchanging multiple roles such as instructor, facilitator or assistant teacher within a set lesson. It is therefore apparent that the strategies of "one teach, one observe" or "one teach, one assist" could be used as an integral part or a subsidiary device of team teaching depending on different pedagogical purposes.

Secondly, "station teaching" is not necessarily divided into several "non-sequential parts" but can include multiple learning stations with tasks organized sequentially or simultaneously, where each teacher leads one learning station at one time. When discussing the lessons in focus interviews, the teachers reflected that students' capacity to work independently could determine whether the strategy was successful.

Thirdly, "alternative teaching" could be blended with "parallel teaching" where a teacher offers an alternative learning opportunity in a different space to a small group of students who need a different approach to achieve the learning objective(s). The primary goal of "alternative teaching" was to promote instructional differentiation, increase student participation and motivation, while utilizing the same materials.

3. Challenges Perceived by the Teachers

Table 5.6 The way of alternative teaching shown by Year 7 teachers in School A

Staging	The majority Group (Teacher C)	The Alternative Group (Teacher D)
Setting the lesson objectives	• Teacher D presented six types of problems identified from student's writings • Teacher C organized students into two learning groups	
Group learning	• Reviewed the structure and devices of an explanation essay through reading a new text	• Reviewed the structure and devices in a known text with the teacher's guidance
Peer/individual learning	• Adopted peer review strategy to help students edit their own essay by typing into iPad	• Individual support to students while they edit their own essay
Finishing the lesson	• Teachers C and D instructed students to complete their essays as homework	

Data from the focus group interviews in conjunction with the observed lessons showed that the participant teachers encountered various challenges when implementing the co-teaching strategies in the context of "Learning Communities". The challenges can be understood in two ways as suggested in the literature, these are: (1) administrative issues such as timetabling and assignment of classes to the participant teachers, (2) teacher's readiness, including their beliefs concerning the new teaching paradigm and use of space.

Administrative issues: In the interviews, all participant teachers claimed that collaborative teaching required much more preparation time than individual teaching. School B's Year 4 team met each other every few days in contrast to once a week in the past in order to develop a better chemistry. School A's Year 8 team used the term "hardware" as a metaphor to describe administrative supports such as measures to overcome timetable constraints, and assigned time for collaboration.

> Teacher Z: Our teacher cooperation is smooth, with tasks assigned based on expertise rather than specific individuals. The challenge is in students' adaptation, change, and administrative support. Due to time constraints (as an evidence of lack in administrative support), students are unable to fully engage in discussions. (Teacher Z of Year 8, School A, interview, November 2018)

Although they acknowledged that meetings were essential to the success of collaborative teaching, both teams from School A found that it was very difficult to find time to meet since they all taught multiple year groups at the secondary level. This was one of the reasons explaining why School A Year 8 team could only plan co-teaching in a lesson instead of a unit as a whole.

Teacher's readiness: Although there was a broad spectrum of attitudes toward the pedagogical change among the participant teachers, all of them demonstrated an awareness of the need to cater to individual differences and saw the potential of the co-teaching strategies and new learning spaces to address this issue. In School A, the Year 8 team implied that this goal could be achieved with sufficient support from the school.

However, the Year 7 team questioned how grouping could work effectively in a collaborative teaching context, to allow teachers to support students at different levels, with different rates of progress.

> Teacher W: To be honest, I don't have any evidence or valid proof that the students have learned more. We have only worked together twice, and the results haven't been significant. (Teacher W Year 7 of School A, interview, May 2019)

The School B Year 4 team also pointed out challenges of grouping, such as the issue of effective group size. They also reflected on the rationale behind the use of collaborative teaching, and how to identify situations in which it would be more effective than individual teaching.

In relation to teacher's readiness, student's social identity was often mentioned by participant teachers from different teams as contributing to the challenges of collaborative teaching. In the observed School A Year 7 lessons, students from different classes did not interact actively and collaborate well with their peers, although teachers deliberately put them together in groups.

Teacher L: Since the students from 7D and 7E are not very familiar with each other, and have only met twice, there doesn't seem to be a peer learning effect as they don't interact much afterward. (Teacher L of Year 7 School A, interview, May 2019)

School A Year 8 also observed that students tended to respond to questions raised by their class teacher who taught them on a daily basis, rather than to the co-teacher.

Teacher C: It is to see if the students can break the idea of the class because they then look for their friends are they able to find a familiar teacher themselves? (Teacher C of Year 8, School A, interview, November 2018)

However, School B Year 4 did not encounter the same challenges in the observed lessons, although they had been concerned about discipline issues in the combined class. They stressed that ongoing focus training, such as consistent cues used by teachers to influence students, was essential. Similarly, the teachers from School A mentioned that the lack of independent learning skills including self-regulated learning (in Year 7) and self-evaluation (in Year 8) made it more challenging to apply the co-teaching strategies in their lessons, as these skills would take longer to develop. Teachers interpreted these issues as evidence of students' readiness or otherwise for collaborative teaching, but they could also arise from lack of preparation for collaborative learning in the context of "Learning Communities".

5.5 Discussion and Conclusion

In conclusion, this study suggests that schools' expectations regarding this pedagogical paradigm shift and teachers' perceptions, as shaped by their experiences, influence teachers' approaches to collaborative teaching in the light of "Learning Communities". Although teachers gave different purposes for its use, team teaching as a major co-teaching strategy was generally adopted in addition to station teaching and alternative teaching as a means to differentiate instruction and assessment at both the early and end stages of a unit. It was found that the original definitions of the strategies suggested by previous studies (e.g. Friend et al., 2010) could be further modified to suit the new context. Finally, through teachers' reflection, the study revealed that the perceived challenges of implementing collaborative teaching in the new context were related to administrative support, such as timetabling and collaboration time, as well as teacher's readiness, such as their beliefs about teaching effectiveness in flexible learning spaces and how they prepared students for the pedagogical changes.

From the conclusion, two questions have arisen which merit further discussion. First, why did the co-teaching strategies adopted by the teachers not always conform to definitions proposed in the literature? The researchers believe that the term "flexibility" was key to the discussion. Several previous researches (Blackmore et al., 2011; OECD, 2013) showed that flexible learning space and pedagogical flexibility were both key characteristics of innovative learning environments. In line with the notion of flexibility, teachers were empowered to design their own strategies as a collaborative team to deliver their school's curriculum and meet students' needs. In

the new learning environment, the participant teachers did not intentionally follow any model of co-teaching strategies but planned collaboratively to achieve the set goal(s) in a flexible manner. Therefore, blended collaborative teaching combined with different types of co-teaching strategies was shown in the cases in this study. In another study, Lai (Lai et al., 2020, p. 527), also found that "teachers were observed executing agency to utilize the curricular structure of block timetabling and turn the physical flexibility into pedagogical flexibility".

Second, what were the challenges specific to the context of "Learning Communities"? As discussed in the literature, "administrative support" and "teachers' readiness" were two key issues. The study identified challenges perceived or experienced by teachers which were similar to those observed in previous studies. These include the complexity of collaboration and ways of communication when teaching together (Friend et al., 2010). However, the issues of collaborative teaching related to "whether timetable allowed classes to be combined" and "how to group students effectively with combined classes" were unique to the new context. The notion of "readiness" is relevant not only to teachers but also to students and to the school as a whole at a time when "Learning Communities" as a new pedagogical concept is being introduced to the community. Regarding the school's readiness, some teachers mentioned that timetabling constrained their ability to implement collaborative teaching and also made it more difficult for them to co-plan and team teach. For students, whether they had developed a sense of belonging to a larger community in learning was also a factor contributing to the effectiveness of the co-teaching strategies. Regarding teachers' readiness, the teachers were still shaping and constructing their beliefs toward the new paradigm while trying to make sense of the learning communities and implement collaborative teaching in their schools. Lai et al. (2020) suggested that learning space and practices co-shaped each other as teachers made sense of the process.

With regard to contribution, for researchers, this study has extended our understanding of co-teaching strategies generally discussed in the field of general education setting in the first language Chinese classroom. It provides an evidence-based interpretation of collaborative teaching including its application and participants' reflections in the context of a "Learning Communities" approach. In particular, in relation to the notion of flexibility, there is a need for further research on different ways of grouping and use of time and space in order to enhance the effectiveness of collaborative teaching. For practitioners, this study gave teachers an opportunity to evaluate the situation critically when considering the implementation of co-teaching strategies in the new context, and allowed them to prepare themselves for this educational transformation. Concerning the notion of readiness, in particular suggested by School B's Year 4 case, teachers' experience and their perception of co-teaching influenced each other. Therefore, this study also calls for further research and provides professional development to allow in-service teachers to adapt a gradual change in "Learning Communities". This would provide them with a better chance to succeed and construct their new professional identity. Brendle et al. (2017, p. 548) in their

study also argued that "the success of a co-teaching partnership is based on the co-teachers' understanding and expertise in implementing research-based co-teaching models".

The study was limited by the frequency and length of classroom observation, since these were all determined by the participant teachers. The data of class observation only included a few lessons from each case, and therefore may not give a comprehensive picture of collaborative teaching in the context of Learning Communities. More classroom observations would allow many more aspects of the strategies to be observed and investigated. Although the focus group interviews helped the researcher to fill in some information gaps between or prior to the observed lessons, more intensive engagement at the stages of unit planning as well as implementation by the researcher as an insider participant would be beneficial. Such involvement would provide more data for triangulation between different cases and between comments made in interviews and behavior observed in lessons. In addition to teachers' perceptions, the student's perspective on the experience of collaborative teaching in the new context would add a meaningful lens to future study of the same topic.

Three reflective questions related to the article.

1. How would you describe your own classroom learning environment?
2. In your context, do you see any potentials/challenges to adopt a collaborative teaching approach?
3. What co-teaching strategi(es) do you think might help you better cater to the individual needs and characteristics of students?

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Chapter 6
Dynamic Enrichment Learning Mode: A New Way to Facilitate the Learning of Chinese as a Second Language in the Mainstream Curriculum

Loh Ka Yee Elizabeth, Chan Sing Pui Tikky, and Fung Wei Yan Renee

Abstract In Hong Kong, the issue of teaching Chinese as a second language (CSL) to school children is receiving considerable attention in recent years due to the trending proportion of CSL students in classrooms. While the Hong Kong Government encourages the integration of these students into mainstream schools in which the medium of instruction is predominately Chinese, the inadequate support provided puts these school aged children in a disadvantaged position. In light of this, there is a need of developing effectual interventional strategies to support the CSL learning of these students at preschool, primary and secondary levels. This chapter introduces a new support mode, the Dynamic Enrichment Learning Mode (DELM), which has been specifically developed for an intervention programme for promoting CSL students' proficiency in Hong Kong kindergartens. Pre-test and post-test data were collected from 146 CSL kindergarteners aged 4 to 5 years who received DELM activities (DELM group) and compared to that of 110 CSL kindergarteners of the same age group who learned Chinese by merely learning in an immersion setting (immersion group). Findings show that the DELM is more effective in promoting CSL kindergarteners' overall Chinese proficiency levels when compared to an immersion setting.

Keywords Chinese as a second language · Early childhood education · Early language and literacy · Curriculum development

L. K. Y. Elizabeth (✉) · F. W. Y. Renee
Faculty of Education, The University of Hong Kong, Hong Kong SAR, China
e-mail: ekyloh@hku.hk

C. S. P. Tikky
Centre for Child and Family Science, The Education University of Hong Kong, Hong Kong SAR, China

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6.1 Introduction

With China's fast-growing economy, Chinese has gained its status as one of the most popular second languages worldwide. This has given rise to an interest in the research on the teaching and learning of Chinese as a second language (CSL). The topic of CSL acquisition has also received a lot of attention in Hong Kong in the past decades. While the majority of students studying in public schools are ethnic Chinese, there is also a sizable population of ethnic minority (EM) students who have a pressing need to learn CSL in order to survive in classrooms in which the medium of instruction is mostly Chinese.

In the past decade, the Hong Kong Government launched a series of measures, such as the abolition of "designated schools" and the introduction of the "Chinese Language Curriculum Second Language Learning Framework" to encourage the inclusion of CSL learners in conventional schools for their better integration into the society in the future. Provisions of supports extended to kindergarten level in 2016. However, consistent with many countries with a high number of immigrants due to globalization, the trending number of second language (L2) learners in mainstream classrooms has resulted in challenges to both teachers and students to an unprecedented extent. Due to a huge disparity between home and school language and the lack of exposure to Chinese, these students coming from diverse cultural and linguistic backgrounds often have low proficiency in Chinese and lag behind their L1 peers in academic performances (Loh & Tam, 2016). At the same time, teachers constantly feel perplexed about how to cater for a group of students with mixed experience and abilities (Loh et al., 2020).

These issues are even more salient at kindergarten and preschool levels because of the nature of early childhood education programmes, insufficient supports and young learners' incomplete development in language skills (Tse et al., 2013). Curricula in Hong Kong kindergartens, by and large, adopt an integrative content approach (Loh & Tse, 2012; Tse et al., 2015), where contents are organized by themes rather than the sequence of the linguistic stages of both first and second language development. As such, the programme of study may vary school by school and lack a centralized second language syllabus. This is similar to trends in early childhood curricula in many parts of the world where the emphasis is placed on students' all-round development rather than language development alone (Baker & Wright, 2021; Björklund et al., 2014; Cekaite & Evaldsson, 2017, Heydon, & Wang, 2006). While holistic programmes may help support children's overall development, it has been suggested that, in order to promote L2 acquisition, language targets and instruction should be systematic and carefully planned (Baker & Wright, 2021; Fortune, 2012; Genesee, 1994).

Other than an appropriate curriculum, educational settings in which L2 instruction is delivered may also determine minority students' L2 development. Currently, the most widely adopted settings for CSL students in mainstream schools in Hong Kong are the pull-out and immersion modes, both of which have their advantages and shortcomings. Although there has been extensive research on these instructional settings for enhancing these students' L2 proficiency as well as performance in other

academic areas in the international context, little research has been carried out to examine their effectiveness in promoting young CSL students' L2 development and how these settings may affect emergent CSL learners in Hong Kong.

Learning experience children undergo in their early years has a deep-rooted and enduring impact on their development and likelihood of success (Office of Early Childhood Education, 2018). Thus, there is an urgent need of developing effective pedagogical strategies, support mode as well as an L2 curriculum with well-planned learning targets to support CSL students' progressive development in Chinese proficiency, especially at preschool level.

In view of this, this chapter proposes the adoption of Dynamic Enrichment Learning Mode (DELM), which was specifically developed for an intervention programme for CSL kindergarteners in 2015 and has been implemented in partnership kindergartens. Based on theories of Second Language Acquisition (SLA) and the Integrative Perceptual Approach (IPA), interactive language enrichment activities developed by the team adopting the DELM draw on the advantages of both pull-out and immersion modes so as to allow these students to learn in an inclusion setting while also receive CSL enrichment tailored to meet their unique needs. The study in this chapter aims to answer three main questions:

1. What is DELM and how it can overcome the limitations of immersion and pull-out modes in L2 teaching and learning?
2. How can DELM be implemented in an integrated preschool curriculum?
3. Why DELM is considered suitable for the learning of Chinese as a second language in multicultural young learners?

In the following, we will first review the literature on two of the common modes of educational setting in supporting L2 students—the pull-out and immersion, and consider their practicability in the Hong Kong kindergartens with reference to challenges faced by young CSL learners. In the second part of this chapter, we will introduce the DELM, explain its underlying theoretical framework and illustrate how it can be implemented in an integrated preschool curriculum. We will also provide evidence on its effectiveness through comparing EM students' CSL proficiency after receiving intervention under DELM and immersion settings.

6.2   Literature Review

6.2.1   Pull-Out Approach

The pull-out mode, also known as the pull-out approach or model, is one of the most prevalent types of educational programmes for second language learners (Thomas & Collier, 2002; Loh et al., 2020). Under this type of educational setting, L2 students

learn about content areas in mainstream classrooms most of the time but are occasionally "pulled-out" from their classes to receive instruction with a main focus on enhancing these learners' L2 proficiency (Ellis, 2007).

Several studies pointed out the advantages of the pull-out model from perspectives such as overall classroom atmosphere and interaction patterns (Carter, 1984; Pearson, 2015). Carter's report on *The Sustaining Effect Study* highlighted some advantages of the pull-out model (1984). First of all, a pull-out classroom could create an affirmative learning environment for students that allowed students to learn in smaller groups with higher teacher-to-student ratios, thus more attention can be allocated for each student. The atmosphere of pull-out classrooms was often more amicable and lessons were usually more well-planned (Carter, 1984). These conditions are perhaps more favourable to L2 learning as they allow learners to receive more assistance that may help to lower the affective filter, which is the emotional block that holds L2 learners back from language acquisition (Krashen, 1985). It has also been noted that the pull-out settings enabled teachers to focus more on adjusting their teaching for a particular group of students according to their cultural backgrounds and characteristics (Pearson, 2015).

However, the mode of pull-out has received a lot of criticisms due to their insignificance on improving L2 literacy and their failing to provide equal educational opportunities to the minorities (Thomas & Collier, 2002; 2017; Jakubowski & Ogletree, 1993). Thomas and Collier (2002) regarded this model as being "the least effective and the most costly". Other criticisms on the model include its labelling effect, the reduction of instruction time on other subjects and teachers' low expectations on pull-out students (Carter, 1984; Thomas & Collier, 2002). Moreover, this kind of pull-out approach contradicts with what Snow et al. (1992) and Krashen (1985) have suggested that language is best learned through receiving plentiful and comprehensible exposure in purposeful social and academic contexts. In this regard, the pull-out setting does not seem to provide the ideal circumstances for second language development.

The research so far on pull-out seems to indicate that the approach brings more disadvantages than advantages. Nonetheless, the undesirable outcomes could be caused by factors such as the inadequacy of planning and communication other than the setting itself (Ferguson, 1992). While the pull-out mode might not be the optimal approach for promoting L2 development and social integration, it is, however, one of the most accessible solutions in many countries (Ferguson, 1992).

6.2.2   Immersion Approach

Immersion is another type of popular educational setting for supporting L2 learners. The meaning of the term "immersion" varies by geographical location, contexts and policies (Baker & Wright, 2021; Ellis, 2007; García, 2011; Tedick et al., 2011) and is broadly used to refer to a diverse range of educational approaches to SLA support. It is perhaps worthwhile to understand the nuances of these variations in order to get a

more thorough understanding on the situation in Hong Kong. In general, "immersion" refers to settings which promote students' bilingual development through providing content instruction in L2 (Baker & Wright, 2021). However, the term can be further narrowed down by the number of instructional languages (monolingual or bilingual), the direction of immersion (one-way or two-way), the intensity of the programme (partial or total), age at which the immersion (early or late) started and social status of the learners (immersion or submersion) (Baker & Wright, 2021; Ellis, 2007; Garvis et al., 2018).

In Hong Kong, the term "immersion" sometimes can, however, carry a deviating meaning. For example, Kwan (2012) referred to an immersion approach as using the L2 as the instructional language for the learner to immerse in a language rich environment and for the L2 to become a tool for learning rather than a subject alone. In this case, immersion simply refers to the situation in which minority students are placed in mainstream classrooms to receive instructions in the majority's language. Regardless of the absence of an undisputable definition, it is commonly agreed that immersion settings are beneficial in enhancing L2 proficiency. In the following, we will adopt Kwan's definition when referring to immersion in the Hong Kong context.

Literature on bilingual development and educational settings showed that immersion programmes, especially two-way immersion (TWI) programmes, benefit learners in many ways. First of all, research on learning outcomes found that it was one of the most successful approaches in promoting second language development (Thomas & Collier, 2002, 2017). Learners in these programmes could achieve a high level of proficiency in L2 and their academic achievements may be equivalent or even exceed that of their L1 counterparts (Genesee, 1987; Swain & Lapkin, 1982). Besides language outcomes, it was also found that TWI programmes helped to stimulate students' positive attitudes on learning with peers from different cultural backgrounds, develop learners' cognitive abilities and lowered their chances of dropping out of schools (Lindholm-Leary & Borsato, 2001).

However, although TWI programmes were effective in helping minority students reach a functional level of proficiency for mastering academic contents, these students might not always be able to achieve native-like proficiency in speaking and writing (Thomas & Collier, 2002; Genesee, 1987). It has been found that they could rarely achieve vocabulary and syntactic knowledge equivalent to that of L1 speakers. That is to say, although these types of immersion programmes might seem to provide the ideal conditions for bilingual development, there might still exist some discrepancy between the learners' linguistics and academic abilities, which affect the learning outcomes of the immersion programmes.

6.2.3   Immersion: The Situation in Hong Kong

In the Hong Kong context, educators tend to favour the immersion mode over the pull-out mode, especially at the preschool level. The fondness of this approach is based on the belief that young children can acquire a second language naturally

and easily through early immersion in a second language environment (Curriculum Development Council, 2017). In this regard, advocates, stakeholders and educators mostly assume the best way to enrich CSL students' Chinese proficiency is to let them learn together in the same classroom, where Chinese is the medium of instruction, with CS students (Tse & Hui, 2012). While it may be true that young learners are more sensitive to various linguistic features (Dörnyei & Skehan, 2003; Long, 1990), this view on SLA neglects the existence of an array of factors that contribute to the impact of immersion programmes, such as individual differences and teacher knowledge (Fortune, 2012).

Moreover, more attention should be paid to the difference in nature between the immersive settings in some reported studies and that in Hong Kong kindergartens. By far, most of the claims on the success of overseas immersion programmes were largely based on dual language programmes, which were highly structured for L2 promotion and were supportive students' L1 development (Thomas & Collier, 2002; Genesee, 2015). Moreover, many of the students participating in these reported studies came from low-middle to middle-class families and the parents were more likely to have higher engagement in their children's learning (Tedick et al., 2011; Valdés, 1997). Given the dissimilarities in the Hong Kong context in terms of the systematic provision of CSL instructions, sufficiency in CSL students' L1 support and family support, approaches that worked in other countries might not be practicable in Hong Kong. On this ground, more caution should be taken when exercising an immersion approach in the local context. This is because without providing L2 learners with systematic and adequate support, an immersive learning environment can be argued as somewhat being similar to what some literature referred to as a submersion setting, which is unfavourable to minority L2 learners as they are likely to be left "swim or sink" (Baker & Wright, 2021; Ellis, 2007; Garcia, 1993; Marsh et al., 2002). That is, these students must struggle to avoid "sinking" or being left behind.

6.2.4 Challenges and Difficulties Faced by Young Learners of CSL in Hong Kong

The absence of efficacious Chinese support measures for the teaching and learning CSL in kindergarten mainstream classrooms makes L2 learning problematic in an immersive setting. First of all, there is a lack of extra support specifically designed for enhancing young CSL learners' literacy skills (Oxfam Hong Kong, 2019). Learning to read and write Chinese as a second language is considered to be extremely difficult, particularly to those whose L1 is an alphabetic language, due to a complicated orthographic system unique to Chinese characters (Loh, Mak & Tam, 2015, 2018). Each character is made up of strokes, which can combine to form over 500 components and thousands of possible characters. In addition, the formation of characters follows certain structural and componential rules, of which non-native Chinese speakers find it hard to grasp (Loh et al., 2018). Different from alphabetic languages like English,

Chinese's morphosyllabic properties and the large families of homophones add to the difficulty in the mapping of print and sound, making mastering the language challenging for CSL learners (Leong et al., 2019). Therefore, traditional approaches, such as reading aloud and copying, which are commonly used to teach the reading and writing of Chinese in mainstream kindergartens may not be sufficient to help CSL students learn Chinese characters (Tse et al., 2007). For this reason, CSL preschoolers might need additional and individualized language support outside of their regular classes in order to obtain language-specific skills to build up reading abilities.

Conventional classroom practices fail to address the diversified abilities and needs of CSL learners in the early years. Studies showed that there often exists a discrepancy between CS students and CSL students' language proficiency (Tse & Loh, 2008, 2009). Due to CSL students' lack of exposure to Chinese before schooling, a wide gap in language abilities already exists at the moment they entered kindergarten, not to mention that there are variations among individual students with different linguistic and cultural backgrounds. Since some of the CSL students have a relatively low level of Chinese competence when they enter kindergarten, classroom instructions dedicated to L1 students used in the classroom may be too difficult for the CSL students to comprehend. Nevertheless, it has been reported that a lot of kindergarten teachers were not in readiness or did not have prior training in teaching emergent CSL students in the mainstream classroom (Oxfam, 2019). As a result, they were unable to adapt their teaching in a setting with both majority and minority students. Furthermore, CSL learners may not always have the chance to use Chinese in an immersion setting due to a teacher-centred discourse and their nervousness to speak (Tse & Hui, 2012; Walsh, 2002). Not only may these withhold their natural development in the second language, but it may also lower their overall motivation in learning. Taking these into account, a support mode which provides the conditions similar to that in the pull-out setting is more preferable for enhancing young EM students' CSL proficiency.

6.3 Dynamic Enrichment Learning Mode (DELM)

In previous sections, we have discussed some of the advantages and shortcomings of the two most popular types of support modes—pull-out and immersion—in supporting L2 students in mainstream classrooms in relation to the situation in Hong Kong. We have also looked into the commonly adopted approaches, highlighting gaps in current support for CSL students in preschool levels. From the above discussions, it seems that without sufficient help, these emergent learners of Chinese might be hindered from developing higher competence in the L2. Thus, changes need to be made in order to overcome the limitations of these support modes.

Flexibility in instruction modes and the curriculum itself are necessary components for L2 supports to be effective (de la Luz Reyes, 1992; Harklau, 1994). That is, for an L2 intervention programme to be successful, it must be carefully adapted to ensure language and contents are systematically integrated, with learning activities

clearly aimed at promoting language acquisition through interaction (Hickey & de Mejia, 2014; Snow et al., 1989).

Rather than being linear, teaching and learning is a multifaceted process and its efficiency can be dependent on an array of factors. It has been suggested that educational processes and settings are dynamic, complex and multifold as a whole, with interdependent variables contributing to the facilitation and constraints in learning (Ennis, 1992; van Vondel et al., 2016).

In the scope of this chapter, we would like to adopt such perspectives and define the current support mode—Dynamic Enrichment Learning Mode (DELM)—as a programme which fluidly integrates second language and mainstream curricula in a dynamic setting. This means, not only is DELM an instructional setting that incorporates the benefits of pull-out and immersion, but also a second language curriculum designed for facilitating emergent learners' CSL development in mainstream classrooms which adopt an integrated content approach. Supplementary to the local early year curriculum, DELM addresses CSL students' diversity and needs by promoting their L2 proficiency step-by-step in DELM activities, while enabling them to receive language instruction that aligns to contents in their regular classes. It is hoped that such a programme can facilitate these younger learners' CSL acquisition and aid their transition into mainstream curriculum learning progression.

6.4 Theoretical Framework of DELM

6.4.1 Input and Output

Linguists, psychologists and educators have tried to explain the process and constructs on SLA from many perspectives, varying from nature of how the human brain acquires language, the role the linguistic environment plays in acquisition to the interaction among users and social influence. Early works by Krashen (1982, 1985) proposed the distinction between learning versus acquisition, where he stressed the importance of the subconscious process of acquiring a language over conscious learning, and that language should be acquired instead of learned. Moreover, the intelligibility of input is some of the most influential conditions for automized L2 acquisition. To complete Krashen's views, Swain (1985) argued that language production—comprehensible output is equally important to the development of communicative competence.
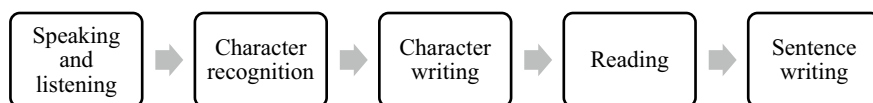
Fig. 6.1 The learning sequence of Chinese as a second language (Loh & Tse, 2012, p. 177)

6.4.2 Interaction and Scaffolding

Deriving from the notion of Zone of Proximal Development (ZPD) (Vygotsky, 1978, 1986), sociocultural theorists perceived language acquisition as the results of interactions among learners, their peers and capable others (Lantolf et al., 2015). From this perspective, language and cognitive developments can be scaffolded through having the learner engaged in challenging situations with the help from an experienced other (Tomlinson et al., 2003). While various views might focus on different aspects of language development, key determinants for L2 acquisition appear to be plentiful language input, chances for the learners to experience and interact with others using the target language, along with sufficient scaffolding from teachers.

6.4.3 Progression of Learning Materials

Literature on second language emergence revealed that SLA follows a sequence and certain structures are developed before others (Dulay & Burt, 1974; Smith & Truscott, 2005). Loh and Tse (2012) also suggested that there is a sequence for learning CSL (see Fig. 6.1). They believed that learners must first acquire a certain competence level in listening and speaking, which are the prerequisites for understanding instructions, interacting with peers and participating in-class activities. It is only when learners have a certain extent of competence in the spoken language and have obtained a bank of basic vocabulary items before they can proceed into more sophisticated tasks like character recognition, reading and writing using lexical items they have acquired.

6.4.4 Integrative Perceptual Approach Learning Chinese Characters and Vocabulary Items

The recognition and writing of Chinese characters are areas which CSL students find the most challenging. The DELM takes on the *Integrative Perceptual Approach* (IPA) (Tse, 2002), to promote L2 Chinese learners' literacy level on cultivating their orthographic knowledge and expanding their vocabulary size in an engaging way. This approach integrates the use of multimodal texts, songs and games, character learning strategies and pedagogies for semantic network building to allow young CSL students to acquire a lot of characters and words in a short time.

Incorporating the phenomenographic theory of learning (Marton & Booth, 1997), the IPA for teaching Chinese characters accentuates learning through reiteratively discerning features between whole (Chinese character) and (components, structures and sound of Chinese characters) parts to establish relations (Tse et al., 2007). In other words, the learners are encouraged to pay attention to the componential, structural and sound features while systematically comparing and contrasting them with clusters of characters which share similar features (Loh et al., 2015; Tse et al., 2007). Through experiencing and practising, the learners can efficiently and effortlessly acquire structural awareness crucial to the automatic decoding of characters.

Besides promoting students' orthographic awareness, another feature of the IPA is that it facilitates students' vocabulary development by helping students build up semantic networks (Loh et al., 2015; Tse et al., 2007). Through classroom activities, teachers elicit ideas, concepts and vocabulary items pre-existing in the children's mental lexicon and record these items coming from the students on the board. Since students are already familiar with these concepts or ideas, they can easily map the meanings onto the written forms, making the learning of characters faster and easier.

6.5 The Dynamics of DELM

As aforementioned, an educational setting is dynamical, and a successful support model should be one which is flexible and multifarious so that the divergent needs of L2 students can be catered for (Harklau, 1994). Thus, the design of the current support mode has given thoughts to the dynamics on the levels of educational programming, curricula integration, teacher collaboration and learner differences. The dynamics of the DELM is threefold.

6.5.1 The Dynamics of Educational Programme Settings

The DELM enables EM students to benefit from three types of educational settings: immersion setting, DELM groups, and, individual or pair sessions in DELM. In an immersive setting, CSL students receive content instruction in the mainstream classroom in together with their CS peers. This allows them to keep up with the school-based curriculum, while also increases their chances to interact with native speakers of their age using Chinese. The CSL students are extracted from their regular classes during group work or free play time to receive Chinese enrichment in groups two to three times a week. In these group enrichment activities, L2 learners receive language-based instruction, which aligns with themes they learn in their mainstream classes, through interactive activities and play. In the DELM activities, the L2 students can get extra support from teachers and practice using Chinese in a non-threatening environment wherein not possible in an immersive setting because of their unassertiveness. During one-to-one or pair sessions once every two weeks,

CSL students are provided with extra support further tailored to their needs. Through alternating among the three settings, the DELM activities offer students with extra language experiences supplementary to that of the mainstream programme. This enables them to immerse in a safe, comfortable environment with rich target language without having to miss out any contents of the mainstream curriculum.

6.5.2 The Dynamics of Integrated Curriculum

Another feature of the new learning model is mapping the DELM curriculum with the mainstream curriculum in an integrated curriculum. This dynamic process demands changes and adjustments to be taken place in the school curricula through the collaboration between mainstream teachers and specialist teachers. As Snow et al. (1989) pointed out, systematic integration and sufficient communication between specialist and class teachers are the fundamentals of successful support programmes. Therefore, before the commencement of DELM curriculum, the specialist teacher will first communicate with the class teacher to ensure the contents in the DELM curriculum align with the school-based curricula and EDB curricula in terms of an integrated curriculum framework. Moreover, the two teachers will meet regularly to reflect on the students' progress to fine-tune learning activities and targets accordingly. For example, if the class teacher notices that an L2 student needs extra help in certain areas, he or she may notify the specialist teacher so that the specialist teacher can provide the learner with extra language assistance correspondingly. On the other hand, if a student is making good progress in some aspects, the specialist teacher may also inform the class teacher so that he or she may provide more opportunities for the student to practise using the language in regular class activities.

6.5.3 The Dynamics of Learning Progressions Catering for Learning Diversity

It is commonly misconceived that the method and pace of learning are the same among L2 learners (Harper & de Jong, 2004). However, in Hong Kong, CSL students often come from heterogeneous backgrounds and their abilities are often diverse. Thus, there is no "one-size-fits-all" approach for teaching these students. Although the curriculum in DELM mode contains a set of pre-designed learning activities developed based on the sequence for learning CSL (Loh & Tse, 2012), the learning tasks within each theme allow for flexibility, with clear guidelines to differentiate learning objectives and tasks for basic and advance level students. Figure 6.2 summarizes the types of learning activities and targets covered in the DELM activities within a typical learning theme. These activities are arranged from the easiest at the bottom tier to the most demanding at the top. While the learning activities usually follow this

sequence within a thematic unit, specialist teachers can adjust the difficulty of the tasks according to the students' pace and ability by moving up and down the tiers. More specifically, while CSL teachers may make adaptations on a class level and differentiate the goal of each activity for individual learners, they may also decide to work on particular areas with individuals according to their needs during individual or pair classes to provide sufficient scaffolding. For example, they can pre-teach or re-teach for weaker students or challenge stronger students with more demanding tasks.
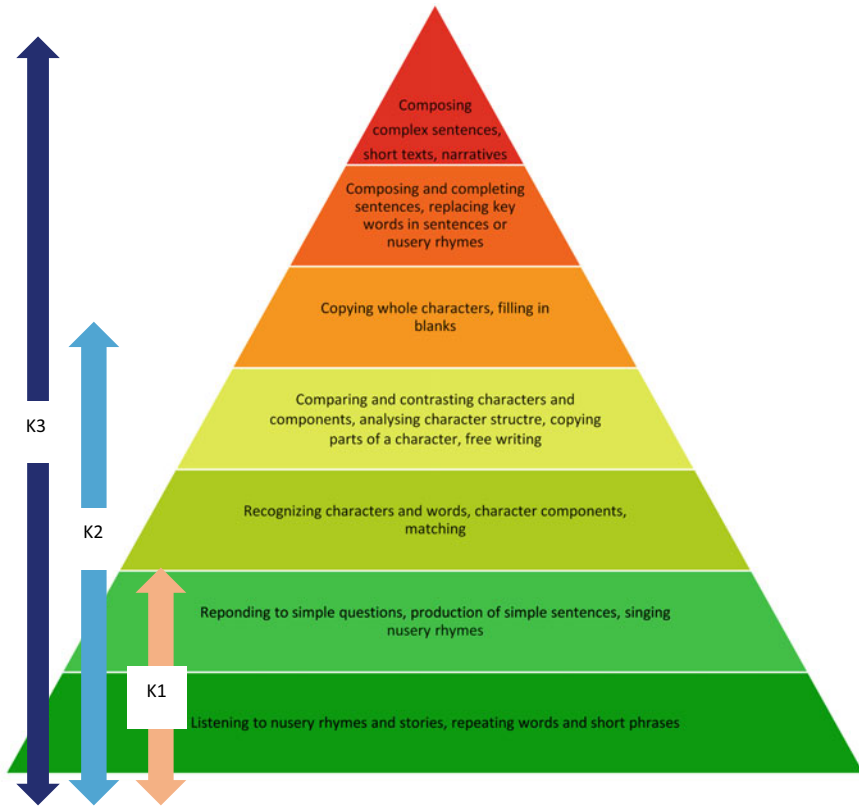

Fig. 6.2 The typical sequence of learning tasks in a thematic unit

6.6 Design of Teaching and Learning Materials and Tasks Typically Used in DELM Classes

To facilitate CSL students' progressive development in Chinese, the design of DELM encompasses an array of pedagogical approaches and strategies appropriate for emergent CSL learners, taking into account various developmental and second language acquisition theories and empirical researches on learning Chinese and CSL learning. The series of multimodal materials and activities in the DELM are designed to provide sufficient chances for both language input and output. Also, enrichment is given in group and individual settings with a lower teacher-student ratio. This allows for increased opportunities for meaning negotiation, collaboration and scaffolding. In terms of selection of learning materials, keywords in the curriculum of DELM are carefully selected based on a corpus on spoken Cantonese by young children (Tse et al., 2006), word frequency and common themes in local kindergarten curricula, children's interests, experiences and developmental stages as well as teachability.

Below is a list of teaching and materials typically used in DELM activities.

Modified and original picture storybooks. The use of stories helps present vocabulary items to children in meaningful contexts. Some storybooks are modified based on the learning design of the DELM activities. For original picture storybooks, characters and words that meet the developmental needs of children are selected as target vocabulary items for the stories in context, both of which are highly relevant to the children's real-life experiences. At the same time, the process of storytelling provides a good basis for language modelling, discussion and negotiation of meaning.

Cantonese nursery rhymes. One unique feature of the DELM is the use of Cantonese nursery rhymes specifically written for the teaching and learning of Chinese characters and Cantonese pronunciation. The lyrics of these nursery rhymes consisting of target vocabulary items and/or sentence structures are highly relevant to the thematic units of the course. The melodies are simple, easy to remember and are written to match the tone of the Chinese characters. Besides, all these original nursery rhymes conform to the principle of tone-melody matching to facilitate tonal awareness in Chinese language learning. With the repetition of the keywords, students can learn and remember the words naturally as they sing along. Moreover, the use of songs in language teaching helps to lower the affective filter of L2 learning (Lin, 2008).

Interactive and communicative games (e.g. matching games, memory games). While games are known to increase students' motivation in learning, they are said to provide students the opportunities to communicate in authentic situations (Littlewood, 2011) and lower students' anxiety level, which may act as a mental block that obstructs learning. This allows them to progress from focusing on the language utilizing it for communicative purposes in real settings. In the DELM mode, interactive and communicative games (e.g. matching games and memory games) are purposefully sequenced after the learning tasks. The rationale is to reduce learning pressure and anxiety while enhancing the Chinese language learning outcomes.

Free writing. In a traditional classroom, teachers often stress accuracy, stroke order and neatness when children write. This holds the CSL students back from practising writing when they are unsure of the correct form of the character. With respect to the emergent literacy paradigm, young learners develop emergent literacy skills through literacy-rich environment and meaningful social situations (Saracho, 2017). Free writing activities allow students to write or draw pictures, lines and character-like symbols freely on a particular topic on a blank piece of paper (Tse et al., 2014). Students are encouraged to explore and produce written language expressions by drawing, scribbling and pretending writing. Among the frequently used writing pedagogies, modelling is a major scaffolding strategy. For example, the teacher tries to provide students with the correct written form of the word and further ask them to compare that to their writing. This kind of practice allows children to practise writing without stress. Besides, teachers can also elicit meaning from the children's mental lexicon and help to reinforce the sound and meaning with the written form.

All in all, the DELM curriculum and pedagogies are designed to facilitate CSL students' Chinese learning through providing them additional support that incorporates a broad range of pedagogical techniques in various settings. As mentioned earlier in this chapter, although there has been abundant research on the education settings for promoting L2 learning, the effects of different settings on young CSL learners in Hong Kong have not been examined. Thus, this study sorts to evaluate the effectiveness of DELM and whether it is more advantageous than the conventional immersion method in supporting CSL students in local kindergartens. The present study collected and compared data on the improvement of a group of students who received DELM activities against a group of students who learn Chinese naturally through being immersed in a Chinese environment. We hypothesized that the DELM which takes into account the diversity and needs of young CSL learners is more effective in enhancing their CSL proficiency than an immersion setting.

6.7 Methodology

6.7.1 Participants

The current mixed-method study is part of a broader longitudinal research on supporting EM preschoolers learn CSL in mainstream kindergartens adopting an integrated content curriculum in Hong Kong. The study involved 9 non-profitmaking local kindergartens located across different regions in Hong Kong. Cantonese was the main medium of instruction in all of the schools, except for one which admitted mostly EM students, where both Chinese and English were used for instruction. Students studying in these schools generally came from families with low socio-economic status and the teachers in the schools had little or no previous training on teaching CSL to EM students.

A total of 256 EM students aged 4–5 years, all of which studying in K2 or K3 in these 9 schools, were recruited to participate in the study due to their accessibility. Most of these students came from families with South Asian backgrounds (such as Nepalese and Pakistani) and were all non-native speakers of Chinese. These students were assigned into two groups, DELM and immersion, based on the schools they studied in. The students in 6 schools that received intervention were in the DELM group, whereas the students in 3 schools that voluntarily participated in the study were in the immersion group. There were 146 CSL kindergarteners (K2 = 70, K3 = 76) in the DELM group and 110 CSL kindergartners (K2 = 58, K3 = 52) in the immersion group. A total of 12 teachers across the 6 DELM kindergartens were invited to participate in semi-structured interviews after the completion of the programme at the end of the school year.

6.7.2   Intervention

The CSL students in the DELM received two to three group DELM enrichment sessions (each session 30 min) taught by the Project's specialist teachers every week. They also received one pair or individual session every fortnight. EM students were grouped by grades and sessions were held during their regular class hours.

6.7.3   Measures Used in the Study

Pre-test and post-test were carried out to assess their Chinese proficiency levels of the two groups of students before and after the school year. The assessment instrument consisted of 3 measures (character reading, mental lexicon and free writing) covering a wide range of linguistic skills, including character recognition and pronunciation, vocabulary size and speaking skills, and, writing abilities. All the tasks were administered to the children on a one-to-one basis by trained researchers except for the free writing task, in which the children were first invited to draw or write in a group setting before explaining their thoughts to the researcher.

Character reading test. This task consisted of 70 items, each containing a Chinese character. Students were required to name the Chinese characters presented to them in chronological order. The sequence of the characters was sorted in ascending difficulty. This test assessed the students' ability in Chinese character recognition and pronunciation. One mark was given to each correct item.

Mental lexicon test. The mental lexicon test was to assess the vocabulary size of the students by testing their abilities in recognizing and verbally describing familiar situations. The students were presented with three pictures related to the settings of family, school and playground respectively. The students were asked to observe and talk about each picture by naming the objects, describing the actions or talking about anything related to the picture. The maximum duration of each task was 5 min. There

was no maximum score for this test and one mark was given to each vocabulary unit uttered by the child.

Free writing test. The free writing test aimed at examining the students' ability in writing Chinese and expressing meanings in written forms. It also provided insights into meanings represented in the children's mental lexicon. To begin with, students were instructed to draw and write anything they liked on the paper. During the test, they could ask the examiner to show them the written forms of words and they could copy these on their piece of paper. In the latter part of the test, the examiner would guide the students to read aloud or explain what they had put on paper (lines, shapes, symbols, pictures or words) and record the relevant data. The children would be given a score based on criteria-reference with the maximum score of 15. The criteria-reference rubrics are developed based on a writing study (Chan, 2013), and further adapted from a Chinese character writing performance assessment form (Tse et al., 2015).

6.7.4   Teacher Interviews

By the end of the semester, the class teachers of the CSL students participated in semi-structured interviews asking about their observations on these students' changes in CSL proficiency, motivation, class participation and so on. They were also invited to provide any comments they had on the project.

6.7.5   Data Analyses

The answers were marked by experienced markers and inputted for further analysis. To compare the effectiveness of the DELM programme and immersion programme in enhancing CSL students' proficiency, the mean scores of each group's performance in each task in the pre-test and post-test were computed. The percentage change of pre-test and post-test between the groups were calculated and compared. Tukey HSD post hoc tests were also conducted on the difference of scores of each test. Given that the difference in Chinese language proficiency levels of the students in the DELM group and the immersion group were relatively large, Cohen's *d* effect size was used to compare each programme's effectiveness in enhancing the CSL students' language proficiency, taking into consideration the dispersion of individual differences within the group.

6.8   Results

The mean scores of each measure have been calculated and analysed based on the students' groups and grades. As seen in Table 6.1, CSL students in the DELM group made significant improvements in the post-test and they outperformed the immersion group in most measures. The percentage changes in each of the tasks ranged from +233.20% to +1951.4% and +72.50 to +290.9% for K2 and K3 CSL students respectively. Improvements were also observed when comparing the pre-test and post-test scores of the immersion group, with percentage change of K2 students' performance ranging from +107.30 to +815.2% in the five tasks, and K3 students' ranging from +114.40% to 519.8%.

The post-test mean differences between groups were explored by separate Tukey HSD post hoc tests. Results revealed that both K2 and K3 students in the DELM group had better performance in the character reading and mental lexicon tests than those students of the same grade in the immersion group. However, they did not differ in the free writing test (see Table 6.2).

The effect sizes of all tests were computed. Table 6.3 compares the effectiveness of the DELM and the immersion approach. The effect sizes of the DELM groups students' performance in various tests varied between 0.6 and 3.05 and that of immersion group ranged from 0.81 to 1.97. The values of Cohen's d for all measures in both groups were greater than 0.8 (except K3 students' performance in the mental lexicon task), representing that the impacts of both DELM and immersion settings were large (Cohen, 1992).

6.8.1   Interview Results Analysis

All of the teachers who participated in the interviews indicated that the enrichment activities have aroused CSL students' interest in Chinese learning. This is reflected in the increased learning motivation and engagement during class activities and were more willing to share their ideas using Cantonese. They were also able to communicate with their teachers and peers with the second language. Some of the teachers noted that the nursery rhymes used in the DELM activities were particularly helpful in helping CSL students memorising new vocabulary items.

6.9   Discussion

It was hypothesized that CSL students in the DELM group who received L2 instruction systematically and progressively would make more improvements, and our results generally supported our predictions.

Table 6.1 Pre-test and post-test mean scores and percentage changes in all measures between DELM and immersion by grades

Measures	DELM group						Immersion group					
	K2 (n = 70)			K3 (n = 76)			K2 (n = 58)			K3 (n = 52)		
	Pre-test	Post-test	Percentage change	Pre-test	Post-test	Percentage change	Pre-test	Post-test	Percentage change	Pre-test	Post-test	Percentage change
Character naming	0.7	14.36	1951.40	6.45	25.21	290.90	0.79	7.23	815.20	2.42	15	519.80
Mental lexicon	5.23	28.91	452.80	23.56	41.13	74.60	2.28	12.02	427.20	11.08	24.69	122.80
Free writing	2.29	7.63	233.20	5.2	8.97	72.50	3.85	7.98	107.30	4.04	8.66	114.40

Table 6.2 Results of Tukey HSD post hoc tests in comparing the performance between two groups

Measures	K2	K3
	$D - I$	$D - I$
Character naming	7.13**	10.21**
Mental lexicon	16.89***	16.43**
Free writing	−0.35	0.31

Notes D = DELM group; I = Immersion group
*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Table 6.3 Effect sizes based on mean differences of pre-test and post-test between DELM and *Immersion Group*

Measures	DELM group		Immersion group	
	K2 ($n = 70$)	K3 ($n = 76$)	K2 ($n = 58$)	K3 ($n = 52$)
Character naming	1.84	1.43	0.98	1.27
Mental lexicon	1.72	0.60	0.85	0.81
Free writing	3.05	1.16	1.82	1.97

Table 1 compares the percentage change in pre-test and post-test scores in the two groups of students. We can see most improvement is observed in the K2 students receiving instruction in DELM, with remarkable progress in the character naming and mental lexicon tasks. Although a part of this can be explained by the low starting point of the students, it cannot be neglected that the DELM has a positive effect on the CSL students' abilities in various areas when comparing the effect size on the tasks between the DELM and immersion group. Table 6.3 shows the size of effect the DELM and immersion mode had on CSL student's Chinese proficiency. Large effects (>0.8) were observed in most tasks in both groups, the effect sizes of the K2 DELM group in all three tasks were greater than that of the immersion group. While the effect sizes of the mental lexicon and free writing tasks of the immersion group were larger than that in the DELM group at K3 level, one should not overlook that the K3 students in the immersion group had a much lower score in the pre-test in some of the tasks (the character naming and the mental lexicon tasks) when compared to the DELM group. This may affect the overall percentage change and effect size in the analysis. Overall, the findings in our study still reflected that the DELM had a more positive impact on CSL students' Chinese proficiency, particularly in terms of character naming, expanding students' mental lexicon and promoting students' speaking skills.

To understand how the DELM contributes to enhancing CSL students' skills in these aspects, we can perhaps look into the underlying framework of the DELM and the pedagogical skills used in the enrichment activities.

6.9.1   Improvements in Character Recognition and Naming

Character recognition is one of the biggest challenges CSL learners encounter. Chinese is an ideographic language, of which the writing system consists of a vast number of characters making up of strokes and components, and mastering its orthographic knowledge is said to be the crucial way to character recognition (Leong et al., 2011; Loh et al., 2018). In view of this, DELM curriculum places a great emphasis on character learning adopting the IPA approach, which has been found to be effective in helping CSL learners acquire the written form of the language (Loh et al., 2015; Loh & Tse, 2012). Conventionally, preschool students are taught to learn character by whole-word method rather than guided to focus on the orthographic features. Moreover, students are often encouraged to learn these characters by copying and rote learning (Loh et al., 2015). This process can be tedious for CS students and can be even worse for CSL students due to the complexity of the internal structure made up of strokes in Chinese characters (Tse et al., 2007).

In addition, the DELM activities adopted small group and individual settings in using the IPA for character learning which helped CSL students focus on the orthographic features of Chinese characters through interactive games and activities. During these activities, CSL students were encouraged to relate and differentiate the componential and structural features of Chinese characters (Loh et al., 2015; Tse, 2002; Tse et al, 2007). With sufficient interactional time, these strategies helped students raise their awareness towards the structural cues in characters. In the posttest, students in the DELM group seemed to be able to use this increased sensitivity to process the orthographic information in characters and were thus able to perform better in the character naming task.

Employing the small group and individual settings in the use of nursery rhymes also explains students' success in enhancing character reading skills. In each thematic unit in the DELM programme, CSL students were introduced a nursery rhyme containing key lexical items and characters. Studies have shown that songs can increase learner motivation as well as promoting language learning by aiding the mapping of musical and linguistic properties (Schön et al., 2008). This facilitation is crucial to Chinese character recognition and pronunciation because of the language's tonal and morphosyllabic properties. While this concept might be hard to grasp for CSL students by merely listening to teachers' instruction, providing sufficient time and individual guidance on singing nursery rhymes might have played a major role in helping the CSL children memorize the pronunciation of characters and words.

6.9.2   Improvements in Vocabulary Size

Another problem faced by CSL students is their small size of vocabulary in Chinese. The DELM was found to be effective in enriching CSL students' vocabulary than the immersion mode in a couple of ways. First, students benefited from receiving extra

exposure to the words related to the themes which they learned in the mainstream classroom in their small groups. Since the majority of students in mainstream classrooms were native speakers of Chinese who might already have some background knowledge or have even acquired the spoken forms of new words, the teachers in an immersive classroom might spend less time on the explicit explanation of vocabulary items, making it difficult for CSL students to understand the words being taught. On the other hand, the DELM activities were carefully designed and fine-tuned to align with the school-based curriculum in each school so that CSL students could have increased opportunities seeing thematic vocabulary items occurring in different contexts. Moreover, the target language was often presented in stories with plenty of visual cues, which provided a natural context to help the students make sense of meaning. CSL students might also find the context in these picture books more relevant to their experiences. It has been noted that elevated exposure to L2 words in multimodal means can promote L2 vocabulary acquisition (Bisson et al., 2013) and that providing comprehensible input plays an important role in language acquisition (Krashen, 1985; Swain, 1985). Then, DELM seemed to provide the right conditions for CSL to better acquire newly taught vocabulary when compared to CSL students in an immersion setting.

Secondly, the use of IPA, which has been proven to be effective in helping CSL learners learn vocabulary effectively and in a shorter time (Loh et al., 2015), might also have contributed to the better learning results in DELM students. Under the IPA approach, teachers often used different techniques to elicit new vocabulary items related to the topic or characters with similar components during class activities. As these words or ideas coming from the students were concepts or meanings which already existed (partially or fully) in their mental lexicon prior to the lesson, they were likely to relate to the students' schema and language capacities. Also, because words were learned in clusters, the association among novel words would be strengthened, allowing for long term retention of vocabulary. Moreover, since there was no limitation on the number of words taught per lesson, supposedly, learners could learn an unrestricted number of level-appropriate words according to their capacity as oppose to being in a traditional class setting (Loh et al., 2015).

6.9.3 Improvements in Speaking Skills

The improvement observed in the mental lexicon task not only indicated an expansion of vocabulary, but also improvements in students' skills in speech production. One possible explanation of this result was that the group and individual settings in DELM activities allowed for more teacher–student interaction. From what has been discussed earlier, social interaction is also an underpinning of SLA that it provides chances for scaffolding (Lantolf et al., 2015; Tomlinson et al., 2003; Vygotsky, 1986) and that it increases L2 usage is as important as language input (Swain, 1985). During DELM and individual lessons, specialist teachers and CSL students could frequently negotiate for meaning and adjust their language to get the message

across. For example, communicative learning activities in DELM groups allowed CSL students to practise speaking in a less stressful environment; and, the picture storybooks provided a rich context for children to interpret meaning, make spontaneous responses and model teachers' speech. This means more scaffolding can be provided to students during DELM activities, which may help gradually build up students' capacity to express ideas with their own language (Fleta, 2019). In contrast, there was little capacity for quality interaction between the teacher and L2 learner in an immersion setting that a large portion of classroom interaction is dominated by teacher talk and L2 students were often shy to speak (Tse & Hui, 2012; Walsh, 2002),

6.10 Conclusion

The limitations of the current study lie in three aspects. First, the CSL students' proficiency in L1 have not been measured. While L1 development has been said to be influential to that of L2 (Genesee, 1994), further investigation may help understand how L1 literacy plays a role in the acquisition of CSL in our group of participants. Second, due to operational reason, students in the DELM group and the immersion group studied in different schools, so the variations in school-based curriculum have not been taken into account. Third, the study has not taken into account the student' achievement in other content areas. Thus, it is worthwhile to investigate how the current support mode affects these students' L2 development in other content areas.

To conclude, the present study showed that the DELM was more effective in promoting EM young learners' CSL proficiency and motivation. Contrary to the common belief that young L2 learners can acquire a new language naturally by receiving instruction in the L2 context, and that pulling students out of the classroom might have a negative impact on the children's overall development, our results revealed that with a well-structured framework and suitable pedagogical techniques, young learners could benefit more from enrichment settings like that of the DELM.

The current study suggested that educators should be more cautious when adopting an immersion approach, especially for younger L2 learners who lack a good foundation in the target language. A good support mode should allow students to learn in various educational settings may be more appropriate for providing L2 learners a positive learning environment and helping them gradually build up a sound foundation in the target language. Moreover, it should be flexible, taking into consideration the diversified abilities and needs of students.

It is hoped that the findings of the current study can shed some light on the development of CSL and other L2 support programmes in the local as well as international contexts.

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Chapter 7
Integrating Digital Multimodal Composition (DMC) into Chinese Language Teaching

Danping Wang and Danni Li

Abstract The principle of inquiry-based learning in IB schools aims to teach students how to use authentic and multimodal resources from the real world to find answers. In line with this principle, the 2020 Language Acquisition Guide has introduced the concepts of multiliteracies and multimodality to language subjects. This chapter explores the integration of Digital Multimodal Composition (DMC) into Chinese language teaching in international schools. DMC is a modern multimodal strategy that engages students in using digital technologies to create texts using various semiotic resources, including linguistic, visual, aural, gestural, tactile, and spatial modes. The chapter showcases three DMC projects in which Chinese language teachers guide their students to use multimodal resources to compose various genres addressing real-world topics. These projects are specially designed based on the characteristics of the Chinese language, as well as students' interests and learning needs. The chapter concludes with reflections and implications of using DMC in Chinese language education in the digital age.

Keywords Digital multimodal composition (DMC) · Multiliteracies · Multimodality · Mode · Translanguaging

7.1 Introduction

Digital Multimodal Composition (DMC) is an innovative approach to teaching writing and communication that leverages digital technologies to create texts that incorporate a range of semiotic resources (Hafner, 2015; Smith et al., 2021; Zhang

D. Wang (✉)
The University of Auckland, Auckland, New Zealand
e-mail: danping.wang@auckland.ac.nz

D. Li
Renaissance College, Hong Kong SAR, China
e-mail: lid5@sis.edu.hk

et al., 2021). These resources can include not only traditional linguistic elements such as words and sentences, but also visual images, sounds, gestures, touch, and spatial arrangements. They also develop important digital literacies, such as the ability to navigate and manipulate digital tools, to collaborate with peers online, and to critically evaluate digital sources. By encouraging students to engage with DMC, educators can help them become more effective communicators in a digital age, preparing them for success in a wide range of academic, personal, and professional contexts. Additionally, DMC can be an exciting and engaging way to teach writing and communication, encouraging students to tap into their creativity and explore new forms of expression. As multimodality gains more importance in foreign language curricula, especially in the context of international education, it is crucial for teachers to explore and learn about DMC to ensure their teaching aligns with the needs and expectations of their students in their future endeavours (Wang & Li, 2022).

In September 2020, the International Baccalaureate Organization (IBO) officially introduced "multimodality" in the *Language Acquisition Guide* for the Middle Years Programme (MYP) (IBO, 2020). Multimodality refers to the "combination of multiple sensory and communicative modes, such as sight, sound, print, images, video, music, and so on, that produce meaning in any given message" (Dressman, 2019, p. 39). The new Guide has explained the definitions of "multimodal texts" in the context of the language acquisition (IBO, 2020, p. 13) and the specific learning objectives students are expected to achieve in terms of listening, speaking, reading, and writing, respectively (IBO, 2020, pp. 8–11). The introduction of multimodality has signalled a "multimodal turn" in language teaching and learning in the international school context, calling language teachers and heads of language departments to reconceptualise not only how to teach languages in the digital age but also what ought to be taught to our students to better connect print-based literacy teaching in schools with students' multiliteracies practices in the real world (Bull & Anstey, 2018).

With the introduction of the new Guide (IBO, 2020), language teachers will be expected to help students develop multiliteracies through engaging with multimodal texts with the support of technology to construct knowledge and critically evaluate information presented to them. Language teaching must recognise that the "rapid changes in technology and the growing diversity of populations have increased the development of multiliteracies and multimodal texts" (p. 12). According to the 2020 Guide (IBO, 2020), "navigating multimodal texts requires readers to attend to the grammars of visual design, in addition to the structures, typography, and graphic elements associated with written language" (p. 12). It is vital to outline a specific pedagogic framework for rethinking the future of language and literacy education within the context of major social changes such as unprecedented technological breakthroughs, cultural and linguistic diversity, and new forms of global citizenship.

In recent decades, Digital Multimodal Composition emerged as a popular pedagogy to incorporate multimodality in language learning has emerged, known as. DMC refers to modern learning tasks where students construct texts using digital technologies, which include linguistic, visual, aural, gestural, tactile, and spatial resources (). It is a process of assembling multimodal texts to make a final text product authentic and

meaningful to student designers. Students engaging in DMC projects are expected to have critical thinking skills "to locate, evaluate, and use diverse sources of information, digital as well as printed, to construct and integrate meaningful representations of a particular issue, topic, or situation" (IBO, 2020, p. 8). By introducing DMC as a legitimate approach, language acquisition subjects can delve deeper into the social consciousness of the larger society and global culture, informing students and lighting a fire under them to enact positive change in the world (Kress, 2010).

Situated in the international school context, this chapter is one of the first to bring theories and designs of DMC to a discussion of transforming Chinese language teaching in the digital age. In the following sessions, the chapter will offer an updated literature review in DMC and then uses three projects to showcase how DMC can be integrated into Chinese language teaching in an international school in Hong Kong. Finally, the chapter will provide implications and critical reflections for future research and teaching using DMC. It is hoped this chapter can contribute to a growing body of knowledge about the promises and problems of DMC in twenty-first-century language education.

7.2 Literature Review

7.2.1 Core Concepts

DMC cannot be well understood without addressing its theoretical origins and relationships with other theories such as multiliteracies, mode, and multimodality. Multiliteracies is a term created in the mid-1990s by The New London School (1996). The concept of multiliteracies highlights (1) linguistic diversity resulting from the increased transnational migration in the past decades and (2) multimodal forms of communication enabled by the widespread of modern technologies. In the increasingly globalised and digitised world, it has become normal to use more than one mode of communication for people of diverse backgrounds and in various locations to communicate with each other.

Kress (2001) defines mode as "a range of meaning-making systems" (p. 11). Modes are different ways that texts can be assembled and presented for communication, knowledge production, and meaning-making. In the 1990s, The New London Group (1996) asserted that there were five types of modes, including linguistic modes (delivery, vocabulary and metaphor, nominalisation of process, information structure, local coherence relations, and global coherence relations); visual modes (images, colours, page layout and screen formats); audio modes (music and sound effects); gestural modes (body language and sensuality); and spatial modes (the meaning of environmental spaces and architectural spaces). In 2009, Cope and Kalantzis (2009) updated the multiliteracies manifesto developed by the New London Group and added a sixth dimension to accommodate the expansion of modes brought about by new communication technologies, as shown in Fig. 7.1.
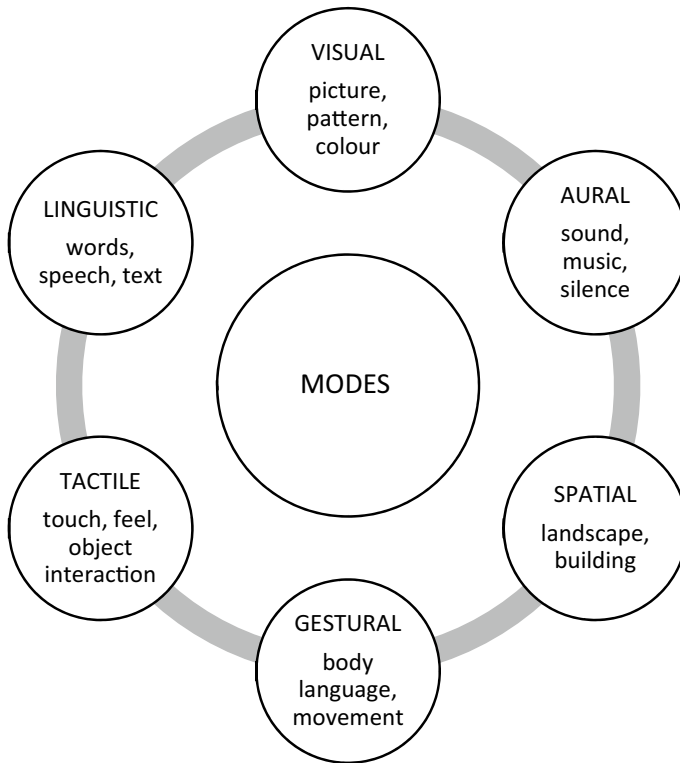
Fig. 7.1 The New London Group manifesto of modes

The multiliteracies approach challenges our traditional perceptions of literacy as a single and pure written and print mode of text. While the concept of multiliteracies attempts to explain the different types of literacy practices, multimodality focuses on how people use the multiple semiotic resources to communicate (Kress, 2010; Kress & van Leeuwen, 2001). Human communication has always been multimodal at its core. People always communicate in more than one way to convey their linguistic and paralinguistic messages in order to make sure the meaning is conveyed holistically. Although the word multimodality appears to be new to our vocabulary, we must acknowledge that the phenomenon it represents is not new to human communication and our experiences. As more digital technologies are integrated into our educational environment, multimodality is becoming a core concept in the curriculum.

The basic assumption of multimodality is that meanings are made and interpreted through many representational resources such as image, writing, speech, sound, music, gesture, body posture, and so on, of which linguistic text is just one of the modes of the meaning-making process (Kress & van Leeuwen, 2001). To ensure students' success in the digital age, a multimodal pedagogy is integral to helping them develop multimodal thinking skills and cognitive flexibility to cultural diversity.

According to Lim et al. (2021), multimodal pedagogy refers to teachers "making decisions about which modes of representation to for particular curricular content" (p.2) for students to create multimodal compositions. Multimodal pedagogies focus on working across multiple semiotic modes to ensure students develop a full set of literacy skills. In contrast, literacy pedagogy has been traditionally limited to teaching how to read and write in paper-based and page-bound text, and its linguistic representations have been restricted to monolingual, monomodal, and rule-governed forms of the language. The traditional and singular mode of text and source of knowledge is not responding well to the increasingly digitised educational contexts. In our contemporary social lives powered by networked technologies and dominated by social media, skills to understand multimodal relations between the different meaning-making processes are critical for students to absorb new information and maintain socially engaged. The goal of language education must adapt to a broader and more socially and critically engaged approach to literacy.

Furthermore, in the recent two decades of L2 teaching and learning, multimodality has been encouraged as an affordance strategy to respond to students' individual differences and diverse learning needs. Many schools are now witnessing a highly diverse student body consisting of individual students with different learning styles. The introduction of the multimodal approach is to create a more equitable and just learning environment to better engage and support students with diverse learning styles, which is crucial for the increasingly diverse Chinese language learners (Wang & Diao, 2021). There are a couple of models to explain learning styles, the most popular of them being the VARK Model by Fleming (2006)—different students learn the best through Visual, Auditory, Reading and Writing, and Kinaesthetic methods (VARK). By combining these modes, teachers can match content delivery with the best mode of learning for students, and learners can experience learning in various modes to best match their strongest learning style to fully develop their learning potential. When several senses are engaged during learning, students can understand and remember more effectively.

DMC is a scholarly call for incorporating multiliteracies and multimodality in second language teaching pedagogies. Earlier research found that by integrating DMC initiatives, students can develop stronger ownership and identity and long-term investment in language learning (Liang & Lim, 2021; Tan et al., 2020; Wilson et al., 2012). Nonetheless, as an innovative approach to language teaching and learning, DMC is not immune to resistance in the traditional education environment (Jiang et al., 2021; Tan et al., 2020). DMC not only poses challenges to the traditional view of texts but also to the roles and identities of language teachers and learners (DePalma & Alexander, 2015; Jiang & Ren, 2020). Some DMC projects have caused confusion and debates about assessment standards and equity considerations for students who have been socio-economically disadvantaged or lack advanced equipment and post-editing skills.

According to the recent reviews of DMC in language teaching (Smith et al., 2021; Zhang et al., 2021), DMC has been used almost exclusively in English language teaching, focusing primarily on migrant students in English-speaking countries. Little is known about using DMC in other contexts. Equally scarce in existing research of

DMC in languages other than English, which has limited the scope of the scholarship of multiliteracies and multimodality to alphabetical languages based on the Latin script. Languages such as Chinese (Li, 2020), with unique writing systems and input methods, have not received adequate attention in existing DMC research (Wang & Li, 2022).

7.2.2   DMC in Chinese Language Teaching: The New Normal

Chinese language teaching has been actively embracing pedagogical innovations in technology-enhanced language teaching and learning (TELL) since the second decade of the twenty-first century. White and Zheng (2018) have edited a special issue showcasing the most cutting-edge technology-mediated teaching approaches as exemplars of modern teaching practices in Chinese language education, such as Virtual Reality for immersion experience (Lan & Liao, 2018) or application-based mobile learning (Jin, 2018; Kan et al., 2018).

However, at present, TELL approaches in Chinese language education centre more on recent technologies instead of theoretical advancement or curriculum transformations to acknowledge legitimate participation of technology in Chinese language education. As Kubler (2018) pointed out, the current scholarship on TELL in Chinese teaching has been restricted to utilising a technology to deliver the conventional written-text-based learning contents. Although more sophisticated technologies are introduced to teachers, TELL in Chinese has been primarily technology-driven instead of theory-driven. It is suggested that Chinese language teaching should be governed by what the technology can do for us but "not the other way around" (p. 54). In contrast, DMC is different from a primarily device-assisted or software-based TELL strategy. DMC does not require teachers or learners to be proficient in sophisticated technologies or continue to upgrade their devices for more intense sensory stimulation. Specifically, it seeks a theoretical and pedagogical transformation to liberate literacy teaching and learning from a single-mode bounded approach. In this aspect, DMC has the potential to break the boundaries of our conventional views of language and literacy.

Integrating DMC into Chinese language teaching can be a revolutionary change. The centrality of written text has a history of several thousand years in the Chinese civilisation. In China, the ability to write in Chinese characters used to be reserved for the elite and ruling class for a long history of 1,300 years. Written text has been regarded as the canon of Chinese literacy in the Imperial Examination. Due to the Chinese language's linguistic features, Chinese language teaching has a long tradition of orthography training, calligraphy exercise, and text annotations. The cultural restrictions surrounding Chinese language education, especially in writing, are characterised by a high degree of seriousness and perfection in accordance with one's intellectual level and social status. Even for native speakers of Chinese, learning to write Chinese characters is never meant to be easy. DMC and other multimodal

approaches to Chinese language learning can make Chinese language education more accessible to learners from diverse backgrounds with varying proficiency levels.

DMC will become a new normal in Chinese language education in the digital age. First, with China becoming a leading technological power in the world, digital communication through smart technologies has become the new norm in everyone's social lives. Understanding and communicating with the fast-changing Chinese world requires multiliteracies to locate and identify authentic information crucial for people to fully function in contemporary Chinese society without being restrained to outdated print information about China and the Chinese world. Secondly, using multimodal texts can create a legitimate space for popular elements to enter Chinese language learning materials and allow teachers to acknowledge students' DMC production as authentic learning evidence. It is widely recognised that popular culture is embodied in multiple semiotic forms, which are enthusiastically demanded by young learners (Pai & Duff, 2021). Introducing DMC into Chinese teaching can benefit many students who have been overwhelmed and demotivated by the unrelated learning content and monochromatic learning materials written in Chinese characters. Third, DMC provides a theoretical and methodological tool to challenge the monomodal and monolingual language ideologies in Chinese language education. According to Wang (2020), Chinese teaching has been dominated by the passion for creating a monolingual or total immersion environment for learners to maximise their acquisition. The linguistic purism has strictly limited other semiotic resources to play a part in student learning. Multimodal texts are often regarded as irrelevance or disturbance to the efficiency-driven one-way knowledge transmission and repetitive drills (Wang, 2015).

7.2.3 DMC for Inquiry-Based Learning

Inquiry plays a vital role in all the IB education and is regarded as a central idea in IB approaches to language teaching and learning. According to the IBO website, "inquiry" is the process that moves students from their current level of understanding to a new and deeper level of understanding. Inquiry involves an active engagement with the environment in an effort to make sense of the world and consequent reflection on the connections between the experiences encountered and the information gathered.

In line with constructivist pedagogy, inquiry-based learning highlights that students play an active role in asking and answering questions about personally and globally significant issues. For example, MYP has clearly referred to construction of meaning such as " formatting their own inquiry questions", " assessing the various means available to support their inquiries", and "proceeding with research, experimentation, observation and analysis that will help them find their own responses to the issues" (IBO, 2014, p.73). Meanwhile, during the process, teachers serve more like facilitators or mediators instead of authority just to impart knowledge. Teachers create learning opportunities based on students' prior knowledge and social

life experiences. They help students deepen their understanding, support knowledge production and application to a wider context, and stimulate thorough reflection. Students' learning can become more profound, substantial, and enduring through a collaborative process of creating knowledge in authentic global contexts.

DMC facilitates and aligns with inquiry-based learning. In IB education, multiliteracies are essential for students to participate fully in school and society and foster stronger critical thinking skills to tackle real-life communication and information exchange. We must acknowledge that multiliteracies are vital for students to survive and succeed in the technology-powered digital age where information and knowledge are conveyed and exchanged through various modes of communication. Unlike teachers' generations who received education mostly through the conventional mode, the digital generation is native to multimodal communication. Meanwhile, they are more easily fronted with bias, stereotypes, misconceptions, and even discrimination on social media (Rogers & Niederer, 2020). DMC provides a broader virtual space for students to explore and question what they learn, experiment and play with possibilities, and take and define a position.

7.3 Three DMC Projects

We present three DMC projects situated in an international school context in Hong Kong. The school is a member of the English Schools Foundation and operates on the IB Curriculum. The focal school offers Chinese language programmes throughout MYP years (Y7-9), IGCSE (Y10-11), and DP (Y12-13). Chinese is compulsory for Years 7 and 8.

7.3.1 Concrete Poetry

The first DMC project is Concrete Poetry. Concrete Poetry has a long history in Western literacy practices, emphasising the visual modes of literacy in addition to the verbal significance in poetry composition. It is an artful arrangement of text elements with the support of typographical effects to enhance a visual effect.

This DMC project was designed to encourage students to creatively visualise the shape of the Chinese script. This DMC is motivated by the belief that the Chinese language is a visual language that can be better learned through artful visual methods. The project was implemented in a Y9 MYP Language and Literature course. After learning a poetry mini-unit, students were asked to create a piece of visual poetry using digital tools and artistic skills (MYP LL Year 3), as illustrated in Fig. 7.2.

In this task, students were expected to demonstrate a deeper understanding of the interplay between word choice, outlay, shape, and colour and then apply such understanding in creating their own visual poetry. Students were then asked to write a

Fig. 7.2 A student's visual poetry
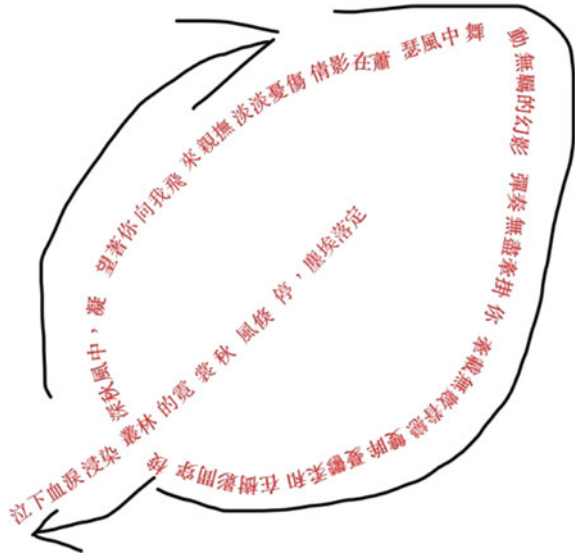
reflection regarding how they applied different semiotic resources to better communicate their ideas. This visual poetry project can be implemented in an offline pen-and-pencil mode. However, it could take a significant amount of time for students to design and redesign the shapes of the visual poetry without word processing software.

7.3.2 Emoji Retelling

The second DMC is Emoji retelling. Emoji, originated from the Japanese 絵文字(えもじ), are symbols often used in text messages on a mobile phone or computer to convey meanings and emotions (Bai et al., 2019). Emojis are meaning- and image-based and presented in the same size and shapes, which bears a high level of similarity to the Chinese script. Emoji was used as a popular symbol to show students that the Chinese writing system can be as interesting and familiar as Emoji. In Chinese teaching, Emoji can be more than a fun game for engagement purposes. It can be used to reduce L2 anxiety and build connections between students' familiar semiotic resources with the Chinese script, a new semiotic resource for students of Chinese as a second or foreign language. Below are two Emoji-based activities designed for students in different year groups and Chinese programmes.

The first group of students who participated in the Emoji retelling project was a group of Y7 students who took Chinese as a foreign language and on their MYP emergent level course. Students were asked to create an Emoji essay about themselves by using as many Emojis as they wanted and then worked in pairs to decode each other's Emoji essay in spoken Chinese. After that, students were asked to decode

我♡吃🌱🍃, 🍫, □。我♡玩🖥️🎮。我坐🚌去🏫。我是🇭🇰人和🇦🇺人，我觉得🐨很可爱。我的🏠里有4️⃣口人。

我喜欢吃薄荷冰淇淋，
巧克力和蛋糕。我喜欢
玩电脑游戏。我坐车去
上学。我是香港人和澳
大利亚人，我觉得考拉
很可爱。我的家里有四
口人。
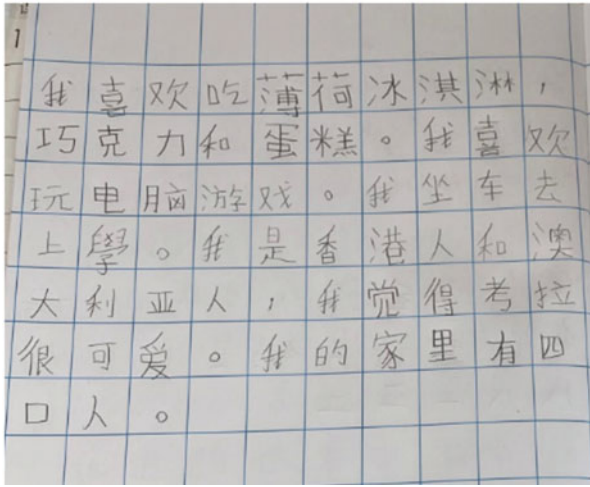
Fig. 7.3 A student's Emoji retelling

their Emoji essays in written Chinese. As Fig. 7.3 shows, the student used Emoji symbols to represent the words (mint ice cream, video games, Koala) not taught in the course but were essential for embodying their identities.

The second Emoji retelling project was with a group of Y11 IGCSE students who took Chinese as a second language. In this DMC project, Emoji was used as a tool to facilitate critical thinking and argumentative essay writing. Students were first asked to create a short Emoji essay about themselves, and then they worked in pairs to decode each other's Emoji essay in spoken Chinese. After the group interactions, students wrote a reflection in groups based on the following questions: Why do teenagers like to use Emoji for communication? What are the difficulties and challenges in using Emoji as a communication tool? What are the advantages and disadvantages of using Emoji for communication? A thorough class discussion and class sharing led to students researching and writing an argumentative essay to answer the question: *Can Emoji replace language as a new form of communication?* Fig. 7.4 provides an example.

Most students found these activities engaging and inspiring. They also found that they gained a better understanding of both Emoji as a symbol system and the Chinese language as a writing system. Their critical thinking skills were also enhanced after listening to different perspectives from their peers. Students experienced a natural transition from the paper-based text as the main semiotic resource to screen-based multimodal texts involving various semiotic resources working together for communicative purposes.

繪文字在現代生活中成為了人們一定會用的表達方式。有人說繪文字會代替我們現在用的語言- 變成一种新的交流方式。但是，我們反對這個繪文化，我们不覺得繪文化能代替语言。

首先，繪文字的表達有限。每個語言都有動詞，副詞和形容詞等。因為繪文字沒有比語言那麼清楚的分类，所以我們無法完全传达我們想說的信息。這些詞語是對我們的交流方式有巨大的重要性。繪文字並不可能比文字表達地更深刻和准确。

另外一個問題就是每個人對某些繪文字有不同的解释。一個繪文字有不勝枚舉的意思和含義。如果我們只用繪文字來表達我們想說的事，另外一個人可能會曲解我們的語氣或意義。這樣會造成歧異或矛盾。
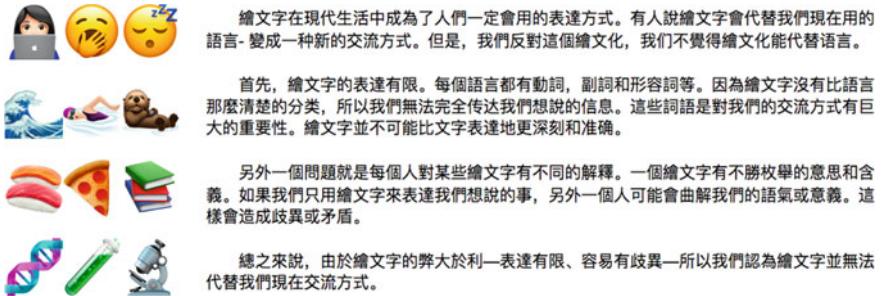
總之來說，由於繪文字的弊大於利—表達有限、容易有歧異—所以我們認為繪文字並無法代替我們現在交流方式。

Fig. 7.4 Emoji essay and an argumentative essay

7.3.3 Video Essay

The third DMC project is a video essay. It was carried out in an MYP Language and Literature Course with a group of Year 9 Chinese near-native speakers. Video-making is one of the most popular DMC activities in English language learning (e.g., Jiang & Luk, 2016; Toohey et al., 2012). The process started with guided inquiry to independent practice. Students were asked to explore local news and find personal stories that express traditions, beliefs, and values they would like to explore. Students were asked to use the thinking routine See-Think-Wonder to further explore the issues related. With some independent inquiry questions raised, students were asked to interview someone related to gain more understanding. Students drafted essays that would be used in their films as captions or narratage similar to those in a documentary film. During the process, teachers served as a facilitator to help students improve their language use and offer feedback for students to improve their project designs.

As Fig. 7.5 shows, the DMC focused on a small local restaurant (Cha chaan teng, Hong Kong-style café) and how it maintains its strong bond with the local community by serving local food. In this project, the student demonstrated a wide range of literacy skills in the short documentary, such as voice-over, music, interview with the restaurant owner and regular customers, filming in the restaurant environment, and demonstrating the local speciality with meticulous attention to the detail. This DMC shows that multimodal texts convey meaning through a combination of meaning-making elements that draw upon several semiotic systems. The multimodality has prompted writing pedagogy to undergo fundamental changes (Anstey & Bull, 2020). Hence, as designers and producers of multimodal texts, they developed a sound understanding of various codes and conventions of different semiotic systems. More importantly, they must deploy such knowledge creatively and critically to achieve the communicative purpose in this DMC project.

港式茶餐厅是香港其中一个特色。

Fig. 7.5 A screenshot of students' video essay

7.4 Discussion

By examining three DMC projects, this chapter illustrates how multiliteracies and multimodality can be incorporated into Chinese language teaching in international schools. These DMC projects have effectively improved students' engagement in Chinese learning and their critical thinking skills in knowledge production both inside and outside school. DMC has flipped the classroom into a place where students consult teachers' opinions of their project design and receive feedback on their language use. The three DMC projects provide examples for teachers and schools interested in DMC conceptualise and design DMC suitable for their students.

This chapter provides key concepts underpinning DMC as an innovative language education approach to harnessing rich and authentic multimodal semiotic resources in real-world communication. Multiliteracies and multimodality are new concepts proposed to challenge the traditional understanding of literacy as print-based text when the mass media and technologies fundamentally transformed people's public and private lives and increased the multiplicity of our communication modes due to the rapid and ongoing technological advancement. As Bull and Anstey (2018) state, texts will continue to change as society and technology change. In order to equip young generations with the most applicable and practical skills for the increasingly multicultural, multilingual, and multimodal world, our curriculum must adjust its educational objectives and assessment standards. Following MYP, we anticipate more programmes such as IGCSE, IB DP may soon recognise and integrate more multiliteracies and multimodality into language acquisition and other subjects.

The global pandemic has profoundly impacted education delivery and the traditional ways of language teaching and learning. Online teaching has become the

new normal for many educational institutions, including international schools, and is predicted to continue its integral role even after the pandemic is fully contained. The worldwide crisis has prompted teachers and schools to explore digital solutions to cope with the sudden shift to emergency remote teaching. Chinese language teachers are indefatigably navigating technologies and digital learning resources to make virtual learning equally engaging and effective. Wang and East (2020) pointed out that online teaching should not become an extension of classroom-based and written-text dominant teaching. Teachers and learners should collaborate to draw on real-life multimodal resources for a more profound revolution in our conventional view of language education for our young students. Nonetheless, what motivates us to take immediate actions is not "the future", but a contemporary reality of students' multimodal literacy lives since the beginning of the twenty-first century (Walsh, 2010).

We recognise the potential tensions and resistance in integrating DMC in language education. Embracing multiliteracies initiatives requires a fundamental transformation of educational objectives and a departure from the paper-and-pen mode of assessment that determines students' future academic pathways and professional success (Tan & McWilliam, 2009). Given the linguistic-form-focused evaluative standards, implementing a multimodal pedagogy requires a full consultation with students for a plan to better align their learning interests in the face of high-stake assessment. Teachers and students are often found in a dilemma to make a choice between engaging in the Web 2.0 learning initiative and adhering to the value, legitimacy, and priority given to traditional modes of learning and literacy practices, goal orientations, and school achievement.

The massive shift towards online teaching has brought tremendous pressure to use sophisticated digital tools and keep up with new technologies for every teacher. The diversified course delivery methods and massive technology integration will push language teachers to step outside their comfort zones to explore more effective multimodal teaching approaches. It must be acknowledged that many language teachers have been using multimodal texts in learning materials design, classroom teaching, and quizzes and projects for engagement purposes.

Implementing DMC requires institutional and policy support. Our experiences confirm that not every teacher would find it easy to embrace multimodality with ease, even within the open-minded and flexible IB education environment. We believe that introducing and practising multimodality in Chinese teaching requires institutional guidance, strong teacher agency, and adequate and continuous professional learning. It is vital to provide and invite teachers who have positive experience in exploring DMC to share their experiences with those who find it challenging to incorporate multimodality into their approaches. In particular, with the new Language Acquisition Guide (IBO, 2020), multimodality will play a significant role in IB language subjects. It is no longer a novelty as when it was introduced in informal language teaching (Dressman, 2019). Both the institutional and disciplinary environment need to provide professional development for teachers to integrate multiliteracies, multimodality, and DMC into their teaching practices.

7.5 Implications

The findings of this study have significant implications for language education and teacher development in the digital age. To help teachers and teacher educators effectively integrate DMC into their teaching and curriculum, the chapter offers three practical recommendations based on the insights gained from this study.

First, we highlight the central role of the technological pedagogical content knowledge (TPACK) for language teachers to integrate DMC into their teaching (Tan et al., 2019). TPACK is a framework to understand and describe the kinds of knowledge needed by a teacher for effective pedagogical practice in using technology to enhance student learning. Despite having a well-resourced environment, introducing, and practising DMC in Chinese teaching requires teachers to upgrade or learn new pedagogies and transform their professional identities from an authority to a facilitator in the classroom (Wang & Zhao, 2020). Based on Bull and Anstey (2018), language teachers will need to audit "their planning and practice in terms of balance among the semiotic systems, technology, grammar of all five semiotic systems and developing salience and coherence within, and among, the semiotic systems and meaning-making elements of text" (p. 297).

Secondly, DMC requires teachers to unlearn and relearn how Chinese can be taught in the digital age. Language teachers are expected to unlearn canonical concepts about text and rigid rules for literacy teaching. Theoretically, Chinese language teaching incorporating trans-semiotising theories to broaden the focus to analyse language as entangled with many other semiotics (e.g., visuals, gestures, bodily movement) in meaning-making (Lin, 2019). To implement DMC, teachers must break away from the deep-rooted monolingual and purist ideology of Chinese teaching. Li (2011) and Wang (2019) pointed out teachers have long been constrained by the monolingual bias. If students' first or familiar languages were disallowed, there would be no soil for multimodality and creativity to take roots in Chinese teaching. By introducing DMC to Chinese teaching, we hope to foster a different view towards Chinese language teaching and make it fun or possibly messy in the process of learning to read and write. Chinese language teachers are suggested to integrate multiliteracies and multimodality concepts in order to make language learning relevant to students' lives and prepare them for social participation in an increasingly multilingual and multimodal world. Without sharing the ownership of the language with its new users and learners from other cultures, Chinese will continue to be perceived as an inexplicable code. When technology is given a legitimate space in Chinese language teaching, it is hopeful that Chinese will be more competitive to become a global language (Gil, 2020).

Finally, teachers are suggested to bear in mind of the impact of "mode effects" and "digital divide" on student learning. The former one refers to the impact on students' results of sitting a digital exam as opposed to a pen-and-paper exam. When multimodal texts are to be widely used in both teaching and assessment, more research is needed to investigate multimodal teaching to narrow the gap between conventional print-based teaching and students' real-life language practices. The latter term refers

to the gap between those who have access to digital technology and those who do not. Although DMC is not device-bound, it requires a technology-mediated environment (Cooper et al., 2013) that provides all students with equal access to learning resources (Wang & Diao, 2021). In international schools, learning environments are generally well resourced, and students are from families who can afford advanced technologies and reliable Internet to their children. However, teachers must consult students before assigning an assignment requires the use of devices or skills that are beyond the capacity of some students.

7.6 Future Research

Based on the three recommendations, we provide three guiding questions for practitioners, curriculum developers, and assessment writers to consider how to effectively integrate DMC into Chinese language teaching in the international school context.

1. What are the most crucial TPACK skills for teachers to integrate DMC in teaching?
2. How should teachers transform their teaching beliefs to implement DMC effectively?
3. What factors teachers must bear in mind to ensure an equitable DMC pedagogy?

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Chapter 8
Flexible Acculturation and Identity Transformation in L1-L2 Chinese Language Teachers in Hong Kong International Schools

Zhen LI and Chung-Mou SI

Abstract This chapter explores the themes of acculturation and identity transformation among seven Chinese language teachers in Hong Kong. These teachers, who initially taught Chinese as a first language in local Chinese schools, later transitioned to teaching Chinese as a second or near-native language in English-dominant international schools. This study utilises a qualitative research approach, focusing on the long-term teaching experiences of the participants to gain insights into their transformational experiences and acculturation processes from their narratives. We draw on flexible acculturation theory and teacher identity theory to examine the connections and disconnections between acculturation processes and identity change across schools. The findings underscore the participants' profound meaning-making processes as they trainsitioned from teaching in local schools to international schools. The participants' previous professional identities as L1 teachers allowed them to draw on multiple resources with a deeper understanding about language teaching and and self-assurance in their changing roles as language educators. They critically reflected on these changing experiences in their subsequent teaching practices within international school contexts. This study holds implications for teacher education and professional development programmes, suggesting the need for tailored initiatives designed to support Chinese language teachers during their transition to teaching in international schools.

Keywords L1 teaching · L2 teaching · Chinese language teachers · International schools · Identity transformation

Z. LI (✉) · C.-M. SI
The Education University of Hong Kong, Hong Kong, China
e-mail: jzjli@eduhk.hk

C.-M. SI
e-mail: cmsi@eduhk.hk

8.1   Introduction

China had the second-largest number of students attending English-medium international schools in the world, amounting to 479,700 in 2015 (EducationInvestor, 2015). It is estimated that the number of students attending English, private, and international schools will reach 1.2 million in East Asia by 2029 (Davis & Waite, 2020). In the East Asian international school sector, Chinese language education plays a vital role due to the massive demand from students raised by native-Chinese-speaking families as well as non-native-Chinese-speaking students who learn Chinese as a second or foreign language. In the major Chinese-speaking areas such as mainland China, Hong Kong, and Taiwan, Chinese has been offered as a compulsory subject daily in most international schools. Understanding the role of Chinese language teachers in these international schools, especially Chinese-as-a-foreign-language (CFL) teachers, is significant for several reasons—not least for the influence of international school contexts on the previous Chinese teaching approaches and beliefs they had—and to which they may integrate, mediate, or transform—and their impact on students from a wide range of linguistic and cultural backgrounds.

The CFL teachers in our study had initially taught L1 Chinese to native Chinese students in a local school context in Hong Kong or mainland China before they teach Chinese to non-native-Chinese-speaking students in international schools. Although this group of teachers is rarely reported in the literature, it is not uncommon in the Chinese-as-an-international-language teaching force (Li & Lai, 2022). Indeed, Chinese language teachers in international schools are not a homogeneous population; they were not all trained as second language teachers at the very beginning. Instead, they demostrate a range of differences in terms of their prior academic training, professional experiences, school environments, and subjects of instruction. These differences significantly influence their teaching beliefs and pedagogical practices in their current school settings. Our research focuses on how these teachers adapted themselves to international school contexts that differed significantly from their former schools in terms of pedagogies, disciplinary specialisations, student backgrounds, and school cultures. It also examines the degree to which their previous teaching experiences facilitated or constrained their ability to adapt to their L2 teaching roles in international school settings. These issues are critical to Chinese language teachers planning to pursue a teaching career in an international school context and stakeholders interested in understanding this emerging pool of teaching force, which has significant implications for CFL teacher professionalisation.

In this study, we aim to provide a typology of identity transformation in L2 Chinese teachers with prior teaching experiences as L1 teachers, highlighting the ways through which these teachers have adjusted to the distinct challenges of teaching Chinese in international school contexts. Our study demonstrates that these teachers did not simply abandon their earlier L1 teaching methods upon transitioning to teach in international schools. Instead, they have developed a new identity characterised by a complex dynamic system that enables them to adapt their teaching approaches effectively, catering to the needs of the diverse student populations they encounter.

8.2 Literature Review

8.2.1 Acculturation

Acculturation, a concept for understanding the adaptation process of immigrants in host societies, was traditionally defined as the process of cultural change initiated by the encounter between the host culture and the heritage culture (Redfield et al., 1936, 1954). In the acculturation process, acculturative changes may appear in different forms, such as modifications of one's heritage culture, a selective adaptation of value systems of the host culture, or a mixture of both cultures. Whereas the traditional conceptualisations of acculturation have been criticised for their unidimensional approach to predicting a singular result, such as assimilation or the melting pot (Lee, 2008; Pham & Harris, 2001).

Berry and his associates (Berry, 1986, 1997, 1998; Berry et al., 1987) proposed a bidimensional model of acculturation, which involves the preservation of one's heritage culture and adoption of the host culture. According to this model, identification with one's heritage culture does not necessarily stand against that with the host culture. In this model, combinations of high and low positions yield four strategies of acculturation: *integration*, *assimilation*, *separation*, and *marginalisation* (see Fig. 8.1). Integration refers to acculturation strategies that individuals use to maintain their heritage culture and absorb the host culture at the same time; assimilation refers to strategies that individuals place a high value on the host culture but negate or reject their heritage culture; separation, in contrast to assimilation, comprises strategies that individuals advocate their heritage culture but reject the host culture; and marginalisation refers to the strategies that individuals reject both their heritage culture and the host culture.
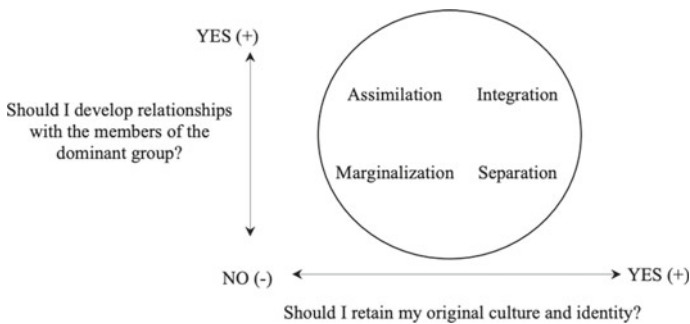

Fig. 8.1 Adapted from Berry (1997)

8.2.2 Flexible Acculturation

Situated at the intersection of functional and conflict theoretical paradigms, Nederveen-Pieterse (2007, 2010) proposed the concept of *flexible acculturation*, which can be used to understand cultural transmission processes in intercultural settings. As explained by Lee (2008), flexible acculturation, differing from the ideas of assimilation, melting pot, or multiculturalism, includes different interactions among different social groups, and; it refers to both agency and social forces so that "it is more comprehensive than the idea of acculturation in acculturation psychology" (p. 51). As Lee pointed out, when studying flexible acculturation processes, it is essential to identify critical social actors and their social positions shaped by historical and contemporary social contexts. Lee identified four essential virtues for the flexible acculturation concept that differ from the traditional acculturation concept: (1) it has diverse social players, rather than just political and economic elites; (2) it is not only about differences but also about interactions; (3) it includes multiple processes; and (4) it is not merely about the agency but also about social regulations.

Flexible acculturation theory is especially useful for studying the complexity of identity construction in multicultural or transcultural contexts when traditional concepts of space and time are challenged due to the increasing migration, professional change, and cross-cultural interaction. In international schools, teachers, particularly those specialising in teaching CFL, represent a distinct group nessesitating flexible acculturation as they are situated in transcultural workplaces where the boundaries between nation-states are dissolving, and the traditional concept of citizenship is being challenged. This study perceives CFL teachers as active social actors engaged in a multifaceted acculturative process. Their adaptative process of teaching CFL in international schools can be understood as an acculturative process. The international schools, in turn, create specific social fields within which the teachers navigate the complexities of their acculturation processes.

8.2.3 Teacher Identity

Teacher identity has been a popular research focus in recent decades, and it is often underpinned by the poststructuralist approach that recognises its multiple, complex, situated, and shifting nature (Firth & Wagner, 1997, 2007; Morgan, 2004; Pavlenko, 2003). For teachers, the process of constructing their identities involves a complex negotiation process between their personal and social identities, which are shaped by how they perceive themselves and how they are perceived by others (Li, 2022). Ethnicity, race, gender, and cultural background are essential variables that contribute to identity construction, which is also influenced by historical, socio-political, educational, and socio-economic contexts. According to Sachs (2005), the process of teacher identity construction could guide teachers on "how to be," "how to act," and "how to understand" their professions and roles in society (p. 15).

A few salient studies of Chinese teacher identity in international school contexts investigated the complex process of their pedagogical beliefs and practices intertwined in the nest of traditional Chinese education practices and the Western-liberal international school practices (e.g., Lai et al., 2016; Lai et al., 2015; Li & Lai, 2022). For instance, Li's (2015) study on the identity construction of Chinese language teachers in international schools in Hong Kong revealed that the process of teacher identity construction represented a type of CFL pedagogical innovation, which involves a balanced approach that critically examines traditional teaching methods while acculturating themselves in new or Western-based teaching approaches.

Language teacher identity is a significant issue in the teacher identity literature, particularly in light of the widespread expansion of foreign language learning worldwide. The linguistic, ethnic, and sociocultural dynamics involved in foreign language teachers significantly influence how identity is constructed, negotiated, and transformed. In Hayriye Kayi-Aydar's (2019) review of empirical studies on language teacher identity, five kinds of language teacher identities have been reported as the most frequently studied: narrated identities (e.g., Kanno & Stuart, 2011), identities-in-practice (e.g., Trent, 2010), gendered identities (e.g., Appleby, 2013), future selves (Urzúa, & Vásquez, 2008), and sociocultural identities (e.g., Ajayi, 2011). However, empirical data to understand various types of teacher identities remain insufficient. To enrich the demographic data of CFL teachers in international schools, we aimed to study a group of teachers who previously taught L1 Chinese in local school contexts and then switched to teaching L2 Chinese in Western-based, English-medium, private international schools in Hong Kong. The exploration of their identities revealed a transprofessional aspect (Li & Lai, 2022), enabling them to seamlessly switch between teaching different subject areas within language teaching. Our research objective was to understand how these teachers were acculturated into international school settings that differed in many social and cultural dimensions from their previous local school environments. The research question we attempted to examine is: How do the CFL teachers acculturate themselves during the transition from teaching L1 Chinese in local schools to teaching L2 Chinese in international schools?

8.2.4 Theoretical Framework

In our study, we use both Berry's (1986, 1997, 1998) bidimensional acculturation framework and Nederveen-Pieterse's (2007, 2010) flexible acculturation theory as an integrated framework to demonstrate the transformational aspect of CFL teachers' identity across their narrated experiences of teaching L1 and L2 Chinese in local and international schools respectively. This transformational aspect mainly illustrates how CFL teachers utilise their 'trans-professional experiences' (Li & Lai, 2022) to achieve their professional and social goals. As a result, the concept of flexible acculturation in teacher research has been extended into the field of international education. Berry's (1986, 1997, 1998) bidimensional acculturation framework was adopted to understand patterns of the teachers' acculturation process in the host culture of

international schools, while Nederveen-Pieterse's (2007, 2010) flexible acculturation theory was used as a supplementary theory to identify changing aspects of different stages of the acculturation process. We are aware that these two theories stem from different theoretical disciplines: the former is based on a socio-psychological framework that focuses on individual positions in the host culture, while the latter is a construct from the intersection of functional and conflict theoretical paradigms that emphasises both individual agency and the social structure. By integrating these theories, we seek to offer a more holistic insight into the complex, changing nature of teacher identity in school-based acculturative processes in our research context.

8.3 Methodology

8.3.1 Data Collection

Our study aimed to explore teachers' constructions of their identity as educators. We collected teachers' views through semi-structured one-to-one interviews with seven teachers. The interviews were conducted with individual teachers within their school compounds, and one was conducted at a cafeteria with a retired teacher. Interview questions were developed based on the following themes: (i) career biography, including previous L1 teaching beliefs, practices, and reasons for career changes; (ii) the acculturation process of switching from L1 teaching to L2 teaching; (iii) the acculturation process of transitioning from teaching in local schools to international schools; (iv) differences, similarities, or interconnections between the two teaching experiences; and (v) meaning-making of the acculturative process. The authors, who are experienced in research on CFL teacher education, interviewed the teachers on a face-to-face basis during the autumn semester of 2019. The questions we asked the teachers were primarily open-ended, allowing for rich, authentic narratives from the participants using their own terminology. Each interview lasted about one hour and was recorded on a digital recorder. A research assistant then transcribed the recordings. To maintain anonymity, all names and identifying information have been replaced with pseudonyms.

8.3.2 Participants

The seven participants in our study (see Table 8.1) were experienced teachers who taught in local schools and English-medium, International Baccalaureate (IB) international schools for a substantial number of years in Hong Kong. All the participants were certified teachers in Hong Kong and held a bachelor's or master's degree. They were all native Chinese speakers and were highly fluent in Cantonese, Mandarin, and English.

We recruited the participants using a snowball sampling approach due to the specificity of the career change experiences they shared. It is important to note that justifying sample size can be a significant challenge in qualitative research and may lack rigour (Marshall et al., 2013). We adopt a 'localist perspective' (Qu & Dumay, 2011) toward our interview approach, which emphasises the importance of the interview process. This approach allowed the participants to reflect on the meaning of our research topic and provided a space for them to construct their situated identities via narrating their trans-professional stories (see Li & Lai, 2022).

Table 8.1 Educational and teaching backgrounds of the participants

Teacher code	Gender	Total Years of teaching	Years of teaching in Hong Kong local schools	Years of teaching in Hong Kong international schools	Level of education	School Section	Roles at current school
A	Male	13	11	2	Master's	Primary	Head of Chinese
B	Female	27	7	20	Master's	Secondary	Head of Chinese
C	Female	15	7	8	Master's	Secondary	Teacher of Chinese
D[1]	Female	38	13	11	Bachelor's	Secondary	Former Head of Chinese (retired for one year)
E	Female	10	6	4	Master's	Secondary	Teacher of Chinese
F[2]	Male	18	4	10	Master's	Primary	Head of Chinese
G	Female	10	6	4	Bachelor's	Primary	Teacher of Chinese

[1] Teacher D worked as an L1 Chinese teacher in a nation-state, secondary school in mainland China for 14 years before teaching in Hong Kong.
[2] Teacher F worked as a homeroom teacher in a local primary school in New Zealand for four years before teaching in Hong Kong.

8.3.3   Data Analysis

We used thematic analysis to identify patterns of meanings and experiences from the interview data, which were first coded manually to subdivide the data into categories and then labelled and coded for allocating units of meanings (Dey, 1993). The codes, represented by chunks of words, phrases, sentences, or dialogues from the interview transcripts (Basit, 2003), were then constructed, compared, and recategorised to make a hierarchical order to describe the larger picture that accords with the research aim of our study. This way of analysing qualitative data allowed us to examine different participants' perspectives, find differences and similarities, and generate unanticipated points of view (Braun & Clarke, 2006; King, 2004). Three major themes representing the participants' transitional and acculturative processes were generated from the data: the experiences of conflicts and struggles in the early stages of L2 teaching, making meanings of the differences between L1 and L2 education and senses of job achievement, and the experiences of professional identity construction in international schools.

8.4   Findings

8.4.1   Managing conflicts and Struggles in Early Stages of L2 Teaching

The participants in this study vary in their acculturative processes in their early stages of teaching L2 Chinese. Some teachers (A, C, E) experienced severe 'cultural shocks,' whereas others (B, D, F, G) experienced a relatively smooth transition. For instance, Teacher A's initial experience of L2 teaching was not chosen by himself but was 'arranged' by his school since the school lacks a teacher force specialised in L2 education. In Excerpt 1, Teacher A talked about his early experiences teaching L2 Chinese in a local multicultural school:

Excerpt 1 (Teacher A on his frustration in his early teaching of L2 Chinese)

Teacher A: I enjoyed my teaching of L1 (to local Cantonese-speaking students) at that time since I was just graduated and the students were around 16 to 17 years old, and we all speak Cantonese as our mother tongue … Although their literacy level was not that good, I felt teaching them was like growing up with them together. However, when I switched to my L2 classroom, I almost cried every day after work …

Interviewer: Cried after work?

Participant A: Since I did not have any professional training in L2 teaching, and I didn't understand … so they (the L2 students) often said that they could not understand my teaching. However, when you speak too much English, you would feel that your English is not good enough, and you don't feel like teaching Chinese … so I struggled a lot and felt very confused.

Lacking preparation and sufficient training at the beginning of his L2 teaching led to frustration and a sense of underachievement for Teacher A. The opposite

feelings and senses of achievement toward teaching L1 and L2 Chinese revealed his 'acculturative stress' (Berry et al., 1987) with new symbols he came across in a teaching context that was new to him. Teaching L1 did not contain much about dealing with the unknown cultures and subjects of teaching, so he did not feel any sense of isolation or marginalisation in an L1 classroom.

Interestingly, Teacher A's attitude toward L2 teaching changed dramatically at a later time, especially after he completed a part-time master's study in Second Language Education. As he analysed his way of adjustment in Excerpt 2:

Excerpt 2 (Teacher A on the reasons for his early frustration in L2 teaching)

Teacher A: Honestly, you have to admit that L2 students are a bit more active than L1 students in classrooms. They are really active … For instance, we require our kids (L1 students) to be quiet and listen to their teacher. Whereas it would be impossible to ask the L2 students to do this as this was their culture. They liked to ask their teacher about this and that. I understood this gradually. I think my sense of failure in L2 teaching (in the beginning) was because of … my self-centrism. That is, I thought all students should be like this … but they think teachers should not be like this … The second reason was my pedagogical approach … why did I speak English all day? Didn't I want to be a teacher of Chinese? … Also, I understood (after the master's study) that L2 acquisition was different from L1 acquisition. They are two different kinds of things. I then started adjusting my teaching approaches.

Teacher A's frustration with L2 teaching revealed the challenge of adjusting to a new teaching context and the need for teachers to reflect on their beliefs and practices. Teacher A's identity as a teacher was initially anchored in his experience with L1 students, and then he struggled to adapt to the different expectations and behaviours of L2 students. Theoretical training in L2 education during his postgraduate study and continuous self-reflection helped generate new knowledge about L2 teaching for Teacher A. His realisation that L2 acquisition is different from L1 acquisition allowed him to be able to gradually adapt to the new context. This brought about the adjustment of his teaching strategies and attitudes and provided an acculturative channel to allow him to gradually adjusted to the L2 teaching context. Thus, this adjustment further reduced his acculturative stress and the conflict with the L2 teaching context.

Excerpt 3 (Teacher C on her learning of classroom management in her early teaching in an international school)

Teacher C: I remember one time I asked my Year 7 students to be quiet as they were very noisy. And then I asked the whole class to stand up. Actually, I did not intend to punish them but asked them to stand up to reflect on their behavior. Afterward I received a complaint from a parent. One student's mother said to me that her child felt very aggrieved about my strategy and thought I was so aggressive that I scolded the whole class, so her child cried after he went back home. I felt this child was not very naughty (and did not understand what went wrong). Then gradually, I realised that international school teachers rarely criticise students negatively and usually used more positive strategies to discipline students … I learned little by little by observing how the Western teachers discipline the students. They did a very good job in this.

In Excerpt 3, Teacher C experienced similar difficulties in classroom management in her early days of L2 teaching. She initially used a teaching strategy that was effective in her previous teaching context (asking the whole class to stand up to reflect on

their behaviour), but then found this strategy was not effective in the international school context and led to a complaint from a parent. Through observation and learning from Western teachers, she gradually adapted her teaching strategies to better suit the cultural norms and expectations of students in the new school context. She made acculturative changes to her classroom management strategies, allowing her to gradually adapt to the international school context. These changes seem inevitable since the loss of ownership and autonomy during the transition from L1 to L2 teaching and the contextual change would cause negative psychological consequences if they constantly fail to adjust to the new context (Berry, 1998).

However, other teachers did not experience strong acculturative stress. This is probably due to their rich teaching experience across a range of culturally diverse schools before they joined international schools. For instance, as Teacher F described in Excerpt 4:

> **Excerpt 4** (Teacher F describing his transition from teaching in a local school to an international school)
>
> Teacher F: For me, there is no adjustment process because everything was very natural. It seems like all my previous teaching experience was prepared for my teaching in my current school. Why do I say this? It is because I have mastered all the theories about L2 teaching. I have a Master's degree in Teaching English to Speakers of Other Languages (TESOL), so I have this theoretical base. Additionally, my teaching experience in New Zealand allowed me to familiarize myself with Western kids, right? … Actually, subject knowledge in L2 teaching is all about them … so I know how to tailor my teaching according to the characteristics of these kids.

In the above excerpt, Teacher F seemed to have undergone the process of integration (Berry, 1997), which was a process in which individuals maintain their original cultural identity while also adopting aspects of the new culture. Teacher F obtained a Master's degree in TESOL, which suggests that his theoretical background in L2 teaching was strong. This background allowed him to integrate into the culture of the international school in Hong Kong, which was characterised by a diverse student population and a focus on L2 teaching. Teacher F's transition from teaching in a local school to an international school can be seen as an example of how a teacher's identity was shaped by teaching experiences and contexts. Teacher F's previous teaching experience in New Zealand allowed him to familiarise himself with Western kids, which likely influenced his teaching style and approach. His transition to an international school was relatively smooth and natural, likely due to his strong theoretical background and previous teaching experience. His ability to tailor his teaching to the characteristics of his students suggests that he is a flexible and responsive teacher, which is an important aspect of teacher identity in the context of L2 teaching. It is evident that individual adaptation processes vary, and the early adaptations of teachers are significantly influenced by their prior teaching and educational experiences.

8.4.2 Making Sense of the Two Subject Areas of Chinese Language Teaching

Almost all teachers agreed that L1 and L2 teaching is different, mainly in terms of the objectives of teaching and subject knowledge. Meanwhile, they almost all agreed that L1 and L2 teaching had given them equal senses of achievement, but in different ways. Teacher F, as the Head Teacher of his team, talked about the differences between L1 and L2 teaching in Excerpt 5:

> **Excerpt 5** (Teacher F on differences in L1 and L2 teaching)
>
> *Teacher F*: Teaching Chinese as a second language has been an issue for the recent 20 years. It has received international attention only in the recent ten years. The more demands in learning Chinese, the more influence this language would have on the globe. However, the research relating to L2 education mainly focuses on pedagogy and does not have so much experience as the field of L1 educational research, right? So many new things have emerged from L2 education … so it is fascinating. I felt it is fascinating in terms of its challenging nature and influential capacity.
>
> *Interviewer*: Then what about L1 teaching?
>
> *Teacher F*: L1 teaching actually has its limitations? First, it has been included in the framework set up by the Educational Bureau, so you have to reach its goal. The government has its rubrics for assessing L1 learning, like the TSA (Territory-wide System Assessment) or the Secondary School Entrance Examination, which are used to assess the Chinese language achievement of all Hong Kong children. This has led to the fact that all people use the guidelines for TSA as their teaching guidelines. However, L2 teaching is more flexible, because it has a wider space. L2 students are also highly diverse in their geographical backgrounds. So L2 education is more challenging and more tolerant. It is a newly emerging field, right?

It can be seen that Teacher F developed a deep interest in L2 teaching and its challenges, and saw it as a fascinating new field. He saw himself as an adaptable and responsive teacher in the context of L2 teaching. His narratives also revealed that he perceived himself as a forward-thinking and innovative teacher in the emerging profession of L2 teaching. As noted by Teacher F in the previous excerpt, all the teachers in this study have experienced the unique 'space' that exists within the field of L2 teaching. In comparison to L1 teaching, L2 teaching is a more emerging area with fewer restrictions from the Education Bureau, in contrast to the well-developed curricula of L1 Chinese. This allowed the participants of this study to experiment with new pedagogies, adjust old strategies, and explore their teaching potential. This space, which is not present in L1 teaching, allowed the participants to reconstruct their professional identities and make changes to their teaching beliefs and strategies. Gradually, their professional identities were developed and their teaching practices were improved within the unique context of L2 teaching.

> **Excerpt 6** (Teacher C on the differences between L1 and L2 teaching).
>
> *Interviewer*: So … do you think any parts of your L1 teaching experience are useful for your L2 teaching? Or do you think they are completely different?
>
> *Teacher C*: I should say they are very, very different. Since L1 teaching attaches importance to the appreciation for language and literature. Students need to know how to appreciate

the beauty of literature. You need to guide the students to feel different themes of beauty from literature and develop sympathy for humans … Whether students could have these kinds of feelings? Whether they could sense (the beauty)? Whether their language competence could reach this level? These are very critical things. Another difference is that critical thinking is more important in L1 teaching since we assume all students understand the language basically, how to use this language to communicate more effectively to express their thoughts at a deeper level? This is difficult. Whereas for L2 teaching, it is more important to teach the functional part of the target language, like how to effectively use some words, phrases, or sentences, and how to write a simple essay using the most simple words … so I think they (L1 and L2 teaching) are very different.

Like other teachers in this study, Teacher C perceived that L1 and L2 teaching mainly differs in objectives of teaching and subject knowledge. For her, L1 teaching emphasises more on enhancing students' appreciation for language and literature, which required guiding students to feel different themes of beauty from Chinese literature and develop deep sympathy for human beings. However, Teacher C saw L2 teaching as being more focused on teaching the functional aspects of the target language, such as how to effectively use words, phrases, and sentences, and how to write a simple essay using basic vocabulary. This perspective suggests that her L2 teaching goal is tied with teaching practical language skills and helping students achieve communicative competence in Chinese. These differences between teaching L1 and L2 Chinese were articulated by many other teachers.

Despite this, the participants did not think that teaching L2 is more simple than L1. Like the strong acculturative stress Teacher A experienced in his early days of L2 teaching (Excerpt 1, p. 6), L2 teaching is more about understanding the cultural backgrounds and the learning needs of the students and more about making adaptive changes to one's teaching approaches, as compared with L1 teaching. All the participants agreed that teaching L1 and L2 were both rewarding experiences, but in different ways, as described by Teacher D and C in the following two excerpts:

Excerpt 7 (Teacher D on senses of achievement in L1 and L2 teaching)

Interviewer: With regard to your senses of fulfilment in teaching, which one (L1 or L2 teaching) gives you more sense of achievement?

Teacher D: I think they are more or less the same. For L1 teaching, if your students could write a very good essay or a research report, you would feel a sense of achievement, right? Whereas for L2 students, if they could be conversational – that would also give you a strong sense of achievement. So it depends on what your standpoint is. I think no matter you are an L2 teacher or an L1 teacher, you could all have a sense of achievement from your teaching. The key thing is how to balance these psychological needs.

Excerpt 8 (Teacher C on the sense of achievement in L1 and L2 teaching)

Teacher C: They (teaching L1 and L2) are very different … I felt very happy when I taught L1 as I love teaching literature … if a student likes the literature you teach, or when you and your students have a deep discussion about literature, or when your students are touched by literature, you would feel very happy. This is a sense of achievement. However, to date, one (L2) student who impressed me most was a student from my Chinese beginner class. He started learning Chinese from scratch ... I remember in the last class he spoke Chinese from the beginning to the end, and then he bought a cup of coffee for me. I felt a strong sense of achievement because he started learning from scratch. Although his Chinese is pretty broken and simple, he could still communicate with me. We could have a sort of

connection. I felt this is very, very touching … he always tried to use the new words he had just learned to excitedly communicate with me … this sense of happiness in me could hardly be described.

Excerpts 7 and 8 revealed the two teachers' interpretation of senses of achievement in L1 and L2 teaching. Teacher D saw the sense of achievement in L1 teaching as being tied to students' ability to write a very good essay or research report, while in L2 teaching, the ability to hold a conversation could give her a sense of achievement. Teacher C described her sense of achievement in L1 teaching came from inspiring students to appreciate Chinese literature and engaging in deep discussions, whereas in L2 teaching the progress made by a beginner student who was able to communicate in Chinese, despite the students' limited Chinese language competence. Both teachers agreed that L1 and L2 teaching, although the target language is Chinese, created a different sense of achievement. When teaching L1, their sense of achievement comes from the improvement of students' higher-order thinking, literary skills, and aesthetic ability. Whereas when teaching L2, their sense of achievement comes from enabling the non-Chinese students to communicate in Chinese. Although there was a slight variation in their interpretations of the differences in teaching L1 and L2 and senses of achievement, they articulated more commonalities than variations in L1 and L2 teaching.

8.4.3 Reshaping Professional Identities in International Schools

The larger international school context also played a significant role in reshaping the professional identities during the acculturative processes of the participants. As Teacher C described:

Excerpt 9 (Teacher C on the influence of the international school context)

Interviewer: From your perspective, having worked in this school for so many years, has this school influenced you in terms of the context, your teaching beliefs, and self-perceptions.

Teacher C: Yes

Interviewer: In what ways?

Teacher C: In a local school … when you are searching for an answer, you have a set of model answers that has been already provided for you … standard answers. Since we all know that we have a bunch of rubrics for assessment, we all have to follow the rubrics. However, in an international school, you have to be more open-minded and listen to different voices of the students. Your students could even take the leading role and tell you the due dates they want … So I think international schools are more student-oriented … very often, you don't find a single answer to a question. For instance, in listening and reading tests, there are many conceptual questions, or we could say, open questions, which allow students to express their views. So there is no single answer set up for the students, and even for speaking tests – they allow students to express their opinions as well.

In Excerpt 9, Teacher C advocated the appreciation for diversity and the open-minded assessment culture in international schools. She described a more rigid

approach to teaching in her previous local school context as there were model answers provided for assessments and rubrics that must be followed. Many participants talked about the rigid system assessment of their previous local schools, which limited the spaces for individual teachers to tailor to students' individual needs. Under the international school system that embraces international mindedness and multiculturalism as its educational philosophy, the participants' teaching beliefs and practices were gradually reshaped to adopt more flexible, student-centred, formative, and individualistic assessment strategies. Other teachers also described the differences in work-related cultures in local and international school contexts:

Excerpt 10 (Teacher D on the differences between international and local school contexts)

Teacher D: I think the overall environment (of international schools) is better because teachers could have more freedom in teaching.

Interviewer: More freedom than that in local schools?

Teacher D: Yes, yes, more freedom. In local schools, the system is more strict. That means you have to accomplish your teaching plans by a specific date … However, in international schools, there is more space, like teachers could arrange the timelines for teaching by themselves and choose supplementary materials based on their preferences … So in an IB school, more freedom … entails higher requirements for teachers. You have to be a competent teacher. Otherwise, you become a textbook-driven teacher.

In Excerpt 10, Teacher D indicated the differences in her social role when working in different school contexts. As also indicated in Excerpt 7, the local school contexts had similar assessment approaches following the guidelines from the Education Bureau; this offered little spaces for teachers to exercise their agency in teaching and assessment. The teachers generally preferred the 'freedom' from the international school system as individual teachers' agency could be exercised to a greater extent. This 'free space' also influenced the participants' identity construction—from more passive to more active role players in their communities of practice (Wenger, 1998).

Exerpt 11 (Teacher G on the differences between international and local school contexts)

Teacher G: For instance when we have staff meetings … in my previous local

school, teachers just sit in the meetings, and people in the higher positions make

the decision and conduct the discussion. The teachers just need to perform their decisions. However, in this international school, no matter in the Chinese or International department, your colleagues all welcome you to express your viewpoints. So the atmosphere here is better.

Differences between local and international schools were also reflected in the relationship between teachers and school policymakers. As described by Teacher G in Excerpt 10, she found she could participate in staff meetings more actively in international schools by expressing her own views and participating in decision-making. This could not be realised in local schools where the relationship between teachers and policymakers is more hierarchical. Apparently, the participants' professional identities were shaped by different demands and expectations of each context. The student-centred approach and openness to diversity in the international school context have influenced the teachers' identities as a more adaptable, responsive teacher.

8.5   Concluding Remarks and Implications

Our study has explored the acculturation process of seven teachers who switched from teaching L1 Chinese to local school students to L2 Chinese to international school students, focusing on their identity construction during their acculturative experiences. In general, the participants' discourses about their acculturative process in international schools have manifested as more flexible than controlled processes of their identification processes (Lee, 2008). Most teacher identity studies in cross-cultural teaching support the view that identity is situated, dynamic, and changeable. These studies have also supported our argument that L1–L2 Chinese teachers actively participated in flexible acculturative processes, which are also processes for reconstructing their professional identities.

Understanding the identities of these teachers in their acculturative process in international schools is essential. Our study finds that teachers showed multiple ways in which they could be drawn into the profession of L2 teaching. Their successful acculturative experiences could inform teachers who would like to pursue a teaching career in international schools. The identity change experiences of these teachers demonstrate the flexible, dynamic, and malleable nature of teacher professional identity. The agency these teachers exercised is positively linked with their professional motivations and commitment. Whereas agency is not the only factor, a variety of work-related, contextual factors such as educational philosophy, student backgrounds, teaching approaches, and assessment methods all play important roles in shaping the teachers' professional beliefs and practices during their acculturation. What is more, our study revealed that there are no fixed disciplinary boundaries between L1 and L2 teaching, even though the teaching objectives and target students are usually different. The teachers in our study found special meanings that were peculiar to their professionalism and work commitment. This could also be seen as a flexible strategy (Lee, 2008; Nederveen-Pieterse, 2007, 2010) that maximised their sense of fulfilment in their changing teaching careers.

This study challenges the assumption that CFL teachers who previously taught L1 Chinese are ill-equipped to teach in international school contexts. Instead, our participants possessed a valuable skillset that enabled them to navigate the complexities of teaching Chinese in diverse settings. By establishing a typology of L2 Chinese teachers who previously worked as L1 teachers, this study provides an important reference for understanding the ways in which these teachers adapt to their new roles and responsibilities, and identifies areas where additional support may be needed to facilitate their transition to teaching in international schools. Furthermore, this study highlights the importance of developing teacher education and professional development programmes that take into account the unique needs and experiences of CFL teachers who previously taught L1 Chinese. By providing targeted training and support to these teachers, we can help to ensure that they are able to effectively meet the needs of their students and contribute to the continued growth and development of Chinese language education in international school settings.

The insights of this study are relevant for individuals interested in teaching L2 Chinese in international school contexts and for international school recruiters. Our study has underscored the importance of understanding the teachers' previous teaching experiences and their transition to a new school context. By gaining insights into how these mature entrants adapt to teaching Chinese in international schools, we can inform teacher recruitment and development practices with theoretically and situationally informed insights.

Questions for reflection:

1. Why did the Chinese language teachers in this chapter experienced an identity transformation when they switched from teaching L1 Chinese to L2 Chinese?
2. What does 'flexible acculturation' described in this chapter mean? To what extent do the acculturation levels of Chinese language teachers may indicate teaching effectiveness? Why?
3. What policy changes and school initiatives could be implemented to support the acculturation process of Chinese language teachers in international school contexts?

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Chapter 9
Teaching Chinese Pinyin in International Schools (Primary Section) in Hong Kong

Check for updates

Ling Zhang and Zhe Wu

Abstract This study investigated teaching Chinese Pinyin in international schools (primary section) in Hong Kong from the perspective of in-service Chinese teachers. An online survey through Google Form and subsequent semi-structured face-to-face or phone interviews were conducted. Both data collection methods helped to examine the actual scenarios of teaching Chinese Pinyin within the context of Chinese language subject in international schools. Based on the data from 54 survey responses and 3 interviews with Chinese teachers, it was found that there are significant differences among various international schools. These differences include variations in class size, approaches to simplified or traditional Chinese characters, teaching materials, methods for addressing individual learning needs, and the frequency and format of Chinese assessments. All respondents agreed that Pinyin teaching can enhance Putonghua teaching. Most teachers adopted various classroom activities to enhance Pinyin teaching efficiency, and most students could apply Pinyin in practical skills such as on-sight spelling, looking up a dictionary by Pinyin index, and typing by Pinyin input methods. Further efforts should be made to enhance the efficiency of Pinyin teaching and exert the tool function of Pinyin in Chinese language teaching.

Keywords Chinese Pinyin · Teaching · International schools · Primary schools · Hong Kong

9.1 Introduction

Hong Kong has a special "biliterate and trilingual 兩文三語" language environment, where "trilingualism" refers to the three official spoken languages—Cantonese, English, and Putonghua (or Chinese Mandarin), and "biliteracy" refers to written

L. Zhang (✉) · Z. Wu
The Education University of Hong Kong, Ting Kok, Hong Kong
e-mail: zhangl@eduhk.hk

Z. Wu
e-mail: swu@theelmsacademy.org.uk

Chinese (mainly in the form of Chinese characters) and English. Hong Kong has been one of the densest concentrations of international schools in the world (Forse, 2010, p. 59). Students in international schools of Hong Kong are from diversified background, including children from overseas families whose parents are working in Hong Kong, and local families who want an international education (Forse, 2010). The multilingual environment of Hong Kong and the diversified background of students bring in great challenges to Chinese language teaching in international schools in Hong Kong.

Chinese Pinyin is the official romanization system of Putonghua. Although Pinyin is not the most common written form of Chinese, it is a useful tool for learners to learn Putonghua pronunciation. Pinyin is part of the content as well as an important tool of Chinese language teaching. After an exhaustive searching for literature, little can be found about teaching Chinese Pinyin in international schools in Hong Kong. This study took the first step of the investigation into teaching Chinese Pinyin in international schools in Hong Kong from the perspective of Chinese language teachers. To begin with, related background information is provided below, including international schools in Hong Kong, and Putonghua and Pinyin teaching in the Hong Kong context.

9.1.1 International Schools in Hong Kong

"International schools" in some settings are defined on the basis of their curriculum (Jonietz & Harris, 2012), such as the International Baccalaureate (IB); while in other settings, "international schools" are defined by their student intakes (Preston, 2001). In Hong Kong, the term "international schools" is defined loosely to embrace all schools outside the local education system (Bray & Yamato, 2003, p. 54). Forse (2010, p. 59) pointed out that international schools in Hong Kong include "genuine" international schools as well as the unique English Schools Foundation (ESF) system that was created in 1967 by the British colonial government, which have been supported by the government, and became financially integrated into the public school system. ESF is now the largest international education provider in Hong Kong and Asia (Yamato, 2003). International schools originally set up to serve expatriates living in Hong Kong, including the ESF (Ng, 2012), but has now expanded to be an alternative choice for local families in Hong Kong, who regard international education with English medium a better alternative than local education (Ng, 2012; Slethaug, 2010). According to the statistics of primary education in Hong Kong by the Education Bureau (https://www.edb.gov.hk/en/about-edb/publications-stat/figures/pri.html), in the academic year 2019/20, there are 543 local schools, while there are 44 ESF and other private international schools. International schools are regarded as a kind of elite education setting, yet still affordable for the middle class in Hong Kong.

Based on the international curriculum or the student intakes from expatriates, international schools in Hong Kong emphasize international mindedness. Regarding

the Hong Kong context, Chinese language teaching is addressed. There have been increasing research interest in infusing IB philosophy and pedagogy into Chinese language teaching (Hill & Shum, 2015). These previous studies covered various aspects of teaching and learning of Chinese language in international schools in Hong Kong, such as nurturing Chinese teachers (Shum et al., 2015), developing teaching materials(T.-f. Lam, 2015), and implementing IB philosophy in Chinese classroom, including interactive language learning strategy (Pritchard, 2015), international mindedness (T.-f. Lam, 2015), Theory of Knowledge (TOK) (C.-y. Lam, 2015), and innovative educational technology (Lai, 2015). These studies provided an overview of Chinese language teaching at international schools in Hong Kong, mostly starting from a pedagogical perspective and regarding Chinese language in a wholistic approach. Very few studies used a linguistic-pedagogical interface approach, which will be adopted here, considering both specific linguistic features of Chinese language and practical pedagogical needs and applications.

9.1.2 Putonghua and Pinyin Teaching in the Hong Kong Context

According to the statistics in the Hong Kong 2016 Population By-census, the percentage of the population aged five and above who can speak Cantonese is 94.6%, while the number for Putonghua is 53.2%, and English 48.6% (Wang, 2019). The Hong Kong SAR government has been promoting the language policy of "biliteracy and trilingualism", which aims to develop people's literacy in written English and Modern Standard Chinese (with traditional Chinese characters) and spoken communication ability in Cantonese as the local mother tongue, English as an international language, and Putonghua as the national common language.

Given the multilingual environment, the issue of the medium of instruction (MoI) in Hong Kong has been the focus of considerable scholarly interest (Evans, 2011). Paralleled to the trilingualism in Hong Kong, there are three MOIs, namely CMI (Cantonese-medium instruction), PMI (Putonghua-medium instruction), and EMI (English-medium instruction). However, Hong Kong primary schools currently do not have an agreed method for the implementation of trilingual education (Wang & Kirkpatrick, 2013, 2015). Davison and Lai (2007) analyzed the development of PMI in local and international schools in Hong Kong and their observations are as below:

> On the one hand Putonghua-medium programs are increasingly being chosen by socio-economically advantaged Hong Kong parents to develop their children as elite bilinguals who can transcend linguistic and cultural boundaries; on the other hand similar kinds of bilingual instruction are being rejected by poorer working class communities who associate Putonghua with the low status and conditions of mainland immigrants. The Hong Kong government takes a middle line, trying to balance the need to raise Putonghua proficiency levels as part of reintegration with the motherland, at the same time maintaining a key place for teaching the local 'language' and culture, Cantonese.

(Davison & Auyeung Lai, 2007, p. 120)

Thus, the challenges of Putonghua and Pinyin teaching at local schools and at international schools are different. At local schools, the most challenging problem is that the native language of students is Cantonese, and they acquire Putonghua as a second language/dialect. However, since students are from a homogeneous language background, teaching strategies can be more directed to address the L1 transfer from their Cantonese background. At international schools, because of the choice of socio-economically advantaged Hong Kong parents, Cantonese is rarely taught as a formal subject, while Putonghua is the most prevailing MoI for the Chinese language subject. As mentioned above, students in the same classroom may come from diversified background. Putonghua may be their first language (L1, whose parents are from Mainland China) or second language (L2, whose parents are local Cantonese or expatriates speaking a foreign language). Accordingly, the teaching and learning of Pinyin, the romanization system of Putonghua, should be tailor-made to cater for individual needs of students. Our studies here can share the experience and views from Chinese teachers working in international schools in Hong Kong.

Pinyin and Chinese characters are both written forms of Chinese and are usually put together for discussions, especially in the field of teaching and learning Chinese as a second language (Wan, 2012). Chinese characters are the most common written form of Chinese (including Putonghua and Cantonese). Simplified characters are mainly used in Mainland China, while traditional characters are mainly used in Hong Kong and Taiwan. Chinese characters are an ideographic system with a huge number of characters. Learners need to study it character by character to acquire the meaning and pronunciation of each word (Loh, Mak, & Tam, 2015). Compared with the huge number of Chinese characters, which is a great obstacle for L2 beginners (Zhao, 2011), Pinyin only uses limited letters to transcribe sounds. In addition, Pinyin is designed as a romanization system, which is in accordance with the transcription systems of many languages and thus easy to be acquired by many L2 learners. Although Pinyin cannot replace Chinese characters in general because there are too many homophones in Chinese, it can help L2 beginners to learn the pronunciation of a word in Putonghua and serve as a useful aid.

Lü (1983) suggested Pinyin be fully applied in various aspects of L2 Chinese teaching, including Putonghua pronunciation practice, tone identification, phonetic notion for Chinese characters, which assists L2 learners to read and write Chinese characters. Lu (2008) emphasized the importance of Pinyin in teaching Chinese as a second language, but he also reminded that the L2 learners should not rely too much on Pinyin. Zhao (2009) proposed that Chinese teachers should fully understand the phonological theories of Pinyin and pronounce every letter of Pinyin correctly, so that they can help learners to obtain an overall sound pattern of Putonghua, which is very important in Chinese teaching. Zhao (2009) further suggested that the pedagogy of Pinyin teaching can be slightly adapted according to the different nationalities and language background of L2 learners. These previous studies highlighted the importance of Pinyin teaching in L2 Chinese teaching. Most of them provided general suggestions but were lack of implementing details, since few studies focused on a specified group of learners in a given context. Our study focused on Pinyin teaching in primary section of international schools in Hong Kong. With the specified context, our

study can exhibit the real circumstances of Pinyin teaching in international schools and proposed improving suggestions accordingly.

It should be addressed that the applications of Pinyin in daily life and school life are important since they can directly influence the teaching and learning motivation. Many books for beginners (either for primary school children or L2 learners of Chinese) published in Mainland China are with the aid of Pinyin over the corresponding simplified Chinese characters. In Hong Kong, where traditional characters are used, very few books are supplemented with Pinyin. In Taiwan, another region where traditional characters are used, Bopomofo (注音符號) is used instead of Pinyin. Bopomofo is not a romanization system but a transliteration system which uses characters to transcribe sounds. The form (traditional/simplified characters; with/without Pinyin) of Chinese textbooks and reading materials adopted in international schools in Hong Kong will also be investigated in our study. Other applications of Pinyin, such as looking up lexicons in a Chinese dictionary, typing with Pinyin input methods, will also be examined. Through the investigations into these applications, we can infer the importance of Pinyin as well as the learning motivation of the students at international schools.

9.2 Research Methods

Two data collection methods, including an online survey and several semi-structured interviews, were adopted in our study.

9.2.1 An Online Survey

The first author of this manuscript conceptualized and developed an online questionnaire through Google Form. The survey questionnaire was double-checked by a Chinese teacher working at an international school (not as one of the informants of the data collected) and revisions had been made before the Google form questionnaire was finalized and released. To learn the general situation of Chinese language teaching, especially Chinese Pinyin teaching in the target context, the survey questionnaire was targeted at Chinese teachers working in international schools (primary section) in Hong Kong because they have relevant first-hand experience. The survey consisted of nine parts (as listed below), covering aspects related to Pinyin teaching, including background information of schools, teachers, students, arrangement of Chinese classes, teaching and learning materials and methods, assessment, applications of Pinyin, etc.

1. A brief background of the school.
   The first question was whether the informant's school was an international school, a private school, a local school with IB program, or others. The following questions

were about the basic background of Chinese teaching in the school: whether the Chinese course was compulsory or elective, whether the medium of instruction (MOI) for the Chinese course was Mandarin, Cantonese, or other languages (e.g. English), whether traditional or simplified Chinese character was taught, and whether the phonetic system of Chinese Pinyin or Taiwan Bopomofo was adopted.
2. Basic information of the informant teachers.

The language background of the informant teachers was our focus here, including their birth places, the native languages, and Putonghua levels (Putonghua Shuiping Ceshi (PSC) and/or Language Proficiency Assessment for Teachers (LPAT)).
3. A brief background of students.

This part asked about the students' language background, the ratio of the students with different language background, the size of a class, whether students were divided into different Chinese classes according to their Chinese proficiency levels, and how to take care of individual differences in a mixed-level class.
4. An overview of teaching and learning of Chinese subject and Pinyin.

This part concerned the implementation of Chinese teaching, especially Pinyin teaching. For Chinese teaching, we asked about the initial grade when students studied Chinese subject as a compulsory or elective course, and allocation of time when the MOI was Chinese. For Pinyin teaching, the questions were about the initial grade, the time span, the number of lessons and the duration of class activities spent on Pinyin.
5. Teaching and reading materials of Chinese.

The questions in this part were about whether the textbooks were school-based design or from a certain publisher, the guidelines or references for syllabus of Putonghua subject or Pinyin teaching, and whether Pinyin assistance was provided for reading materials of Chinese courses and Chinese books in the school library.
6. Teaching methods for Pinyin.

This part firstly investigated the application of the practical methods that the teachers adopted in Pinyin teaching, such as reading rhymed texts, story books, singing children's songs, playing games, doing worksheets, using Pinyin cards, etc. The methods of spelling and imposing tones were also investigated. Other questions were also asked, including the teaching sequence, the assistance from parents, and the difficulties and experience in teaching. We also asked the teachers whether Pinyin teaching could enhance Putonghua learning and teaching according to their opinion.
7. Assessment of Chinese subject and Pinyin.

Firstly, the frequency and method of assessment of Chinese subject were inquired. We further inquired about the frequency and method when Pinyin was a component of assessment. We also asked whether Pinyin could be a substitution when the students encountered an unknown Chinese character in writing assessment.
8. Students' studying interest and performance regarding Pinyin applications.

This part firstly asked whether students liked studying Pinyin. In the following questions, we asked about the students' performance regarding three practical applications of Pinyin: spelling out a syllable quickly with visual cues of Pinyin, looking up an item in a dictionary with Pinyin index, and Pinyin input methods for

typing. We asked whether students could manage these skills at a certain grade, and students of which grade could manage these skills.

9. Other questions.

There was an open-ended question here to ask the teachers whether they had suggestions on improving the Chinese Pinyin teaching, learning and assessment in international schools. There were also two optional questions of the school name and email address of the informant teachers. We promised to inform the volunteer teachers who left a contact address to us once there were research outputs from this survey.

The sample survey questionnaire is accessible from the Google form link below: https://forms.gle/Nx5KpScQWWA8Wvwa8. Traditional Chinese was used as the language of the survey. Since this survey was conducted on a voluntary basis, it was designed to be straightforward and easy to complete. Most of the questions were in the form of multiple-choice. There was usually an open-ended short question at the end of each of the nine parts, which allowed the informants to supplement additional information for the preceding questions within a part. It would take an informant about 15 min to finish the survey. After the data collection period, we stopped accepting responses and exported the collected data into an Excel form for further data analysis.

Although it was convenient to collect the first-hand data, this survey method has some limitations. Firstly, this was an exploratory survey, and the design of the questions might not perfectly fit the various situations in the international schools. The design might need to be refined in further studies. Secondly, as mentioned above, to save informants' time, most questions were in the form of multiple-choice, which might overlook detailed justifications behind the informants' choices. The semi-structured interviews with individual Chinese teachers might partly solve the above problems, which were described below.

9.2.2 Interviews with Three Chinese Teachers

Further semi-structured interviews with three Chinese teachers were conducted through face-to-face meeting or phone call individually. These Chinese teachers were from three different international schools. They took part in the online survey before they participated in the interviews. Upon their completion of the online survey, they left their names to us for identification. Their online survey answers were checked and some of the questions needed clarification were chosen before the interview. Some other questions related to the interviewees' personal experience that needed in-depth illustrations were added too. The questions were slightly adjusted to be customized to the individual situation (position at the school, teaching experience etc.).

There were mainly four parts in the interview sheet. The first part was to provide the background information of students, teaching materials, teaching methods, individualized teaching, and learning of Pinyin at the interviewees' school. The second part focused on the curriculum and syllabus design, including guidelines of designing the school-based syllabus of Chinese (especially the part related to Pinyin), the implementation, and the review and improvement of the syllabus. The third part discussed about the assessment for students and evaluation of the Pinyin learning efficacy and efficiency. The fourth part was designed to share the interviewees' opinions on the role of Pinyin in Chinese learning, the difficulties of teaching Pinyin, and their experience and good practices in Pinyin teaching.

The interview sheet with questions was previewed by interviewers at least one night before. The interviews were conducted in Putonghua. The confidentialness of the interview and personal information protection were fully explained to the interviewers. All interviews were audio-recorded and then transcribed for later analysis, which is mainly in the qualitative approach.

9.3   Results of the Survey

9.3.1   General Background Information

Through promotion and circulation of the survey questionnaire among Chinese teachers working in international schools, 54 responses were collected from the Google Form survey, including 44 responses from international schools, 7 responses from private schools, 2 responses from local schools with IB curriculum, and 1 response from local Direct Subsidy Scheme Schools. To ensure the homogeneity of the data, in the following data presentation and discussion, only 44 responses from international schools were considered. The general information about these 44 respondents' background is presented in Table 9.1.

Table 9.1   The background information of the respondents

Birthplace	Mainland China	88.7%
	Singapore	6.8%
	Hong Kong	4.5%
Mother tongue	Northern Chinese dialect	63.6%
	Cantonese	15.9%
	Other dialects or language	20.5%
Proficiency in Putonghua	PSC > = Level 2–A Or LPAT > = 3	88.6%
	PSC = Level 2–B	6.8%
	Never attend PSC or PLAT	4.5%

For the students' language background, most respondents (88.3%) reported that they had bilingual or multilingual students (Cantonese/Putonghua + English/ other foreign languages). When asked about the ratio of the students' language backgrounds, the answers of the respondents were in a great variety.

As for the number of students in a class, the class size of 10–19 accounted for 43.2%, and the class size of 20–29 accounted for 36.4%, both contributing to around 80% of the respondents in total. Very small class size (less than 10 students) or very large class size (more than 30 students) were not favored in international schools.

9.3.2 An Overview of the Chinese Language Subject in International Schools

According to the survey data, Chinese language was a compulsory subject in most (88.6%) international schools, among which 95% started Chinese language subject since Primary Grade 1 (P1). Very few international schools provided it as a solely elective course (6.8%) or a mix mode of either elective or compulsory (4.5%). All the responses reported that they started the Chinese language subject no later than P3. The number of Chinese lessons per week varied greatly among the responses, as shown in Fig. 9.1.

The percentage of using different MOI for Chinese language subject is presented in Fig. 9.2. The data of the dominant MOI for Chinese language subject in international schools in Hong Kong were consistent with the facts of the teachers' language background (Table 9.1). It is worth noting that none of the respondents reported using Cantonese as a MOI for Chinese subject in international schools.
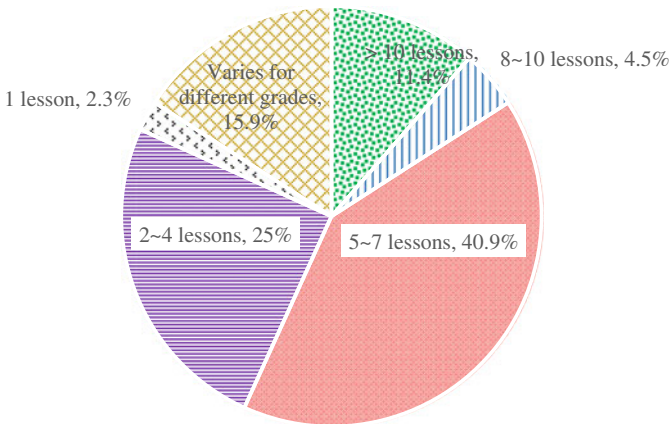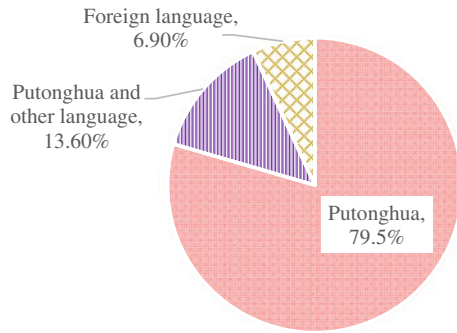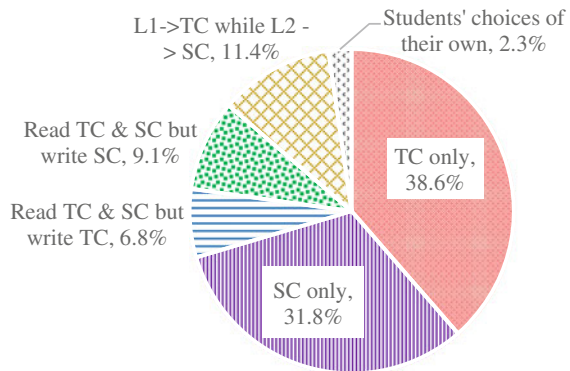

Fig. 9.1 The number of Chinese lessons per week

Foreign language,
6.90%

Putonghua and
other language,
13.60%

Putonghua,
79.5%

L1->TC while L2 -
> SC, 11.4%

Students' choices of
their own, 2.3%

Read TC & SC but
write SC, 9.1%

Read TC & SC but
write TC, 6.8%

TC only,
38.6%

SC only,
31.8%

The survey data reflected that the strategies for traditional and simplified Chinese
characters were diverse among international schools (Fig. 9.3). The majority chose
only one type of Chinese characters: 38.6% used traditional characters (TC) only,
while 31.8% simplified characters (SC) only, and together accounted for 70.4% of
the responses.

Regarding the teaching materials, more than half of the respondents (54.5%)
said they used school-based materials; 29.5% respondents used existing textbooks
by different publishers; and 15.9% respondents used a combination of both. Some
respondents also mentioned they used teaching materials published by Keys (啓
思出版社), Educational Publishing House (教育出版社), Ji'nan University Press,
Beijing Language and Culture University Press, Commercial Press, New Asia Press,
Longman, and People's Education Press (人民教育出版社).

As for the guidelines and references (multiple answers allowed) for the designa-
tion of Putonghua and Pinyin lessons, 68.2% of the respondents would refer to the
school-based syllabus while 31.8% of them designed the lessons based on their own
teaching experiences. In addition, 25% and 20.5% of them would refer to the guide-
lines suggested by *Nine-year compulsory education full-day primary school Yuwen
teaching syllabus (*中國九年義務教育全日制小學語文教學大綱*)* and *Hong Kong*

*Education Bureau Putonghua Course Guideline (*香港教育局普通話科課程指引*)* respectively. Some of the respondents also referred to syllabus used by Singaporean and Mainland China primary schools as well as IB curriculum. Quite some respondents said that they would design and adjust the syllabus based on the students' learning progress and practical usage.

As mentioned before, students have very diversified language background in international schools, and thus several questions in this survey were designed to investigate how the schools and teachers dealt with the individual differences. More than half (61.4%) of the respondents said that they adopted the split-class arrangements (i.e., the students in their schools would be divided into different classes according to their Chinese proficiency levels), among which 88.9% reported that the classes being reallocated based on students' performance every year. Among the respondents whose schools did not implement split-class strategy, the percentage of adopting the individualization strategies (multiple choices allowed) are as follows: (1) 62.5% of them would divide the students in a class into different groups and assign different learning activities to them according to their Chinese proficiency levels; (2) 31.3% of them would assign to the students in-class learning tasks and homework of varied difficulty levels according their Chinese proficiency levels; (3) 50% of the respondents would assign to the students similar learning tasks and homework but would provide them with different requirements and feedbacks according to the students' Chinese proficiency levels. Interestingly, for those whose schools implementing the split-class strategy, the corresponding data are: (1) 75%; (2) 58.3%; and (3) 67%, which were all higher than those schools without the split-class strategy. It can be inferred that those schools implementing the split-class strategy were more sensitive to individual differences and could make good use of individualization strategies. Some respondents further shared their experience and useful tips to deal with individual difference, such as getting help from Teaching Assistants when conducting group activities, asking senior students to be "teachers" of junior students, using e-learning materials, etc.

The frequency and format of Chinese assessment of Chinese language subject were inquired in the survey. Half of the respondents (50%) said that the Chinese assessment was carried out every two to three months. Roughly a quarter (27.3%) of them said it was carried out every month or shorter. The other respondents had less frequent Chinese assessments or even no Chinese assessment: 11.4% had Chinese assessment every four to five months; 6.8% every six months or even longer; and 4.5% no assessment. As for the assessment methods, the option with the highest frequency was both written and oral assessment, which was at 72.7%. It was followed by assignments and exercises (59.1%), Chinese projects (38.6%), written assessments only (34.1%), and oral assessment only (18.2%).

### 9.3.3 Pinyin Teaching, Learning, and Applications in International Schools

All respondents reached consensus that Pinyin teaching could enhance Putonghua teaching. None reported Bopomofo was taught, which was consistent with the background of the teachers mentioned in Sect. 3.1—most of the teachers were from Mainland China and they might not know Bopomofo at all. 40 responses (i.e., 90.9% of the 44 responses) confirmed that they taught Pinyin at their schools; while 2 responses reported that Pinyin was not taught at their schools and 2 respondents had inconsistent answers in the following questions and might bring in interferences in the data analysis. In the following data analysis, for those questions directly related to Pinyin teaching, data from these 4 respondents were excluded.

The majority (72.5%) of the respondents said that their students started to learn Pinyin at P1, while the starting grade of the other respondents ranged from P2 to P4. The data of the time span of studying Pinyin varied (Fig. 9.4), with 20% of the responses within two months, 37.5% two months to one year, 25% one to two years, and 17.5% three to six years.

There were slightly more respondents (57.5.5%) who chose to teach Pinyin intensively within short period (within one year), compared with 42.5% respondents who chose to teach Pinyin dispersedly during Chinese language lessons. For both strategies, the number of lessons and time spent on Pinyin teaching varied significantly and did not have a dominant pattern.

There are various classroom activities to teach Pinyin. According to the responses (multiple choices allowed) from our survey, the most popular methods were singing children's songs (83.3%) and Pinyin cards (83.3%), followed by doing worksheets (78.6%), playing games (76.2%), reading picture books (71.4%), and reading verses (45.2%). Most respondents (92.9%) applied multiple classroom activities when teaching Pinyin. Other than the above-mentioned methods, some of the respondents also used other Pinyin combination tools and digital software to assist in their Pinyin teaching.

Fig. 9.4 The time span of studying Pinyin
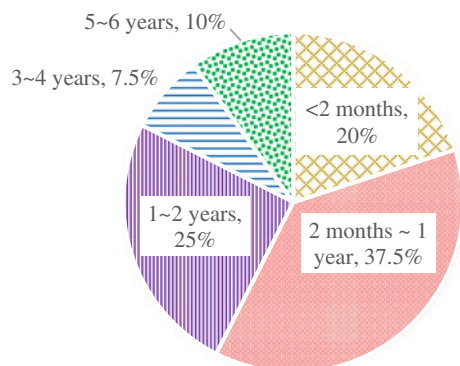
There are four methods of spelling Pinyin:

1. Spelling in two parts (initial + final): p + iao → piào (票, "ticket", same example below)
2. Spelling in three parts (initial + glide + final): p + i + ao → piào
3. Spelling initial and glide as a whole ((initial-glide) + final): (p + i) + ao → pi + ao → piào
4. Spelling syllable as a whole: the syllable "piào" is directly spelled out.

When asked the spelling methods employed in their teaching (multiple choices allowed), 78.6% of the respondents chose (2), while 47.6% of them chose (1). Those who chose (4) were at 45.7%, and (3) accounted for the least, i.e., 23.8%.

There are three methods to fix tones in Putonghua:

1. Three-step method: for instance, to get the tone of "大dà" *(big)*, the procedures include: firstly spell the syllable (with Tone 1) "d + ā → dā" out; secondly count the four tones with the syllable "da", i.e., "dā, dá, dǎ, dà"; and thirdly identify the correct tone of "dà".
2. Two-step method: this method omits the second counting step of the above method, i.e., firstly spell the syllable (with Tone 1) "d + ā → dā" out; and secondly directly impose Tone 4 to the syllable and get "dà".
3. One-step method: this method directly spell the initial and the final with the correct tone, e.g., "d + à → dà" to get the pronunciation of "大".

In the question about the methods for teaching the tones of Pinyin (multiple choices allowed), (1) was the most popular choice (66.7%); followed by (3), which was at 45.2%; while (2) was at 33.3% only.

Regarding the teaching sequence of initials, finals and tones, half of the respondents said their teaching was in the order of "tones-initials-finals", and 38.1% of the respondents said they used a mixed order to teach these three elements. A few respondents supplemented that they taught in the order of "monophthong-tone-initial-diphthong/triphthong".

When asked about the difficulties the respondents faced in teaching Pinyin (multiple answers allowed), nearly sixty percent (59.5%) of them said that Pinyin was easily mistaken with English spelling. "Reading the tone after spelling out the initial and final", "writing down the spelling of Pinyin", and "decomposing a syllable into segments of initials, glides, and finals" accounted for 42.9%, 35.8%, and 23.8% respectively. A respondent further supplemented that due to the limited vocabulary of students in international schools, they had to take care of the vocabulary problems when teaching Pinyin. Some of the respondents suggested that it was important to practice more and focus on the initials and finals which were easily mistaken with English phonics.

About one third (31%) of the respondents said that there would only be Pinyin assessments during the Pinyin-teaching period specifically, while those who said there would always, usually, and sometimes be assessments regarding Pinyin accounted for 16.7%, 21.4%, and 23.8% respectively. Only 4.8% of the respondents said they would never have assessment regarding Pinyin. As for the assessment

methods for Pinyin (multiple answers allowed), all three methods provided in the options were around 60%: "reading Pinyin aloud" accounted for 57.1%; "writing Pinyin spelling" accounted for 59.5%; "recognizing Pinyin" accounted for 62.3%.

When asked whether the students were allowed to replace the Chinese characters they could not write with Pinyin in composition writing, 48.8% of the respondents said all students were allowed to do so and it would not cause any mark deduction while 39% of the respondents said junior students were allowed to do so but senior students were not. Only 12.2% of them said all students were not allowed to do so and it would cause mark deduction. Thus, most of the respondents adopted an open attitude toward Pinyin, as Pinyin is allowed to substitute Chinese characters, at least for junior students.

Parents' assistance and students' interest in learning Pinyin were also inquired in the survey. Nearly half of the respondents (47.6%) reported that assistance from parents was needed for the students to do their Pinyin homework or practices while the other half (52.4%) suggested otherwise. About one fifth of the respondents (21.4%) said their students liked Pinyin very much, nearly half of the respondents (45.2%) said their students quite liked Pinyin, while 35.7% said their students did not show a strong preference. Only one respondent was unclear about his/her students' attitude toward Pinyin. None reported that their students disliked Pinyin.

To know whether students have opportunities to apply Pinyin knowledge in their school life, some questions in the survey were about the Pinyin aid in their assignments and reading materials. When assigning reading materials and worksheets to students, 70.5% of the respondents provided Pinyin aid next to the new words and emphasized parts; 50% provided Pinyin aid only to junior students (P1 ~ P3) but not senior students (P4 ~ P6); very few respondents said they provided Pinyin aid for all Chinese reading materials (6.8%) or did not provide any Pinyin aid at all (6.8%). When asked whether Pinyin aid is useful for students, 71.4% of the respondents agreed Pinyin aid was helpful for students of all grades; 26.4% thought Pinyin aid was helpful only for junior students (P1 ~ P3); 2.4% thought Pinyin aid was helpful only for senior students (P4 ~ P6). In the question "What kind of books are the most in the school library?", the proportions for the options "SC + Pinyin", "TC + Pinyin", "TC + Bopomofo", and "TC only" were at 25%, 15.9%, 11.4%, and 13.6% respectively. However, 34.1% of the respondents said there were all kinds of books mentioned in the options provided in the school libraries, which were of comparable amount.

Three skills related to Pinyin were selected to examine students' practical application of Pinyin, including on-sight reading of Pinyin, looking up a lexicon by Pinyin index in a dictionary, and typing with Pinyin input methods. The questions were asked about students at the intermediate level. About four fifths (83.3%) of the respondents said that their students of or above a certain grade (29.4% ≥ P1, 17.6% ≥ P2, 38.2% ≥ P3, 8.8% ≥ P4, 5.9% ≥ P5) would be able to read out the syllables with Pinyin immediately. A little fewer respondents (73.8%) said their students of or above a certain grade (10% ≥ P1, 16.7% ≥ P2, 50% ≥ P3, 6.7% ≥ P4, 13.3% ≥ P5) could

look up a lexicon by Pinyin index in a dictionary. There were slightly more respondents (76.2%) that said their students of or above a certain grade (9.4% ≥ P2, 50% ≥ P3, 28.1% ≥ P4, 9.4% ≥ P5) could type with Pinyin input methods.

Some respondents provided valuable comments and suggestions at the end of the survey, which were summarized as below:

1. Library should introduce more books of "TC + Pinyin".
2. Pinyin learning should be continuous and implemented in every Chinese lesson.
3. Teachers should emphasize the practical skills related to Pinyin, such as Pinyin input methods and looking up a dictionary.
4. We should make good use of multi-media resources and resources from Mainland China.
5. Teaching materials should include Pinyin nursery rhymes.
6. After teaching Pinyin, we should review the related content with students and ask them to apply what they have learned.
7. We can intensively learn Pinyin first, and then make Pinyin as a useful tool to assist in Chinese learning.
8. I do not think we should teach Pinyin to lower primary kids, but only characters.

Some comments seemed in contradiction at the first sight, such as (7) and (8). They have different opinions on Pinyin as a tool to assist in Chinese language teaching. (7) emphasized the function of Pinyin as a tool to assist in Chinese learning. (8) was based on the assumption that Pinyin teaching may add another burden to lower primary kids. It is good to hear different voices from the survey. Further in-depth discussions can be conducted in the future.

9.4 Results of the Interviews

As mentioned in Sect. 2.2, the three interviewees (coded as T01, T02, and T03, respectively in the following analysis) who joined our interviews were from different international schools, and they were with different years of teaching experience. The three interview transcripts were analyzed individually first, followed by a general comparison.

9.4.1 Basic Information

The comparison of the basic information collected from the three interviews is presented in the following table (Table 9.2).

Table 9.2 Basic information of the three interviews

	Teacher 01(T01)	Teacher 02 (T02)	Teacher 03 (T03)
Split-class strategy	Only 7–8 students in a class, and they did not split classes based on their Chinese proficiency	Students were divided into native, near native, and non-native classes	Students were divided into native, near native, and non-native classes
Starting to learn Pinyin	P1	Native class: P1 Other classes: P4	Native class: P1 Other classes: P3
Time span of Pinyin teaching	Pinyin was taught intensively at first, which was 4–5 h per week for six weeks, accumulating to a total of 27 h Pinyin was later taught continuously for 20 weeks in one to two years, which took about 10 min in each Chinese lesson	Native class: Pinyin was taught intensively in P1, which occupied a quarter of each Chinese lesson In previous practice, Pinyin teaching was arranged across P1 to P2 but the students' performance was not good due to the lack of practices	Non-native class: Pinyin was taught within 1–2 years. An average of around 10 min was spent on Pinyin in each lesson
Teaching materials of Chinese language subject	For Chinese-speaking students: the teaching materials were selected and designed according to the school-based syllabus and exercise books but there was not any book particular for learning Pinyin For non-native students: a supplementary teaching material《學華文向前走》(published in Taiwan) was used with school-based adjustment, including adding Pinyin illustration, exercises, and group activities	The teaching materials were edited based on those published by Chinese Ministry of Education for compulsory education and supplemented with additional Mandarin Pinyin exercises	Various materials were adopted, including those from local, Mainland China and overseas. Resources in YouTube were used as well

9.4.2 Curriculum and Syllabus

The interviewees were asked to explain the guidelines of designing the Chinese curriculum and syllabus, especially the part involving Pinyin.

T01 was a junior teacher who did not participate in the design of the school-based curriculum. She told that in her school, the Pinyin lessons were designed mainly according to Key's textbook with certain school-based adjustments. The textbook contained a "learning Pinyin" section in each chapter, corresponding to the content in the chapter. Additional textbooks and exercises were also adopted to help students to recognize Chinese characters with Pinyin, which were mainly adopted for the bridging period at the beginning of P1.

T02 was a senior teacher and one of the curriculum-makers in her school. She told that her school provided a guideline for Chinese subject, but it was very vague. There was no Chinese syllabus when she joined the school, and it took about three to four years to complete the whole process of designing the syllabus. The syllabus was reviewed and revised every year, and some minor changes has been made in recent two years. In her school, the current syllabus for the native classes was adapted from the one in Mainland China, in accordance with the teaching materials that they chose, i.e., Chinese textbooks published in Mainland China, which contained more literature contents than those published in Singapore. For the non-native classes, the syllabus was also in accordance with the teaching materials, i.e., Singaporean textbooks "Better Chinese", which were in simplified Chinese characters.

T03 was also a junior teacher, who worked in an IB school that mainly followed the PYP inquiry-based curriculum. She told that the Chinese curriculum was modified each year. She was not sure about the specific guidelines for designing the curriculum and syllabus in her school.

All the three teachers agreed that understanding the design of the curriculum and syllabus was essential to the teaching, but they also expressed concerns about the implementations of the curriculum and syllabus. T01 said, "I think I need to understand the design of the syllabus. But after I went through it, I was more anxious and stressed because I did not think I could achieve it in actual teaching and learning. We do not have enough time because there are too many things to teach…The design of the syllabus is too idealistic and far exceeds the students' actual learning ability. It is designed based on the local curriculum, but the students' actual level and the Chinese lesson hours are not ideal, and thus the learning outcomes do not comply with the course requirements". T02 and T03 also mentioned that due to the varied proficiencies and abilities of students, the implementation of the curriculum design should be adjusted to address individual learning needs. T02 suggested that the new teaching material published in Mainland China, which were adopted in her school recently, were helpful in addressing individual learning needs, pushing the students with lower abilities to step forward, while strengthening the advantage of the students with higher abilities. T02 also suggested to have teaching assistants in class to give students of lower ability a helping hand.

Based on the interviews with these three teachers, it can be learned that the international schools in Hong Kong enjoy great flexibility in designing their curriculum and syllabus. There is not a "standard" guideline for the Chinese curriculum or Pinyin teaching among different international schools, but they care about the individual

learning needs of students in the implementation of teaching, adjusting teaching materials and strategies accordingly. The interviewees also mentioned that the curriculum, syllabus, and teaching materials were reviewed from time to time, which would be revised when necessary.

9.4.3 Views and Experience Sharing on Pinyin Teaching

The interviewees were asked to share their views upon the role of Pinyin in Chinese learning and teaching. Both T01 and T02 agreed that the fluency of Pinyin was vital for students' Chinese learning. T02 further elaborated, "Pinyin is a great tool for developing a good reading habit of students. However, students are not able to spell and read out Pinyin fluently without a large amount of drills. Before being fully fluent of Pinyin, the assistance from Pinyin in improving their reading skills is questionable. Chinese books with Pinyin are distributed to our P2 students, and they are required to read the books for several times at home. After that, the students will be asked to do dictation, writing down Chinese characters according to the Pinyin given. We also ask for parents' supervision, who are informed of the requirement of dictations, so that they can help their children to practice both Chinese characters and Pinyin at home. All these teaching and learning methods are very effective." T02 emphasized that for senior students, the articulation of their thoughts was more important than the actual Chinese characters written. They allowed students to use Pinyin as a substitute for an unfamiliar word. Nearly 90% of the students could write down the Pinyin of the character instead. Thus, Pinyin can not only help with the reading domain, but also the writing domain of Chinese learning.

However, T02 also pointed out that some students found it difficult to incorporate Pinyin into their daily Chinese learning, especially those who were from Cantonese-speaking background. They did not have enough chance to practice Pinyin outside the class. Cantonese-speaking students were reluctant to use Pinyin input method when typing Chinese characters, mainly because they were not fluent in Putonghua nor Pinyin.

Different from the positive attitude to the Pinyin assistance by T01 and T02, T03 expressed concerns regarding the students' reliance on Pinyin, especially for the on sight reading with Pinyin annotations. To avoid their reliance on Pinyin, T03 mentioned that their had planned to abandon teaching Pinyin but found that it was an impractical decision as students would only use Five-stroke input method (五笔输入法) when typing, further impeding the teaching and learning of Chinese. However, they still postponed Pinyin teaching for non-native classes of lower grades, since they think students would confuse the Pinyin system with English phonics. They taught Chinese characters directly instead in their school.

The interviewees were asked about what they found challenging in Pinyin teaching. T01 mentioned several difficult challenges of Pinyin transcription for students: (1) Pinyin transcription of compound finals (複合韻母), e.g., ui/iu and ei/ie, which was difficult even for students from Putonghua or Cantonese backgrounds.

(2) The prenuclear glides (介音) were easily omitted by students, such as spelling "huang" as "hang". (3) Some letters might have different pronunciation in English phonetics and Chinese Pinyin, e.g., "e". (4) Tone marking was difficult. T01 also noticed the individual differences of students from various backgrounds. Students from Cantonese background had more difficulties in spelling out Pinyin annotations due to limited opportunities to practice Putonghua and insufficient reading resources with Pinyin. On the contrary, non-Chinese-speaking students with alphabetic-writing background understood Pinyin better, probably as a result from their advantage of prior phonological awareness.

Different from T01, T02 considered the compound finals and the prenuclear glides not difficult to teach by using the "three-step-spelling" method (三拼法mentioned in Sect. 3.3). T02 emphasized the importance of demonstrating the decomposition process of spelling at the initial stage of Pinyin teaching and learning. For instance, when learning to spell "j-i-a", the individual sound segments should be decomposed instead of spelling out the whole syllable. For tone marking, T02 suggested that the first two methods of fixing tones described in Part 3.3 were not effective since the students could not decompose and spell Pinyin fluently. Similar as T01, T02 also mentioned that Pinyin was more difficult for Cantonese-speaking students because of their language environment. They seldom spoke Putonghua outside class and were insensitive to the pronunciation, who could hardly link up the pronunciation and the transcription in Pinyin.

T03 shared similar views as T01. She found that teaching compound finals was difficult, especially together with tones. She supplemented that her students found the unaspirated and aspirated affricates, such as "j" and "q" were quite confusing.

All the interviewees believed the best way to improve Pinyin learning is to practice more. In addition, they shared some effective methods and good practices in Pinyin teaching. To attract interests of learning Pinyin, games, especially game competitions between groups, were adopted for junior students of lower grades, which turned out to be welcomed a lot. Nursery songs and rhymes were also interesting and useful teaching materials, which were also popular in Pinyin teaching. To provide more context of Pinyin applications, T01 shared that Pinyin annotations were added on exercise books, worksheets, vocabulary sections, and the instructions and questions of exercises for P1. To better illustrate the differences between different phonemes, T03 often adopted methods such as colored highlighting and body language illustration. As a senior Chinese teacher, T02 further shared tips for new Chinese teachers: "There is a section listing the difficulties and strategies of Pinyin teaching in the Chinese teacher guidebooks published in Mainland China. New teachers can refer to it for a better understanding of Pinyin teaching. Moreover, diversified teaching methods are the icing on the cake. Teachers should focus more on the contents of the teaching rather than the teaching methods".

Upon the assessment of Pinyin learning and teaching, the interviewees also provided useful information. T01 told us that the assessment of Pinyin in her school included both oral and written assessments. The students were required to spell out the characters and read aloud a passage in the oral test, while the written test was in a format similar to the daily exercises. T01's school emphasized the assessment of

Pinyin and a separate test paper for Pinyin was used during the final exams. However, T01 further supplemented that given the circumstance of only one subject teacher taking charge of one grade, there might be a disparity of assessment formats across different grades due to individual preferences of different teachers. T01 suggested to standardize the assessment of Pinyin and make it consistent across different grades. In T02's school, there were also both oral and written assessments for Pinyin during the intensive learning period. Most of the oral assessments were formative with instant feedbacks to students. The Pinyin assessment adopted different strategies for students in a native or a non-native class: the assessment content was the same in a native class, while was individualized to fit the level of a certain student in a non-native class. T02 emphasized, "It is meaningless to only look at a single score. A comprehensive assessment should include peer-comparison and longitudinal progress of a student". In T03's school, students in Grade 4 or above were required to type Chinese characters by the Pinyin input method, which was a practical and useful application of Pinyin.

9.5   General Discussions and Conclusions

Based on the observations from the above online survey and interviews, more is known about teaching Chinese Pinyin in the context of international schools in Hong Kong.

It can be observed that there were great diversity among different international schools. For example, the class size ranged from fewer than 10 to more than 30 in different schools. Regarding Chinese language teaching, many questions received various responses and did not get a distinctive pattern, including the number of Chinese lessons per week, the strategies for the teaching of simplified or traditional Chinese characters, the teaching materials as well as the guidelines and references for the design of Putonghua and Pinyin lessons, the strategies to deal with individual learning needs, the frequencies and format of Chinese assessments, etc. Given the diversity among international schools, the diversified answers from respondents regarding Pinyin teaching and learning were also expected, such as the teaching sequence of initials, finals, and tones, the difficulties the respondents faced in teaching Pinyin, the arrangement of Pinyin assessment, the attitude toward replacing Chinese characters with Pinyin, the need of parents' assistance, etc. These diversity are probably due to the curriculum flexibility in international schools.

However, there were still some general patterns found among the international schools in Hong Kong. In most international schools, Chinese language was a compulsory subject, which was started from P1, and the dominant MOI for Chinese language subject was Putonghua. Most of the Chinese teachers came from mainland China and could speak standard Putonghua (PSC grade equal to or higher than Level 2-A). Most students had a bilingual or multilingual background (Cantonese/Putonghua + English/other foreign languages). Pinyin was taught at the beginning

phase of the Chinese language subject in most of the international schools. All respondents agreed that Pinyin teaching could enhance Putonghua teaching. Most respondents adopted various classroom activities (including singing children's songs, Pinyin cards, doing worksheets, playing games, reading picture books, etc.) to enhance Pinyin teaching efficiency. When teaching how to spell Pinyin, most respondents tended to emphasize the decomposition of segments as detailed as possible and break them down into several steps: for the spelling methods, the most selected choice was "spelling in three parts (initial + glide + final)"; for fixing the tones, the most selected choice is the "three-step method". According to the survey data, most respondents reported that students at intermediate levels were able to read out the syllables with Pinyin immediately, to look up a lexicon by Pinyin index in a dictionary, and to type with Pinyin input methods. With these practical skills applied in school life, students could be more motivated to learn Pinyin and use it well.

The further interviews helped us to better identify the challenges in Pinyin teaching at international schools: (1) The language background of the students, either a non-Chinese-speaking background or the local Cantonese background, has an inconsistent oral form with Pinyin transcription. The mixed levels of students bring in more challenges to balance teaching in the same class. (2) The limited time and resources assigned to Pinyin teaching lead to inadequate practice nor exposure of Pinyin, regardless of the fact that most Chinese teachers recognized the importance of Pinyin in various domains of Chinese learning, including reading and writing. (3) Coordination and guidelines within a school are important to enhance the smooth and consistent progress of Pinyin learning across different grades. (4) It is controversial to deal with the relationship between Chinese characters (either SC or TC) and Pinyin, including the teaching priorities and sequences. (5) Certain components of Pinyin are regarded as more difficult, such as compound finals and tones.

To deal with these challenges, here are some suggestions: (1) Individualized teaching methods and assessments should be implemented. (2) Outside-classroom Pinyin exercises and Chinese reading are encouraged, with assistance from parents. (3) Central-administered review of the syllabus and coordination across different grades are necessary from time to time. (4) Encouraging students to use Pinyin input method for typing Chinese characters can motivate and enhance Pinyin learning. (5) More efforts should be spent on difficult components of Pinyin, such as compound finals and tones, adopting more efficient teaching methods.

In sum, through series of investigations, including the online survey and further interviews, this study can provide the in-service Chinese teachers and other stake holders with the general and actual scenarios, problems, and experience of teaching Chinese Pinyin in international schools (primary section) in Hong Kong. The results indicated that due to the diversified background of students and the flexibility of teaching and learning approaches and arrangements in international schools, it is hard to summarize a unified mode of Pinyin teaching for different international schools in Hong Kong. The learning outcomes of Pinyin with different teaching approaches need further investigation. Positively speaking, the prevalence of Putonghua as MOI for Chinese subject in international schools adds the importance of teaching and learning Pinyin, which is the official transcription system of Putonghua. However,

the great individual differences among students, the inadequate teaching time, and the limited resources and support, etc., all bring in great challenges to Pinyin teaching in international schools. Further efforts should be made to enhance the efficiency of Pinyin teaching and exert the role of Pinyin in Chinese language teaching.

9.6   Reflection Questions

There are three reflection questions based on the studies conducted in this chapter.

1. Chinese characters and Pinyin are both written forms of Chinese, how to balance these two written forms when teaching young children?
2. Children at international schools have diversified language background and different levels of Chinese proficiency. How to deal with individual needs of learning Pinyin? How to maximize Pinyin's function as a learning tool of Chinese for students?
3. With the flexibility of teaching and learning approaches, arrangements, and materials in international schools, how to enhance the efficiency and efficacy of Pinyin teaching and learning?

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Chapter 10
Teaching Chinese to L2 Preschoolers Through Children's Songs: The Cases of Mandarin and Cantonese

Tikky S. P. To-Chan, Elizabeth K. Y. Loh, Loretta C. W. Tam, Justine P. S. Woo, Regina L. M. Chow, Renee W. Y. Fung, and Nissom Z.-L. Sun

Abstract As varieties of the Chinese language, Mandarin and Cantonese are both tonal in nature and involve pitch cues for distinguishing characters and words. Chinese as a second language (CSL) learners often find Chinese tones difficult to grasp, especially for those at the preschool stage. In Hong Kong, Cantonese is the dominant variety of Chinese for daily communication and serves as the medium of instruction in local kindergartens, whereas Mandarin is used in Chinese language teaching in international kindergartens. Children's songs are widely used to foster preschoolers' CSL learning in the aforementioned settings. With adequate phonological input in a pleasurable learning environment, such an approach helps facilitate tone perception, which is key to the development of prosodic competence for better facilitation of reading comprehension. However, the tone-melody mismatches in children's songs and their negative influence on CSL learners' tone learning have long been underestimated. This chapter looks into the problems concerning teaching CSL through children's songs from a comparative perspective. Based on a contrastive analysis of the Mandarin and Cantonese tone systems with reference to multimodal learning, the authors recommend that teachers and curriculum developers should be more sensitive to tone-melody relationships when selecting or creating children's songs for pedagogical purposes to better support CSL literacy development. It is also important to raise the preschoolers' tone awareness, particularly in Cantonese-medium CSL classrooms, given the distinct tonal features of the target variety.

T. S. P. To-Chan
Centre for Child and Family Science, The Education University of Hong Kong, Hong Kong SAR, China

E. K. Y. Loh (✉) · L. C. W. Tam · J. P. S. Woo · R. L. M. Chow · R. W. Y. Fung · N. Z.-L. Sun
Faculty of Education, The University of Hong Kong, Hong Kong SAR, China
e-mail: ekyloh@hku.hk

N. Z.-L. Sun
Graduate School of Human and Environmental Studies, Kyoto University, Kyoto, Japan

10.1 Introduction

Since the handover in 1997, the Hong Kong Special Administrative Region (SAR) Government has adopted the "biliteracy and trilingualism" language-in-education policy, which aims at developing the capability of next-generation to communicate in Cantonese the local vernacular, English the co-official and international language, and Mandarin[1] (better known in Hong Kong as *Putonghua*) the national language cum lingua franca of the People's Republic of China (PRC) (Adamson & Lai, 1997; Kan et al., 2011). This policy was designed to create balanced development of all three language(s)/dialect(s) among children in view of the empirically attested "golden window" of language acquisition (Leung & Li, 2020). Hong Kong children could, along this line, learn both Chinese and English from preschool onwards according to the "biliteracy and trilingualism" policy. As varieties of Chinese, both Mandarin and Cantonese are tonal in nature. Unlike English, they are marked by lexical tones that serve to distinguish meanings among Chinese characters. For example, in Mandarin, a character can be pronounced with four different tones, usually referring to different meanings respectively. This makes Chinese tone an important yet challenging element for Chinese as a second language (CSL) learners.

According to the *Kindergarten Education Curriculum Guide* of the Hong Kong SAR of the People's Republic of China (hereinafter referred to as Hong Kong), teachers should improve children's listening and speaking abilities in Cantonese and expose children to Mandarin to conform to the diversified language environment of Hong Kong (Curriculum Development Council, 2017a), which includes CSL students. Therefore, it is one of the key teaching objectives to help CSL learners to identify characters pronounced with different tones. In light of this, pedagogies involving the use of music are highly desirable to shape brainstem encoding of linguistic tone and pitch patterns (Wong et al., 2007), especially at the preschool level. However, frontline teachers still experience difficulties in teaching Cantonese and Mandarin to second language (L2) learners. To facilitate Cantonese and Mandarin learning, multiple studies suggest that interesting and diversified language activities should be provided for preschoolers, especially CSL learners (Loh et al., 2013).

As a result, teaching materials such as children's songs in both Cantonese and Mandarin are commonly used in Hong Kong preschool classrooms, as teaching through music is a popular pedagogical approach for early childhood language learning. Such a teaching method of singing not only presents children with the tone system of the Chinese language, but also fosters their prosodic competence that contributes to reading development (Wade-Woolley et al., 2022). However,

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[1] In this chapter, Mandarin is adopted as a term often used interchangeably with *Putonghua*. As the English name for the broadly-defined northern variety of Chinese, the standard variety is known as *Putonghua*, which is used as the official national language of mainland China. Although based on Mandarin, *Putonghua* is not entirely the same as Mandarin. The term "Mandarin", however, is frequently used in scholarly publications and public discourse as a convenient substitute for *Putonghua*. The term Mandarin has been used in the English language documents issued by the Center for Language Education and Cooperation (affiliated with the Ministry of Education and previously known as *Hanban*) as well (Zhu & Li, 2014).

teachers may not aware of the importance of tone features of the Mandarin and Cantonese when teaching CSL through children's songs. To be specific, as the meanings of Chinese characters are conveyed by lexical tones, the songs with tone-melody mismatches could lead to incorrect inputs of phonological information and misunderstanding of content, which would exert negative influences on CSL learners. If the CSL learners were constantly exposed to these kinds of children's songs, it could result in irreversible flaws in character pronunciation during their early development of Chinese language learning. In light of this, when teaching the target language through songs, CSL teachers must check whether the melody of selected children's songs match the tones of lyrics, so that the learners may receive correct phonological information for better construction of their tone awareness.

Some researchers pointed out the importance of selecting appropriate children's songs for language teaching according to theme, content, and length (e.g. Tekşan & Yılmaz-Alkan, 2020). However, the importance of tone-melody matching for songs in a tonal language, and tone-melody relationships in Cantonese and Mandarin children's songs have been under-researched. With regard to Cantonese and Mandarin learning in Hong Kong kindergartens, it is worthwhile to investigate how tone awareness could be influenced by the pitch of melody through the use of children's songs in the CSL preschool classroom, and to look into relevant issues in children's songs such as tone-melody mismatches.

In this chapter, an overview of Mandarin and Cantonese tone systems is followed by the current literature on children's tone perception development in first languages (L1) and L2. Then, tone-melody relationships in language teaching through music will be reviewed. Based on the existing literature and first-hand field data, this chapter will further examine and identify common issues in Mandarin and Cantonese teaching for L2 learners, with a special reference to children's songs from the perspective of the tone-melody matching. Possible reasons causing tone-melody mismatches in children's songs are analysed and discussed in relation to recent studies in applied linguistics and speech sciences. By comparing Mandarin and Cantonese in terms of their phonological features and pedagogical conventions, practical solutions to tone-melody mismatches are proposed towards the end of the chapter.

10.2 Mandarin and Cantonese Tone Systems

Sharing the same writing system of Chinese characters, Cantonese has its own colloquial script based on the spoken vernacular. There are also phonological differences between Cantonese and Mandarin, and some of the major ones lie in the tones. Mandarin has four tones, whereas Cantonese has a more complex tone system of six tones. In this section, the tone systems of Mandarin and Cantonese are overviewed and discussed based on a comparison of their phonological and phonemic systems.

Mandarin is the most widely spoken tonal language around the world and also the majority Chinese language in Mainland China where 80% of the population speaks it (Ministry of Education of PRC, 2021). Mandarin is also widely spoken in

Table 10.1 Mandarin tone system

Tone	Description	Pitch	Example
1	Flat	5–5	肖 (xiāo) [resemble]
2	Rising	3–5	淆 (xiáo) [confuse]
3	Falling and rising	2–1–4	小 (xiǎo) [tiny]
4	Falling	5–1	笑 (xiào) [smile]

Taiwan as a *lingua franca*, despite minor phonological, syntactic, and morphological variations from its Mainland counterpart. In Mandarin, there are four lexical tones in total, in the sequence of Tones 1 to 4. They are named *yinping* (陰平), *yangping* (陽平), *shangsheng* (上聲), and *qusheng* (去聲) respectively (see Table 10.1). Based on the five-point-scale method for transcribing tones (locating the pitch point from the lowest to the highest as 1–5 with equal distribution), the tone values of the four basic and pitched Mandarin tones are 55, 35, 214, and 51 respectively (Chao, 1930). In transcription systems for language teaching, diacritics are commonly used to mark the tones.

Although Mainland China and Taiwan use different transcription systems to indicate the pronunciations of Chinese characters, both systems apply similar diacritics to represent tones. According to the *Hanyu Pinyin* (漢語拼音, also known as *Pinyin*) system, tones are marked with diacritics on the vowel nucleus of a syllable. These diacritics resemble the pitch shape of these four tones as *high-level*, *high-rising*, *falling-rising*, and *high-falling* respectively. With these diacritics, readers may "visualize" the pitch features of the target tone to make the correct pronunciation.

Widely regarded as a Chinese dialect, Cantonese is defined as the de facto official spoken form of the Chinese language in Hong Kong. In fact, nearly 90% of Hong Kong's population aged 5 spoke Cantonese at home according to the 2021 Population Census (Census & Statistics Department, 2022). As a tonal language and a variety of Chinese, Cantonese has a more complex tone system (see Table 10.2). In Cantonese, there are six lexical tones in total, in the sequence of Tones 1 to 6, including one falling tone (T4), two rising tones (T2 and T5), and three-level tones (T1, T3, and T6). They are traditionally named *yinping* (陰平), *yinshang* (陰上), *yinqu* (陰去), *yangping* (陽平), *yangshang* (陽上), *yangqu* (陽去) respectively. While some argue that Cantonese has nine tones, i.e. three additional checked tones (i.e. *yinru* 陰入, *yangru* 陽入, *zhongru* 中入), these tones actually have the same pitch as T1, T3, and T5, which should not be considered as different tones in theoretical terms. The tone values of these six Cantonese tones are namely 55, 25, 33, 21, 23, and 22, based on the five-point-scale method for transcribing tones.

In Hong Kong, there are no official Cantonese phonemic transcription systems. Several systems, such as Yale Romanisation of Cantonese (耶魯粵語拼音) (Huang & Kok, 1958), Hong Kong Government Cantonese Romanization (香港政府粵語拼音) (Kataoka & Lee, 2008), and Cantonese Pinyin (教育學院拼音方案) (Institute of Language in Education, 1992) were in use before the launch of the *Jyutping* Romanisation Scheme (香港語言學學會粵語拼音方案, widely known as *Jyutping* 粵拼). *Jyutping* gradually replaced the aforementioned systems in teaching. According to

Table 10.2 Cantonese tone system

Tone	Description	Pitch	Example
1	High flat	5–5	需 (seoi1) [need]
2	High rising	3–5	水 (seoi2) [water]
3	Mid flat	3–3	帥 (seoi3) [handsome]
4	Low falling	2–1	垂 (seoi4) [down]
5	Low rising	2–3	絮 (seoi5) [floc]
6	Low flat	2–2	睡 (seoi 6) [sleep]

Jyutping, tones are marked by numbers 1 to 6 next to the romanisation. The numbers code the six tones as high flat, high rising, mid flat, low falling, low rising, and low flat. To use *Jyutping*, the readers should possess prior knowledge of the six Cantonese tones and their pitch features, as no visual clues are available in the romanised forms.

Referring to Tables 10.1 and 10.2, it can be seen that different phonemic transcriptions rules are adopted for Mandarin and Cantonese respectively. For Mandarin, the *Hanyu Pinyin* system and *Bopomofo* (注音符號) system use diacritics to mark Mandarin tones which signify the tone features, despite the fact that the *Hanyu Pinyin* system marks diacritics above the syllables, while *Bopomofo* marks them next to the romanised form. For Cantonese, *Jyutping* presents the Cantonese tones in the form of numbers without providing visual clues.

Such a difference between Mandarin and Cantonese phonemic transcription systems could attribute to the Cantonese tones with the same contour but at a different pitch. For example, T1, T3, and T6 are all flat tones but at different pitch levels. Thus, it would be necessary to use other methods other than diacritics in describing Cantonese tones. In return, *Jyutping* can be more difficult for the beginners to learn than *Hanyu Pinyin*, as the learners have to memorise the whole tone system in advance. Nevertheless, phonemic transcription systems of Mandarin and Cantonese have an increasingly important role in not only sound annotation but also language learning.

Recently, growing evidence has proved the effective role of the phonetic system including *Hanyu Pinyin* and *Bopomofo* in Chinese language learning for the phonological awareness of both first and second-language learners (e.g. Li et al., 2016). For example, McBride-Chang et al. (2004) found that the experience of learning *Hanyu Pinyin* enhanced students' phonological awareness in tone awareness. Ding et al. (2015) also directly examined the relations between *Hanyu Pinyin* skills with Chinese character recognition and Chinese phonological awareness in 54 Mandarin-speaking elementary students. The results showed a strong connection between *pinyin*-invented spelling and Chinese character recognition, suggesting the important role of *pinyin* in Chinese reading performance.

Based on similar findings, some researchers further proposed that learning the *Pinyin* system should be considered an essential step before learning to recognise Chinese character in the Mandarin classroom (Xiao et al., 2020). In practice, students in Mainland China and Taiwan generally learn *Hanyu Pinyin* and *Bopomofo* before

starting to recognise Chinese characters in preschool. They learn the vowels, consonants, and tones step-by-step, all of which serves as a foundation for learning the Chinese language. However, there are objections to an overemphasis on learning the phonemic transcription systems. Lee and Kalyuga (2011) argued that using *Pinyin* would impose high levels of cognitive load and hinder Chinese character learning due to its horizontal layout format. More importantly, learners are expected to develop good decoding ability, instead of relying on *Pinyin* which is considered as insufficient for the advancement of their Chinese language proficiency. Thus, it has been suggested that phonemic transcription systems should only be used as an auxiliary system in early childhood education, while placing the main focus on developing the very young learners' orthographic knowledge.

Compared with the heated discussions and real-life applications of *Pinyin* and *Bopomofo* in Mandarin-medium Chinese language teaching, phonological coding systems such as *Jyutping* are much less involved in the Cantonese-medium Chinese language curriculum in Hong Kong. According to the *Chinese Language Curriculum Guide* (Curriculum Development Council, 2017b), learning Chinese with romanisation is not a recognised teaching approach in Hong Kong first language (L1) classrooms. In other words, students tend to learn the Chinese characters directly, implying that they barely receive any phonological training in transcription system(s), but develop their phonological awareness (including tone awareness) naturally. In this sense, the phonemic transcription systems for Mandarin and Cantonese play significantly different roles in learning Chinese linguistic features, including the tone systems for native speakers.

For the teaching and learning of CSL, phonemic transcription systems are considered an important medium in Mandarin learning, as non-native speakers could access more Chinese vocabulary in reading via *Pinyin* or *Bopomofo* (Liang & Sun, 2019). It is, however, a make-or-break factor for very young learners. In the majority of the CSL textbooks, learners are first introduced to *Pinyin*, based on which they could pronounce new characters without teacher's assistance, which in turn enhances their self-learning. For a group of Grade 3 learners with a non-tonal language background, a phonemic transcription system could help them to build the concept of tone (Ju et al., 2021), as the visual clues of tones in the *Pinyin* system may assist the CSL learners to produce correct pronunciations.

Nevertheless, it poses another challenge for preschool L2 learners who are yet to master the spoken form of their target language—and not to mention the corresponding phonemic transcription systems. One should also be cautious about the possibility of over-relying on the phonemic transcription system for script-to-sound correspondences (Tse, 2000). Zhou et al. (2020) found that frequent usage of *Pinyin* typing had led to a weaker dynamic connection among reading regions in L1 children aged 9–11 with intermediate Chinese proficiency. They suggested that the *pinyin* input method might be related to Chinese children's poor reading development. To prevent such a negative influence on Chinese character learning, restricted use of *Pinyin* input and promotion of orthography-based input methods were recommended (Zhou et al., 2020).

In contrast, learners tend to develop tone awareness through direct exposure to characters and words in the Hong Kong CSL classroom. While the *Supplementary Guide to the Chinese Language Curriculum for Non-Chinese Speaking Students* (Curriculum Development Council, 2008) suggests that teachers guide the CSL learners to construct the concepts of Chinese phonology at the primary and secondary levels, there is yet any official guide for L2 preschoolers' Chinese learning. Moreover, using phonemic transcription systems in the classroom has not been a popular option, although there have been studies arguing for the effectiveness of using Cantonese romanisation for early childhood Chinese teaching (e.g. Wong & Leung, 2018).

In conclusion, tone learning in Mandarin and Cantonese differs not only in the role of the phonological transcription system, but also in terms of learning approach. Mandarin learners tend to directly access and learn the tone system through phonetic transcription systems, whereas Cantonese learners tend to develop their tone awareness when learning Chinese characters without deliberate input on the more complex tone system of the target variety. This may also suggest a difference in tone perception development between the two groups.

10.3   Tone Perception Development of Preschoolers

As mentioned in the previous section, in the cases of Mandarin and Cantonese, pedagogical variations contribute to differences in the development of phonological awareness, including tone awareness, which is essential in both varieties of Chinese. Increasing findings assumed that tone perception provides a foundation for future word learning (e.g. Singh et al., 2017). As the Chinese language system contains a considerable number of homophones, Mandarin and Cantonese tones play an important role in distinguishing the lexical meanings. Thus, the development of lexical tone perception is crucial for Mandarin and Cantonese learners, especially beginning Chinese learners at the preschool level.

Moreover, since the tone reflects the rise and fall of pitch in spoken language that distinguishes homophones, the development of tone perception also implies a certain degree of prosodic competence for better facilitation of their Chinese reading comprehension. Besides tone, prosody is concerned with linguistic functions including intonation and rhythm at the word, phrase, and discourse levels (Wade-Woolley et al., 2022). The relationship between prosodic competence and reading has been evidenced in non-alphabetic languages such as Chinese (Tong & McBride-Chang, 2010), suggesting the essential role of prosody in Chinese reading development. It is, therefore, necessary to look into the development trend of tone perception.

In terms of tone perception development, previous research suggests that the perceptual reorganisation for lexical tones could begin as early as 4 months of age for native learners of tonal language (Yeung et al., 2013). Researchers also concluded that this period is a crucial stage for infants to develop lexical tone awareness. However, while many studies assumed that CSL learners, especially those from non-tonal language backgrounds, should first build up the concept of tone categories and

comprehensive connections between tone categories and lexical items (e.g. Francis et al., 2008), few focused on the teaching and learning of Mandarin and Cantonese among preschoolers. This section revisits preschoolers' tone perception development in the cases of Mandarin and Cantonese respectively.

For Mandarin tone learning, studies have shown that Chinese native-speaking children tended to make few errors in producing Mandarin tones by around the age of 3 (Hua & Dodd, 2000; Li & Thompson, 1977). Children speaking Mandarin as their L1 showed progress in their sensitivity to native tonal contrasts, with relatively high perceptual accuracy (around 90%) in perceiving all four Mandarin tones (Wong et al., 2005). In other words, children at 3 years could produce all four tones approaching adult-level. Nevertheless, the four Mandarin tones differ in terms of the acquisition rate, i.e. the production of T1 and T4 was mastered earlier than T2 and T3. It relates to the pitch features of rising tones that require more and better pronunciation skills. Such a rapid development in tone awareness may relate to the phonological training through their experience learning *Pinyin* or *Bopofomo*, as well as the capability of using those phonemic transcription systems.

Compared with the gradual progress in tone awareness among native speakers of Mandarin, the non-tonal language learning children's sensitivity to tonal contrasts demonstrates a U-shaped development curve, i.e. a perceptual decline followed by a rebound at 2 years (Liu & Kager, 2014; Mattock & Burnham, 2006). After their second year of life, CSL learners' ability to discriminate more fine-grained tonal differences in between-category pairs was enhanced gradually with age due to perceptual accumulation (Lee-Kim, 2021). This is possibly related to their L2 phonological construction for tonal language, which differs from their L1 learning experience. Nevertheless, both L1 and L2 learners of Mandarin could successfully develop their sensitivity to tonal contrasts for distinguishing the four tones of Mandarin between the ages of 3 and 4.

For Cantonese tone learning development, native-speaking children generally require a longer learning period to achieve mature tone perception than their Mandarin counterparts. Wong et al. (2017) compared the perception and production of monosyllabic Cantonese tones in 3-year-old children. The results showed that 3-year-old Cantonese-speaking children are in the developing stage of tone perceptual skills, and cannot identify any of the six tones with adult-like accuracy. They suggested that children's tone production accuracy was affected by word familiarity, while most of the less familiar words tested were also found in young children's vocabulary bank. Studies further pointed out that children make better progress in tone perception than in production, while they can produce adult-like tones by 5 and 6 years of age. Compared with children native in Mandarin who can produce accurate tones at 3 years old, it is obvious that Cantonese preschoolers need more time to learn how to identify and produce Cantonese tones with high accuracy. These findings echoed the complexity of the Cantonese tone system, with six lexical tones contrasting in both pitch height and pitch contour increasing the difficulties of tone learning for preschoolers (Gandour, 1981).

For non-native learners of Cantonese, tone development is also sluggish compared with those learning Mandarin. Yao et al. (2020) examined the production of

Cantonese tones by preschool Urdu-Cantonese children living in Hong Kong. Twenty-one L1-Urdu L2-Cantonese children (ages 4–6) and 20 age-matched L1-Cantonese children participated in the picture-naming experiment with 86 words. The results showed that the tone accuracy of L1-Urdu participants was significantly lower than that of their L1-Cantonese counterparts. L1-Urdu participants had more difficulty with T3 and T4, while also having higher error rates and more diverse errors than their L1-Cantonese counterparts. These L1-Urdu children's acquisition of Cantonese tones could be modulated by Urdu prosody, ongoing T2–T5 merger tone changes in Cantonese, as well as general phonetic properties. The L1-Cantonese children's acquisition, on the contrary, was affected by tone mergers and reduced perceptual distinction with fewer errors. Such a development trend could also relate to the lack of support from teachers and parents in Chinese phonology enhancement.

Given that learners of Cantonese as L1 and L2 generally have very limited access to systematic training in Cantonese phonology, tone perception poses a potential challenge considering the complexity of the Cantonese tone system. Fortunately though, pedagogical tools for the development of phonological awareness, such as children's songs, nursery rhymes, and educational cartoons, are widely adopted to help foster tone awareness at the preschool level. The next section will focus on the mechanism behind tone-melody matched songs in terms of their contribution to phonological awareness in young children.

10.4 A Closer Look at Tone-Melody Relationships

In language learning, a growing body of research suggests an interrelationship between musical experience and language learning (e.g. Moreno et al., 2009; Schön et al., 2008; Wong et al., 2007). Remarkably, the advantage of singing was found in L2 teaching and learning for children. For example, Good et al. (2015) investigated the English learning outcomes of Spanish-speaking children through singing, and the results showed that improvement in English vocabulary and pronunciation was significantly more successful in singing conditions than in speech-based methods. Well before that, Delogu et al. (2006) examined the effect of melodic ability in L2 learning, and confirmed a music-to-language transfer effect in non-tonal language speakers learning a tonal language.

There are a few mechanisms behind such an advantage for L2 learning, especially learning a tonal language as L2. First, teaching through singing is generally enjoyable for learners, especially preschoolers. According to the affective filter hypothesis, the lack of motivation of learners could form a "mental block" preventing successful L2 learning development (Krashen, 1988). Interesting contexts and relaxing tunes of children's songs, in particular, may attract the attention of preschoolers and increase their motivation to sing and to read the lyrics, while enhancing positive affection (Kreutz et al., 2004). More importantly, motivation is one of the key factors in L2 learning to overcome regressions and achieve learning goals. As musical tones are usually easier to master than linguistic ones, music helps CSL learners to build up

the concept of tone categories and to discern lexical tones in the lyrics. In other words, musical activities including singing could serve as a first step for learning and teaching lexical tones in Mandarin and Cantonese.

On the contrary, tone-melody mismatched songs may have negatively impact on the phonological development of CSL preschoolers. For CSL learners of Mandarin, although some claimed that Mandarin listeners are not in the habit of using melody contours and pitch registers of the melody when interpreting the lyrics (Vondenhoff, 2009), tone-melody mismatched songs could adversely affect learners' lexical decisions when listening, as a great amount of guesswork would be involved. For Cantonese learners, cross-cultural research by Chen-Hafteck (1999b) has demonstrated the influence of language on singing, as well as the positive effects of a close text-melody relationship. The research findings proved that tone-melody matched songs lead to better language performance than tone-melody mismatched ones. This requires a higher degree of integration between text and melody in cognitive strategies.

The results also suggested that Cantonese-speaking children might have developed a closer relationship between music and language than their English-speaking counterparts, given the similar requirements on pitch identification and production in spoken Cantonese. Chen-Hafteck (1999a, 1999b) recruited 194 children speaking Cantonese as L1 to investigate how they sang Cantonese songs with different pitch relationships between text and melody, as well as whether Cantonese texts could be matched to Western diatonic melodies. The researcher found that compared to English texts that place more demand on children's ability to discriminate among different syllables, recalling Cantonese words would involve more interference since many Cantonese words share the same syllable. The ability of pitch discrimination was affected due to the fixed pitch movement of songs in case of tone-melody mismatch. Therefore, it is essential to seek solutions to tone-mismatched children's songs, so as to help CSL preschoolers to develop their L2 phonological awareness in a pleasurable manner.

10.5 Issues Concerning Tone-Melody Matching in Children's Songs in the CSL Context

10.5.1 Teaching Mandarin Through Children's Songs

For Mandarin children's songs, tone-melody matching is not a must in language teaching especially to native speakers—as its tonal system is simpler compared with the Cantonese language system (Wong & Ng, 2018). In most cases, the melody generally corresponds with the tonal pattern of the lyrics. The mismatches are mostly found in "rough" Mandarin translations of English nursery rhymes. For example, the children's song "Where Are My Friends" (我的朋友在哪裏) was adopted from an American children's song by Lin Fu-Yu (1931–2004). The lyrics of the original song

Fig. 10.1 Sheet music of *Where Is My Friend* (folk adaptation, with English translation)

were replaced with new ones in Chinese. In the first line, the tone of character 笑 [lit. smile] is T4 (falling tone) while the melody is rising, resulting in an obvious tone-melody mismatch. Besides, when the falling tone is produced in line with the rising melody, the tone value would be adjusted and become T3 in Mandarin. This example demonstrates how a tone-melody mismatch leads to a misunderstanding of 笑 [lit. smile, laugh], such as mistaking it for homophones with T3 like小 [lit. small], which might confuse L2 audience (Fig. 10.1).

Since Mandarin has only four basic pitched tones and a fifth neutral tone, it is hard to perfectly match the musical pitch with the respective tone. Thus, many children's songs contain tolerable tone-melody mismatching that would hardly affect one's understanding of lyrics (Cheng, 2004; Chen-Hafteck, 1999a, 1999b). Another reason behind such low level of awareness is that the audience is supposed to understand the whole song through contexts. However, it poses a key problem that could affect the learning progress of children, especially CSL preschoolers. Children might not be able to fully understand the lyrics based on context alone, given their limited vocabulary and comprehension skills. The equally limited correspondence between the tones of lyrics and melody, which forms an enormous pitch gap, could result in incorrect phonological information inputs for the young listeners. Such a mismatch between tone and melody would immerse L2 learners in fallacious phonological information, and hinder their understanding of the relevant lexical items. Constant inputs of tone-melody matched songs could benefit literacy development in terms of listening and speaking, making them a plus for language learning.

One major solution to the tone-melody mismatches in Mandarin children's songs would be word replacement according to the interval. Before teaching the children's songs, teachers should check for gaps between tone and melody. As there are only four strictly-defined tones in Mandarin, the music interval could be accepted as long as the tone pitch of lyric would not be interfered with by the melody. Besides, tone and melody are supposed to follow a similar trend. For example, with T2 as a rising tone and T4 as a falling one, the melody trend of children's songs should be rising and falling respectively. This is because any obvious mismatch could lead to mispronunciation of Chinese characters. Thus, teachers may replace those characters that fail to match the melody according to both the music interval and the melody contour. These adjustments would clarify the meaning of the lyrics and enable the children to better understand the songs when singing. Once the tones of the lyrics

commensurate with the melody of the song, it would form positive phonological reinforcement, particularly tone awareness, for children. This could also help children to master the melodies of the targeted songs while being able to repeatedly practise tone production. In short, tone-melody matched songs help one to make sense of the phonological information with the lexical meaning of the words in the context of a song for preschoolers.

10.5.2   Teaching Cantonese Through Children's Songs

In comparison with Mandarin children's songs, tone-melody matching is much more important in the case of Cantonese. This is because Mandarin lexical tones are more easily identified in both speech and singing than Cantonese ones (Zhang, 2016). Learners of Cantonese may experience learning difficulties due to misuse of melody in tone learning (Lau, 2010). Such misuse would lead to pitch gaps between melody and tone which are commonly found in Cantonese children's songs. Using such songs in early childhood education could adversely affect not only one's tone perception, but also their development of CSL phonological awareness.

There are mainly two reasons behind tone-melody mismatches. The foremost and most common reason would be related to unprofessional or inexperienced songwriters. Lacking sensitivity to pitch differences between tones and melody, these songwriters may fail to write lyrics on the basis of tone-melody matching. A typical scenario is that they tend to roughly translate or adapt children's songs in another language to Cantonese without considering the tone-melody relationship. For example, "A Sparrow Fell into the Water" (有隻雀仔跌落水) is adapted from the British children's song "London Bridge is Falling Down". The context of the original song that describes what happened to the London Bridge was replaced with the story of a bird that fell into the water. In other words, while the theme has been replaced with a topic that children in Hong Kong are more familiar with, this song might not be ideal for CSL learning through the Cantonese medium given the tone-melody mismatches.

In fact, most of the lyrics fail to match the melody. Besides, the song presents a mix of the Mandarin-based written language and the local vernacular. Unlike Mandarin, words or sentences of Cantonese in spoken and written language could be significantly different. While the song describes the bird being washed away by the flowing water, the character "被" [lit. be (passive)] is used to express the meaning of suffering. However, "被" normally appears in the written language, whereas "俾" [lit. be forced] is more commonly used in colloquial Cantonese. Adopting the aforementioned word used primarily in writing may confuse CSL beginners in Chinese character learning due to tone-melody mismatch and discrepancy in word choice. More importantly, since children are supposed to immerse themselves in the daily language for L2 learning, such use of "被" in the folk song (see Fig. 10.2) featuring the use of Mandarin-based written form might confuse the very young L2 learners.

Fig. 10.2 Sheet music of *A Bird Fell Into the Water* (folk adaptation, with English translation)

The second scenario refers to the performers' bad pronunciation or mispronunciation, which could also lead to tone-melody mismatches. In many cases, the performers of the children's songs, mostly the teachers themselves, may fail to pronounce the characters or sing the melody correctly due to a lack of training (Zhang & Cross, 2021). As mentioned in the previous section, the majority of Cantonese speakers were not required to systematically study Cantonese phonology in formal education settings. In some situations, even native speakers of Cantonese are not aware of their mistakes or omission of initials or finals. Some scholars advocate a prescriptive approach to Cantonese pronunciation in line with historical linguistics (Ho, 1995). Although tone mispronunciation is less serious compared to other problems such as onset and rime production, some speakers would fail to achieve the pitch of tone that enable accurate production of sounds (Jiang, 2010). Overall speaking, it could hamper one's development of Cantonese tone awareness. These problems relating to pronunciation are at times concluded as relaxed pronunciations (Fung, 2008). These relaxed pronunciations that are common in tone production, are featured by the speakers' failure to distinguish T2–T5, T3–T6, and T3–T5. It is, therefore, worth paying attention to tone production before delivering the children's songs to preschoolers in class.

Compared with the limited number of tones in the Mandarin phonological system, Cantonese has complex high-low-rise and low-pitched tones, making it difficult to match the tonal pattern of Cantonese lyrics with the melody. One of the most direct approaches to resolving the issue is to adjust the music interval. The music interval refers to the pitch distance between the sounds, which is determined by the degree of loudness and intensity of sounds (Lindley et al., 2001). The listener's acceptance of tone-melody correspondence is directly determined by the music interval. When the tones of lyrics and the melody cannot match completely, appropriate music intervals can prevent mispronunciation by inhibiting the listeners from importing inaccurate phonological information and misinterpreting the lyrics. Adjustment of music intervals requires sufficient knowledge of phonology and music theory. As mentioned,

tone choices for lyric writing are relatively limited compared with songwriting. Thus, songwriters should focus on the tune to coordinate the melody in their work and adjust (such as adding or subtracting semitones) according to the tone pattern of lyrics, based on the basic whole tone of the melody. In other words, using words that are closer to the tune based on the interval might serve as a maxim for creating children's songs achieving acceptable harmony. For frontline teachers, one practical solution for "fixing" tone-melody mismatches would be content restriction, with special reference to fine-tune the notes in the melody and replacing "outlier" characters with matching tones. An alternative would be to rewrite the songs according to the tone-melody matching principle, yet it requires sufficient time and musical knowledge.

The second solution would be correcting performers' pronunciation. Many preschool teachers use child-directed speech (CDS) in the classroom (Rowe, 2012). CDS refers to the language produced by an adult with rich intonation, slow speech, and exaggerated facial expressions to emphasise phonological features (e.g. tones). It is generally believed that CDS can enhance young children's language learning, since the adults can help the children to notice the phonological clues during speaking and listening. However, some studies have revealed that acoustic contrasts between phonetically similar and confusing tones are not enhanced in CDS, and adults tend to make significantly more perception errors in Cantonese CDS tones than adult-directed speech (ADS). It means that acoustic modification (e.g. hyper-articulation) of Cantonese tones in CDS might not serve didactic purposes. Instead, the findings point to the prosodic hypothesis which suggests that adults modify acoustic signals in CDS for pragmatic purposes (e.g. expressing affective emotions and regulating children's attention). Thus, instead of producing a tone with blind confidence, teachers need to check the pronunciations of all characters in the children's songs and avoid relying on hyper-articulation in CDS for teaching phonetic (especially tone) contrasts (Wong & Ng, 2018). The teachers may check their own pronunciation against the standard in singing. This is particularly true for Cantonese, as previous research suggests that children in all age groups (spanning over the range from 2;1 to 6;0) has production accuracy significantly higher than chance level, and they can produce major acoustic contrasts between specific tone pairs similarly as reference speakers (Mok et al., 2020). Thus, based on the tone-melody matching principle, it is suggested that the relationship between tone and melody may affect the children's phonological development.

10.6 Applying the Tone-Melody Matching Principle to CSL Curriculum Development

As mentioned in the previous section, the tone-melody relationship plays a key role in children's songs that serve as pedagogical tools for teaching both Mandarin and Cantonese. To a certain extent, the teaching effectiveness of Mandarin children's songs is less influenced by tone-melody mismatches compared with those

in Cantonese, thanks to the simpler 4-tone system of Mandarin. Besides a few old songs that are roughly translated from foreign languages, most Mandarin children's songs could meet the basic principle of the tone-melody matching and might not lead to misunderstanding of content for children (Cheng, 2004). However, for children's songs in Cantonese, the tone-melody relationship is critical but often overlooked by teachers and songwriters as samples abound, as in the example of Cantonese tone-melody matching children's songs given below (see Fig. 10.3).

In terms of Chinese phonology, the tones theoretically match the pitch variations of the melody, eliminating the possibility of producing incorrect phonological information input and causing misunderstanding of the content. It serves to support the very young CSL learners to continuously develop their tone awareness and achieve high accuracy in tone production. Moreover, the content was specially tailored to the preschoolers' learning progress and social experience, and in this case it introduces to the preschoolers new campus life in primary school to prepare them for the transition after graduation, including larger classrooms and the ringing school bell. This song meant to attract the children not only with unprecedented experience, but also to offer knowledge input related to their mental age and real-life experience.

Fig. 10.3 Sheet music of *A Magical Journey in Primary School* (original children's song, with English translation)

Fig. 10.4 Front cover of *A Magical Journey in Primary School* (an original picture book for preschoolers)

The project team received generally positive feedback from teachers and parents. The teachers reported that the CSL preschoolers were excited about singing this song and willing to repeatedly practise it. Along with tone-melody matching, the children were mostly able to produce the tones, which had in turn reinforced their tone awareness development. Besides, in their self-reports, the parents also mentioned their children singing the song frequently at home. Some children even tried to teach their parents the song while imagining their future campus life. Such learning activities provided constant support for phonological awareness development among the preschoolers. The positive feedback has provided further evidence on the effectiveness of tone-melody matching Cantonese children's songs for preschool CSL teaching (Fig. 10.5).

Fig. 10.5 A Screenshot of Music Video *A Magical Journey in Primary School* (original MV featuring the children's song mentioned in Fig. 10.4, with English translation)

10.7   Discussion

In view of the features of Mandarin and Cantonese, this chapter systematically examines the tone systems of the aforementioned varieties of Chinese in relation to the tone learning through children's songs among CSL preschoolers in Hong Kong. Relevant studies point out the relations between musical pitch and linguistic tones, including pitch register and pitch configuration, providing a theoretical foundation for the use of children's songs in preschool language learning. Children's songs with tone-melody mismatches can hamper CSL preschoolers' tone learning. Based on the case of using children's songs as pedagogical tools for tone learning, our analysis highlights the key issues with special reference to the CSL classroom. Comparing the linguistic features of Mandarin and Cantonese, this chapter also suggests practical solutions to the problems arising from tone-melody mismatches in Mandarin and Cantonese children's songs, and aims to offer a more comprehensive understanding of tone teaching and learning through music in the two featured Chinese varieties. Samples of tone-melody matching songs presented demonstrate the importance of tone-melody relationships for facilitating effective tone acquisition among L2 learners.

Moreover, this chapter also presents both theoretical and practical implications from the perspective of early childhood language education. As for theoretical implications, this chapter emphasises the role of tone-melody matching in Chinese language learning through children's songs, suggesting the importance of providing accurate phonological input for Chinese language acquisition for L2 learners. Since Chinese is a tonal language, it is necessary to help L2 learners to construct their

understanding and awareness of the tone system through accessible approaches. Such process of tone awareness development could be greatly influenced by the quality of linguistic inputs received by the L2 learners. In the case of early childhood education, the phonological inputs during teaching are critical for L2 learners to further develop other literacy skills, which include speaking and reading. Mismatches between tone and melody would hinder the acquisition of Chinese characters, given the inaccurate tone inputs and hence the influence on one's pronunciation of the lyrics. Thus, the importance of tone-melody matching in early childhood L2 classrooms would theoretically contribute to the understanding of phonological development in Chinese language acquisition for L2 learners.

In pedagogical terms, this chapter presents an example of good practice for tone learning through children's songs, highlighting the importance of tone-melody matching in early childhood language education. Learning the Chinese tones is a major challenge for L2 learners, especially the very young beginners. While tone awareness is likely fostered by instructional teaching, children's songs in the preschool CSL classroom are recommendable as regular sources of pleasurable phonological inputs. Teaching tone through children's songs could attract children with music, lyrics, and stories. In addition to enhancing children's interest, the singing activities also create joyful learning experiences for preschoolers, while supporting the tone learning process. Besides, since singing is also regarded as a play activity, children can enjoy singing tone-melody matching songs not only during the lessons, but also during transition time and after class with their parents and friends. Such constant phonological reinforcements greatly support their tone awareness development and lay a solid foundation for future language learning. Thus, teaching Chinese sounds through tone-melody matching songs is an effective approach for frontline educators to raise the preschoolers', particularly the CSL learners', tone awareness in both Mandarin and Cantonese.

Nevertheless, there are a number of limitations in the current research. One of the main limitations is that this study focuses on the use of original children's songs for CSL preschoolers in Cantonese. While Mandarin learners usually learn phonemic transcription systems that help to build tone awareness, certain recent studies have indicated that such systems could decelerate character recognition development. Thus, further research is needed to investigate whether teaching tone-melody matching children's songs for phonological development reduces the overuse of phonemic transcription systems and improves the learning performance of Mandarin learners.

Besides, while practical solutions to ameliorate tone-melody mismatches in children's songs are provided from the pedagogical perspective, the present study offers a limited review of the obstacles to L2 teaching through songs in the preschool classroom. As preschoolers may get overexcited in singing activities, organising such activities for young children require adequate classroom management skills and musical knowledge. Thus, further research is also required to investigate frontline educators' attitudes and experiences in teaching CSL through children's songs, such as longitudinal research using interviews and case studies.

Third, the learning outcomes of children's songs observed in the current study were all from preschoolers in Hong Kong. Given that both Cantonese and Mandarin are taught as varieties of Chinese in the highly diverse global CSL context, how tone-melody matching can help to foster CSL development in different settings and curricula is worth of further research. These should address the contribution of children's songs to the L2 learning performance of different groups, with reference to variables like ethnicity, socioeconomic status, and years spent learning CSL.

10.8 Conclusion

Based on the above contrastive review of Mandarin and Cantonese tone systems, tone perception development of L1 and L2 learners at the preschool level, and the effect of CSL teaching through songs in language education, this chapter identified and examined the problems concerning teaching Mandarin and Cantonese through children's songs in terms of tone-melody matching. The proposed solutions, both of which point to customising children's songs in Mandarin and Cantonese for academically and culturally diverse L2 preschoolers, aim to create age- and level-appropriate L2 input that motivates learning. These solutions could also support teachers through creative and multimodal language teaching approaches and materials, such as the use of music videos for effective enhancement of multiple intelligences (e.g. visual-spatial, verbal-linguistic, and musical-rhythmic). Samples of tone-melody matching children's songs have been given as a reference for preschool second language teaching. One may conclude that teaching Mandarin and Cantonese as a L2 through children's songs improves preschoolers' phonological awareness through customisable language and creative input. The singing activities in the language classroom are one of the most effective approaches for children to acquire Chinese language knowledge related to sound and meaning.

As the melody easily attracts attention, children are more likely to learn and receive phonological information through singing activities. If the tone-melody relationship was not emphasised, there is a risk for children to construct their tone awareness based on the incorrect corpus of children's songs. To avoid potential tone-melody mismatches which could hamper language development, teachers and curriculum developers using children's songs for CSL teaching should pay special attention to the music interval between the tone of Chinese character and the pitch of melody. At the same time, based on our initial attempts at using tone-melody matching songs in the learning and teaching of CSL, we observed significant learning interest among CSL students and received positive responses from the frontline teachers. Apart from Mandarin and Cantonese, frontline teachers in Taiwan focusing on other varieties of Chinese also composed and applied children's songs in classroom. Some of these songs, such as "Sticky Asphalt" (點仔膠) by Shih Fu-Jen (1935–), align with tone-melody matching principles which should help foster children's awareness of the Hokkien tone system (Shih, 2006). The use of tone-melody matching children's songs reveals potential benefits as an effective media for CSL teaching in

the preschool classroom. These initial findings suggest that tone-melody matching should be further explored in language teaching through singing activities, as it provides an alternative approach other than learning phonemic transcription systems to boost the development of tone awareness for CSL preschoolers. In the future, we expect to report longitudinal research findings on Chinese phonological development including tone awareness of CSL learners through original children's songs to further examine the contribution of tone-melody matching. After all, it is equally important to raise preschool educators' awareness of tone-melody matching in children's songs, particularly in Cantonese-medium language classrooms given the distinct tonal features of the target variety.

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Part III
Assessment of Chinese Learning Outcomes

Chapter 11
Integrating Concept-Based Learning into Writing Assessment in Chinese as a Second Language: An Exploration of Students' Perspective

Sophia Sin Manw Lam, Daniel Ming Kei Lam, and Cliff Chun Man Mak

Abstract Concept-based learning has gained currency in recent years in international school contexts. While there is substantial pedagogical research on concept-based learning, there is relatively little work within the context of exploring L2 Chinese students' conceptual understanding in writing assessments. This study investigated how learners of L2 Chinese demonstrate the three concepts of Audience, Context and Purpose (IBO, 2013b) as applied to L2 writing. Three students in a Hong Kong international school completed an IB Language B (One of the International Baccalaureate (IB) Diploma Programme (DP) subjects is Language Acquisition, which consists of Language ab initio and Language B. While Language ab initio is language acquisition course for students with no prior experience of the target language, or for those students with very limited previous experience, Language B is for students with some previous experience of the target language.) writing assessment task. Their thinking and writing processes, including instances where they apply the relevant concepts, were investigated through eliciting think-aloud verbal reports and stimulated recall. The analysis found a general alignment of students' understanding of the concepts and the definitions in the IB curriculum document, and the students indeed applied the concepts at various stages of their writing processes. However, their conceptual understanding was found to be considerably compromised by their limited lexical repertoire in L2 Chinese. Implications for the IB Language B writing assessment, and suggestions for further research on how to align the assessment of conceptual understanding and language skills, are discussed.

S. S. M. Lam (✉)
The Education University of Hong Kong, Hong Kong SAR, China
e-mail: ssmlam@eduhk.hk

D. M. K. Lam
University of Glasgow, Glasgow, Scotland, UK
e-mail: daniel.lam@glasgow.ac.uk

C. C. M. Mak
Renaissance College, Hong Kong SAR, China

11.1 Introduction

Among the 52 primary and secondary international schools in Hong Kong (Education Bureau, n.d.), 29 of them adopt the International Baccalaureate (IB) curriculum. Along with ten local schools offering IB programmes (International Baccalaureate Organisation, n.d.), a total of 39 schools provide a different educational experience from the local curriculum in Hong Kong. To develop young people's International Mindedness (IM), the International Baccalaureate Organisation (IBO) has implemented a concept-based curriculum and instructional approach in IB schools. The IB aims *"to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect"* (IBO, 2020). It emphasises conceptual understanding of IM in the areas of Global Engagement, Multilingualism and Intercultural Understanding.

Erickson and Lanning (2014) explain *"Concepts transfer through time, across cultures and across situation. They are mental constructs that frame a set of examples with common attributes"* (p. 33). Concepts follow these criteria: timeless, universal, abstract and different examples share common attributes (ibid.). IBO's description of concepts aligns with Erickson's definition. They explain that,

> Concepts are broad, powerful organising ideas that have relevance both within and across subject areas. Exploring concepts helps students to build the capacity to engage with complex ideas, and discussion of the 'big ideas' behind a topic that can help students get to the heart of why they are learning a particular unit or option. (IBO, 2013a, p. 18)

Traditional topic-based curricular approaches focus on facts and skills, with an overarching learning goal of student uptake and retention of learning content. In contrast, concept-based learning consists of three dimensions: facts, skills and concepts. Factual content and skills are tools to develop a deeper conceptual understanding (Erickson & Lanning, 2014). Essentially, then, a concept provides a springboard that stimulates learners' retrieval and utilisation of a nexus of facts and skills; and see interconnections within and across different subject matters.

A strong link has been suggested between teaching through concepts and promoting students' higher-order thinking (Erickson et al., 2017). Through concept-based learning, students develop the capacity to link concrete and abstract thinking, as well as transfer their learning across disciplines and contexts. Erickson and Lanning (2014) further elaborated on the notion of *concepts*, and classify them into macro and micro categories: macro concepts are broad in nature and can be transferred across many different subject areas, whereas micro concepts are more specific and are tied to individual disciplines. In short, concept-based learning aims to develop among students a more comprehensive understanding of disciplinary contents and

interdisciplinary issues; and to facilitate conceptual transfer through time and across cultures and situations (IBO, 2012).

The growing interest in concept-based learning has driven an expanding body of pedagogical research as reviewed in the following section. While there is a growing body of research on concept-based approach to second language learning, there is relatively little work on its application in assessing Chinese as a second language. Moreover, how the learners demonstrate their understanding of concepts through writing lacks discussion. The present study contributes to filling this gap by investigating how L2 Chinese IB students understand the five concepts related to writing, and whether and how they apply such conceptual understanding in their writing process when completing the IB Diploma Language Acquisition—Language B writing assessment task.

11.2   Literature Review

11.2.1   Concept-Based Learning and Teaching

The implementation of concept-based learning in various contexts is still at early stages. There has been considerable interest in collecting empirical evidence about the effectiveness of concept-based learning across different subjects, and these studies have generally yielded positive findings. Notably, most of the available research explored the implementation of concept-based curriculum and instruction in the disciplinary areas of Physics, Mathematics and Social Studies. Kung's (2004) study in teaching the concepts of mathematical measurements in a laboratory-based course found that a concept-based curriculum enhances students' understanding of the underlying concepts of measurement as an essential part of conducting an experiment. Sadaghiani and Aguilera (2013) suggested that concept-based curriculum develop students' general thinking skills and understanding that are transferable across subjects. Concept-based learning has also been found to be beneficial to students' L2 learning motivation. Al-Qatawneh (2012) investigated the motivation of students learning English as a foreign language by implementing concept-based curriculum and instruction. The study employed the Course Interest Survey (CIS) to investigate the students' motivation and they were divided into two groups—the experimental group, with a concept-based teaching approach; and the control group, with a conventional method of teaching. The results showed that students' motivation was significantly enhanced and beneficial to different groups of students.

In addition, concept-based learning has potential benefits for students with diverse backgrounds and ability levels. Similar benefits were found in Little et al. (2007) study conducted in elementary and middle school. Students learning through the concept-based approach demonstrated significantly more gains in content learning compared to the control group. It is noteworthy that Twyman et al. (2003) found

that concept-based curriculum is appropriate for culturally and linguistically diverse students and students who have low basic skills.

There is also a growing body of work on concept-based learning of second languages. The majority of research has been conducted in Western countries, where European languages were the target language being learned, for instance, Spanish (Negueruela, 2008; Negueruela & Lantolf, 2006) and French (Swain et al., 2009). Some studies have shown that concept-based learning is an effective approach to help L2 learners acquire accurate and systematic metalinguistic knowledge, which can in turn mediate the development of their communicative abilities (Lantolf & Poehner, 2014; Lantolf & Thorne, 2006). Also, Compernolle et al. (2016) suggested that concept-based learning helped learners develop better conceptual knowledge of sociopragmatics, and enhanced their performance in language production and problem-solving tasks.

However, Sabella (1999) notes the caveat that it is possible for some learners to have a good conceptual understanding but be weaker in facts or skills, while others may be stronger in facts and skills but weaker in conceptual understanding. There remain relatively few studies which investigated the adoption of concept-based learning in learning Chinese as a second language. Available studies to date have mainly focused on concept-based learning of various aspects of Chinese grammar, such as word order (Zhang, 2014; Zhang & Lantolf, 2015), *ba-* construction (Ai, 2015), and temporal grammar (Lai, 2012). However, issues around how concept-based learning might be applied to L2 Chinese writing, and how such learning might be assessed, have remained unexplored. The current study aims to contribute to addressing the research gap in concept-based learning for Chinese as a second language, specifically, whether and how writing assessment may provide evidence of students' development in conceptual understanding. It is hoped to shed light on how to better align assessment with the concept-based curriculum and pedagogical approach.

Examining concept-based learning of L2 writing is of significance. Writing is a complex process as it involves more than sentence structures and grammar (Kao, 2017). Writing in a foreign language adds complexity, as different cultural conventions may be involved in the same genre such as academic argumentation across languages (Xing et al., 2008). For example, the rules of Chinese writing reflect beliefs and values that may not be found in other cultures. Learning the rules of writing in a foreign language is, to a certain extent, a process of discovering the values of the corresponding target language society (Shen & Yao, 1999). While Twyman et al. (2003) found that a concept-based curriculum is beneficial to English language learner who speaks Spanish at home. His study found that the students were challenged by a large amount of information and the requirement of different aspects of learning in concept-based curriculum.

The above-mentioned mixed findings might be attributable to the different contexts of the studies and the languages learned. Chinese, being a character language, lacks close correspondence between the phonological system and the writing system. Consequently, learning Chinese characters brings a lot of challenges to learners. Existing proficiency in the L2 adds another layer of obstacle to processing

learning materials—learners who have limited vocabulary and grammar knowledge in the L2 would find it particularly challenging. Therefore, it can be hypothesised that learners need a threshold level of key vocabulary and grammar knowledge as well as language skills to support their development in conceptual understanding.

11.2.2   Study Context

According to IB, the conceptual understanding in writing assessment is demonstrated in the following aspects, including,

- *The choice of text type is appropriate to the context, purpose or audience.*
- *The register and tone are appropriate to the context, purpose and audience of the task.*
- *The response fully incorporates the conventions of the chosen text type.*

  (IBO, 2013b, p. 35)

And the definition of five concepts in Language B are Audience, Context, Purpose, Meaning and Variation. The concepts are defined as follows:

- *Audience: Students understand that language should be appropriate for the person(s) with whom one is communicating.*
- *Context: Students understand that language should be appropriate to the situation in which one is communicating.*
- *Purpose: Students understand that language should be appropriate to achieve a desired intention, goal or result when communicating.*
- *Meaning: Students understand that language is used in a range of ways to communicate a message.*
- *Variation: Students understand that differences exist within a given language, and that speakers of a given language are generally able to understand each other.*

  (IBO, 2013b, p. 24)

11.2.3   Conceptual Framework

Kellogg's model of writing is adopted as a theoretical framework in this study. Similar to some other existing models of writing (e.g. Flower & Hayes, 1980), this model was developed to explain L1 writing. However, Kellogg's model places a greater focus on writing process and linguistic encoding processes, which makes it more applicable to investigating L2 writing. Kellogg's (1996) model distinguishes three main writing processes:

- Formulation
  - Planning (content, organisation)
  - Translation (transforming ideas into linguistic units—lexical and syntactic)

- Execution
  - Motor movements of writing

- Monitoring
  - Reading
  - Editing

Much of existing research into second language writing performance, development and assessment has been focused on the product of writing (see Cumming, 2016; Polio & Lee, 2017), while there has been less attention on the writing processes in which L2 learners engage (e.g. Stevenson et al., 2006). There is now a growing body of research on L2 writing behaviours and associated cognitive processes, and the application of concepts in the L2 writing process may be a worthwhile avenue to explore.

In summary, the theoretical and empirical literature has identified various benefits of concept-based learning. However, the research to date has focused on the effectiveness of the teaching/learning approach. There remain important empirical as well as practical questions on how to align assessment with concept-based learning, such as how assessment may generate evidence of learners' development in conceptual understanding, and conversely, how assessment may affect teachers' and students' engagement in concept-based learning. The review has also identified gaps in research on concept-based learning in the context of L2 Chinese learning, and how conceptual understanding might be assessed. The current study aims to fill these gaps by investigating how L2 Chinese learners demonstrate their understanding of concepts related to language use (e.g. Audience, Context, Purpose) when completing the IB Diploma Programme Language B (Chinese) writing assessment. Specifically, this study addresses the following research questions:

1. How do students understand the concepts in the IB Diploma Programme Language B (Chinese) curriculum as applied in the context of writing?
2. How do students demonstrate their understanding of the concepts when completing the IB Diploma Programme Language B (Chinese) writing assessment task?

11.3 Methodology

11.3.1 Introspective Methods for Investigating Processes During Task Performance

Introspection is a method used in psychological research to investigate cognitive processes and mental states in human beings (Brown & Rodgers, 2002) by means of obtaining verbal reports, or verbal protocols, from the participant whose mental processes are to be examined. Ericsson and Simon (1993) explained that verbalisation of cognitive process can be at three different levels. The first level is the direct vocalisation of heeded information that is naturally encoded in linguistic forms, such as reporting on how to spell a word. The second level involves 'translating' information or thought content that is not originally encoded in linguistic forms into a verbal code before reporting it. The third level necessitates additional interpretive or generative processes on aspects that a subject would not normally attend to. An example of this level would be to explain how one arrives at the answer to a question. The present study explores whether and how concepts are applied in the writing processes for the IB writing assessment task among L2 Chinese students, using (a) concurrent think-aloud and (b) retrospective stimulated recall.

11.3.2 Think-Aloud Protocol (TAP)

Think Aloud Protocol (TAP) has often been used as a method in writing research, as it provides researchers with insights into various aspects of the learners' writing processes (e.g. decision-making, difficulties and revisions). Through TAP, researchers can make inferences about the participants' ability to evaluate, revise, focus and manage their writing processes, valuable information about L2 writing development that cannot be gleaned from evaluating the writing product alone. For example, L2 writers' TAP may reveal how they interpret the demands of the task, identify the audience and revise the text. In other words, while the linguistic and textual features of the writing product may reveal some but limited information about learners' utilisation of the concepts (audience, purpose, context, meaning and variation), TAP can identify learners' cognitive and metacognitive processes related to the application of concepts in completing the writing task.

11.3.3 Combining Think-Aloud and Stimulated Recall

Concurrent think-aloud and retrospective stimulated recall each has its merits and shortcomings in investigating the cognitive processes participants engage in during

task performance. TAP uses verbal reports to collect information about participants' mental activities or thought processes as they go about performing a task. By analysing the verbal reports, researchers can gain insights into the participants' cognitive processes, which otherwise cannot be directly observed in real time (Van Someren et al., 1994). In addition, a large amount of qualitative data can be obtained from a relatively small number of participants while still providing useful insights. However, a shortcoming of TAP is that verbalisation might interrupt the participant's thinking processes, in particular the third level of verbalisation mentioned above. Stimulated recall has its merits in this regard, as it elicits participants' reporting of their thought processes in performing a task only after the completion of the task. The participant would be shown a video-recording of their task performance, with the playback paused at regular intervals, as the researcher asks the participant to report what they have been thinking or doing at that particular moment. Taking account of each method's advantages and overcoming their limitation, this study adopted a combination of the two methods, with both concurrent and retrospective verbal reporting.

11.3.4   Participants

Purposive sampling was adopted to select the research participants in this study, in order for comparisons to be made among them. Three students, aged between 17 to 18, were chosen from an IB international school in Hong Kong to participate in the study. They were all studying in the IB Diploma Programme (Year 13) Chinese Language B at the time of data collection. The students were from Thailand (Melissa), Hong Kong (Chloe) and Bhutan (Sue), who have been learning Mandarin Chinese for 6 to 10 years. The students were selected based on their Chinese teacher's evaluation of their proficiency level and performance on formative assessments in school. Chloe was at the intermediate level and Melissa and Sue were at lower intermediate level. To ensure that all the students were capable of performing the think-aloud task, the teacher was asked to avoid choosing students who were too shy or did not have an adequate verbal ability for this study.

11.3.5   Writing Task

The writing task in this study was designed by an experienced teacher and examiner of IB Language B. The task was written to the specification from IB, and was checked by another experienced IB Chinese teacher. There were three questions in the task prompt (written in Chinese), and the participants were required to answer one of the questions by writing 300—480 Chinese characters (See Appendix 1).

11.3.6 Procedure

The data collection was conducted in June 2020. Each participant completed the writing task individually—engaging in think-aloud during task performance and stimulated recall on task completion. The entire procedure was conducted in English through video-conferencing with the researcher online—due to the COVID-19 situation, face-to-face data collection was not possible. At the beginning of the research session, the researcher explained to the participants the setup for the task, read the instructions and explained the procedures to the participants. The participants were assured that all the data collected would be kept confidential and used for research only. To familiarise the participants with the think-aloud procedure, they first watched a demonstration video about TAP, and then completed a practice task. The practice task was to write an email to their teacher requesting an extension for assignment submission.

The participants were told to complete the writing assessment task as they would do when they are assessed and that their task responses would be graded by a Chinese teacher. For the think-aloud during task performance, the participants were asked to read aloud the question prompt and what they wrote, and report what they were thinking about. Prompt questions such as 'What are you thinking now?' or 'Why do you say that?' were used to elicit more information about the thinking processes of the participants. Immediately after completing the writing task, the participants were engaged in a stimulated recall session. They were asked to explain how they understood the five concepts in the writing assessment. Moreover, based on the performance of the task, the participants were asked to recall how they applied their knowledge of the concepts in the writing process and any other considerations.

Each research session took approximately 1.5 h, a total of 5 h and 34 min of recordings is collected. The researcher recorded the entire session, including the writing process and the participants' verbal reports, using two recording devices. The writings of the three participants in the TAP are the product of the task, with around 1000 Chinese characters for the three essays. The third author and the Chinese teacher of the participants who are also experienced IB Language A examiners graded the writing in a detailed way.

In terms of ethical considerations, the study is approved by the Education University of Hong Kong's Human Research Ethics Committee (Reference number: 2019-2020-0081). Also, consent for the participation in the study was obtained from the head teacher, the Chinese teacher and the participants in advance.

11.3.7 Coding and Data Analysis

All verbal reports from the think-aloud and stimulated recall were transcribed and coded using NVivo 12. As the present study aims to explore whether and how students demonstrate their understanding of concepts in the IB writing assessment, a

coding scheme was developed, combining the writing processes of *Planning*, *Translation* and *Editing* in Kellogg's (1996) framework; and the five concepts in the IB writing assessment, namely, *Audience*, *Context*, *Purpose*, *Meaning* and *Variation* (See Table 11.1).

The coding procedure was as follows. First, a preliminary coding scheme was developed by the first author and the third author based on Kellogg's framework and the IB writing assessment guidelines. Then, the verbal reports of one participant were coded by the first author, and attempts were made to identify the participant's application of the five concepts in her writing process. Three iterations of coding were carried out for this set of verbal reports, and discussions to clarify and refine the coding schemes were held between the first and the third author until a consistent understanding of the coding scheme has been achieved, with no further change to the scheme. Since the five concepts are not mutually exclusive in the context of writing, some segments of the verbal reports were coded with two concepts, which showed the interrelatedness of concepts such as Audience and Purpose. To ensure coding reliability, the same set of verbal reports by one participant was double coded by the second author, who is familiar with the think-aloud method but did not participate in

Table 11.1 Coding scheme

Code			Example
Writing process	Planning	Organisation	I was thinking about what to write after the introduction
		Content	I was thinking I would elaborate more on the camping experiences
	Translation	Lexical retrieval/choice	I was thinking how to write 'invite' in Chinese
		Syntactic encoding/choice	I was thinking of using 'want to' but it didn't suit in this sentence
		Editing	NIL
Concepts	Audience		If I say 小孩子, I'm going to make them look like a kid, but they're teenagers. So, I will use 年輕人
	Context		I should say I lived beside here so they're (the teenagers) more connected
	Purpose		The purpose is to introduce your free sports activities to them
	Meaning		洗手間, 洗手is for washing hands. 厠所is toilet. 洗手間 sounds better, 厠所sounds too informal
	Variation		NIL

Table 11.2 Student participants' application of concepts when completing the writing task

Concepts	Frequency	Percentage
Audience	26	18.8
Context	51	37.0
Purpose	42	30.4
Meaning	19	13.8
Variation	0	0

the data collection process. An agreement rate of 88.7% was achieved, with disagreements resolved through discussion. The first author then coded the remainder of the data.

11.4 Findings

This section presents the findings in relation to the student participants' understanding of the concepts *Audience, Context* and *Purpose,*[1] and whether and how they demonstrate or apply their conceptual understanding when completing the writing assessment task. Where relevant, the comments from the two examiners who graded the students' essays will also be included, providing insights into whether the students' conceptual understanding as demonstrated in the TAP is reflected in the writing product.

The participants' verbal reports from the think-aloud and stimulated recall procedures were coded according to the five concepts. The following table presents an overview of their use of concepts as they completed the writing assessment task.

As shown in Table 11.2, *Context* was the most frequently applied concept, followed by *Purpose* and *Audience*. The three concepts are included in the rating criteria for the IB Language B Language Acquisition writing assessment. It appeared that the participants did not apply the concept of *Variation* at all in the writing assessment. Note that the frequency does not suggest the relative importance of the concept, but merely an indication of how often the participants employed the different concepts while completing the writing task.

For the students' task responses (the texts), the score for each assessment criterion awarded by the two examiners is presented in Table 11.3:

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[1] The two concepts *Meaning* and *Variation* are not included in the writing assessment criteria for IB Diploma Programme Language B (Chinese). Therefore, the current analysis focuses on the three concepts—*Audience, Context* and *Purpose* that assess in the writing.

Table 11.3 Analytic scores of the students' task responses

Criterion (full score)	Melissa		Chloe		Sue	
	Examiner 1	*Examiner 2*	*Examiner 1*	*Examiner 2*	*Examiner 1*	*Examiner 2*
Language (12)	5	6	6	7	5	7
Message (12)	8	6	8	9	5	7
Conceptual Understanding (6)	2	2	4	5	4	4

11.4.1 Audience

The students understood the concept of Audience as *"who you are talking to"*, *"the target audience"*, *"the people who are intended to read and interpret the text"*, as they reported during the stimulated recall. They also considered Audience in relation to text type. For instance, the target audience of a diary is oneself, and more specifically, a future self who will be reading the diary. As reflected in the TAP, all three participants identified the audience of their text. In planning the content of the text, the participants pondered and projected the characteristics, prior knowledge and previous experience of the audience. For example, when Sue and Chloe were writing the diary, they not only considered the audience to be simply 'oneself', but also a student who had no camping experience—indeed, an aspect of the audience and context extracted from the task question. Similarly, Melissa projected the possible background characteristics of the teenagers—the target audience in question one, that they are living in the neighbourhood, from a lower socio-economic background and not very educated. These audience characteristics informed both the content and the language of her writing (see below).

The TAP provided evidence of the students' application of the concept of audience in the process of 'translation', specifically, as they considered alternative lexical choices more or less appropriate to the target audience. Melissa explained her decision of addressing the teenagers as "年青人" instead of "小孩子", the former being *"not too rude, not too praising and just neutral"*. Extracting from the contextual information provided on the task question (providing free sports activities), she inferred that these teenagers had little money and did not want to sound condescending— *"look[ing] down on them"*. As she crafted the content of the text, she also applied two concepts together, namely, Audience (the teenagers), and Purpose (persuading the teenagers to join the sports activities provided):

> Because I feel like if I show that I know what they are thinking and I think in their ways, they might feel like I care more or I have done my research and I understand them which will make my argument more persuasive.

Nevertheless, these considerations in relation to Audience and Purpose within Melissa's writing process had only limited effects on the final writing product. Her text was scored 2 (lower range) in conceptual understanding by both examiners. Examiner 1 commented that *"the young pupils from low-income backgrounds should be further specified"*, while Examiner 2 remarked that there were difficulties for the

reader in identifying the text type, even though the register and tone were occasionally appropriate to the context:

> There are difficulties in identifying the text type in this essay as it does not show any relevant features of the text type.

> The language used to advertise free sports facilities are not well articulated.

Sue, in responding to question two, also adjusted the language she used in consideration of the audience as 'herself'. She began the text with *"我回來了!"*, and highlighted her use of the exclamation mark as because *"it is colloquial and talking to herself."* During the stimulated recall, she elaborated on her thinking behind her planning of content at the beginning of the text—omitting some contextual details by choice:

> I talk immediately about this experience after that because I've, I am the person writing it and it's writing to myself so I already know, I don't have to elaborate much.

Overall, it can be seen that the participants demonstrated an understanding of Audience in line with the definition in the IB document—as they varied the content and language of their writing in consideration of the reader(s) with whom they are communicating. Their application of this concept is seen at different stages of the writing process, most notably when planning for content and when translating ideas into words, although only with limited success.

11.4.2 Context

The students considered *Context* to be a very important concept. As Sue explained during stimulated recall,

> Context is really important in terms of text because it gives a background information about everything you are reading about [...and] everything is really interlinked to the context.

She expressed the view that the text type and the tone of the text are both connected to the context of the writing, which guided her use of colloquial language that is more relatable to students and more relevant to student experiences.

The think-aloud verbal reports suggested that the students applied the concept of Context in their writing mainly in planning the content of their texts, and they did so through extracting contextual information from the task question and projecting possible scenarios within the general situation described in or inferable from the task question. For instance, Chloe noted that the question included the word 'weekend' (周末), and planned the content of her diary accordingly:

> It is weekend, two nights. Okay, my narrative needs like at least three days. I was going to talk about how the first day was really bad…

Notice how she projected the duration of the camping trip based on the contextual information given in the task question. Also, particularly noteworthy is how she planned the development of her narrative from negative to positive experiences during the camping trip, aligning it to the requirement of the task question (finding the experience challenging but enjoying it). Chloe remarked how she 'plotted' an off-putting first day with bad weather according to how people generally feel about rain: *"Well, actually I like the rain, but I feel like people would not like it raining on a camp"*. She then further projected possible scenarios or encounters within the context of a camping experience and built those into the developing narrative:

> I am thinking of a narrative plot twist because all of our things are wet, there wouldn't be a way for us to cook. But since the camping ground, we could potentially meet another friendship group who are very friendly and we can eat together.

Thus, Chloe demonstrated an understanding of Context by planning the text content according to the general situation (a camping experience), extract contextual information from the task question ('weekend'), and project plausible events and experiences to incorporate in her narrative. Importantly, she planned the progression of these events in alignment with the task's requirement (a challenging yet enjoyable experience).

11.4.3   Purpose

The student participants generally showed a good grasp of the concept of Purpose, as reflected in their explanations of the concept during stimulated recall. Sue described Purpose as *"the aim of the text, the main message that the authors want to get across."* The participants were also able to link Purpose to text type, stating that, for example, *"the purpose of an advertisement is to persuade, to make consumers buy the product"*. In explicating how the concept of Purpose guided her writing for Question 1, Melissa remarked:

> The purpose is to show when I want them [the teenagers] to come, so I used 'hope to see you soon' to convey the purpose of wanting them to come as well as [announcing our] free facilities.

This aligned with the description of Purpose in the IB document, whereby the language used in the text "should be appropriate to achieve a desired intention, goal or result when communicating".

In the processes of planning content (for the next sentence) and translating the idea into words, Melissa applied her conceptual understanding of both Purpose and Context:

> What is the word for make friends?交到朋友, make friends. Yeah, I should find the word for make friends…你要發現朋友, 發現is discover friends, it's not making friends.你也想交朋友?親密 is close friend, but 親密 it won't fit with sports.更多的朋友,你也想交更多的朋友嗎?

She considered the desire to make more friends as likely for the teenagers (Context), and the benefit of making more friends to be relevant to the Purpose of persuading the teenagers to come to use the free sports facilities. In choosing between lexical alternatives, not only did she demonstrate an awareness of collocational (in)appropriateness ("發現朋友"), she also took account of contextual appropriateness ("but 親密 it won 't fit with sports"). Here, it is noteworthy how Melissa demonstrated her understanding of the concepts in ruling out inappropriate lexical options during her writing *process*. However, such evidence of her conceptual understanding would have been lost in the writing *product*—the text graded by the examiners.

11.4.4 Demonstration of Conceptual Understanding Constrained by Language Proficiency

Given that the students generally displayed a competent grasp of the concepts (evidenced by their explanations during stimulated recall), and demonstrated using the concepts in the writing process (evidenced by verbalisations of their thought processes during TAP), it might be rather surprising how all three students received low to mid scores (see Table 11.3) for conceptual understanding in their task responses. The students' TAPs revealed some ways in which the application and demonstration of their conceptual understanding were constrained by their developing proficiency in L2 Chinese, particularly their limited vocabulary knowledge.

Firstly, students' decisions on which topic/question to respond to were influenced by their vocabulary knowledge. At times, a topic was ruled out due to the presence of unfamiliar vocabulary items in the question. For instance, Melissa reported:

> I think this [question one] is the best because I don't know what's the second, there's a word which looks like snow, but I don't know what it is. And there's the third one is 網絡 something 世界 and I don't know what it is.

The participants had to ensure that they were able to decode the keywords and fully understand the question. None of the participants chose question three, two of them reporting that they did not understand "cyber bullying" (網絡霸凌) in Chinese, the central theme of question three. Participants' decision-making on topic choice was also influenced by their perceived adequacy in vocabulary knowledge related to each topic/question. Chloe reported, *"I don't really know how to talk about sports in Chinese"* after reading question one, which concerned promoting free sports facilities to teenagers.

The participants' decision to opt for a particular topic/question was also influenced by their familiarity with the text type options available, and their perceived ease or difficulty of lexical retrieval related to a specific text type. A case in point was Chloe's decision-making process. Even though she was interested in the topic of cyber bullying (question three), she opted out of it. Instead, she chose the less familiar

topic of camping experience (question one) where diary—a text type she is confident in—was an available option:

> I don't know how to talk about camping, which I could kind of avoid the topic of camping and just preface that my friends are going camping and talk about other stuff that could happen on a camping trip [...] because the diary is the easiest one to write, the only structure is write the date and then write whatever you want, which is something I like to do because you don't get your marks docked off if you have the incorrect text type or writing structure.

Sue expressed a similar view that there are text types which are easier than others:

> Usually interviews are easier to write and blogs as well, brochures have more like a specific structure and that might be a bit more difficult to come up with the vocabulary.

Taken together, Chloe and Sue's comments reflected how their choice of question/topic *as well as* text type were largely dictated by their familiarity with the discourse conventions of particular text types and the perceived adequacy of their vocabulary knowledge vis-a-vis the various text types. While this seems perfectly sensible from a self-efficacy perspective or as a test-taking strategy, this runs contrary to a key dimension of demonstrating conceptual understanding, which is through selecting a text type most appropriate to the relevant Audience, Context and Purpose, as intended in the assessment task design.

The way in which the students' limited lexical repertoire constrained the demonstration of their conceptual understanding was most evident at the stage of translating ideas into words. The TAPs revealed frequent instances where the students encountered difficulties in lexical retrieval, either in terms of retrieving the Chinese word for a particular idea, or recalling how to write the relevant word in Chinese characters. For instance, in writing her text for question two (camping experience), Sue was keen to include the idea of a campfire, reflecting her conceptual understanding of Context when planning the text's content. However, she was unable to retrieve the Chinese word for campfire:

> I am not too sure how to say campfire, maybe I will just say fire. I am not sure if this will make sense though.

Her text finally read "做一個火" ('made a fire'). Not only was the expression grammatically incorrect in Chinese, but it also fails to convey the more specific and contextually relevant meaning of a 'campfire'.

Consider another example from Chloe's TAP, which illustrates how her attempt to demonstrate her conceptual understanding of *Context* was compromised by her failure in retrieving the Chinese word for 'dripping wet':

> 我們剛到露營場時開始下雨, 我們 Oh now I'm thinking about [...] how to say like we were all like dripping wet, but I can't translate it from English to Chinese…that's not working in my head, so now I don't know how to write. So now I've thinking of another word to replace… I need to make an executive decision about how I'm going to write this sentence. 我們全部的東西都滴濕, 都濕了。

Failing to retrieve the Chinese word for "dripping wet", Chloe resorted to an alternative way of presentation—that all *their belongings* were wet. While it still

made sense with reference to the same context, she was unable to communicate her original, intended meaning. The following shows a similar example in Chloe's TAP:

> I'm thinking about how to write the word 'miracle' in Chinese, which is a word I'm not going to know, so I'm trying to find like an alternative for that, because I thought about 突然, but that sounds a bit weird if I say suddenly we met a group of other people who had food. I think that sounds a bit dodgy I feel. 但我們突然... But then I can't think of any other alternative.

It is noteworthy that Chloe was planning a 'plot twist' in her narrative by presenting a miraculous turn of events, where another group arrived at the site and offered to share food with Chloe and her friends. Nevertheless, she reported not knowing the Chinese word for 'miracle' and used the word 突然 (meaning 'suddenly') instead. She commented how "that sounds a bit dodgy". However, due to her limited vocabulary knowledge, she was unable to communicate her intended meaning and had to compromise by changing the content.

In sum, we see how all three participants demonstrated how they understood and applied the concepts of Audience, Context and Purpose in their writing *process*, yet, their developing proficiency in L2 Chinese, particularly their limited lexical repertoire, placed considerable constraints in demonstrating their conceptual understanding in the writing *product* (the task response).

11.5 Discussion and Conclusion

This study explored whether and how L2 Chinese students in a Hong Kong international school are able to demonstrate an understanding of the concepts of *Audience, Context, Purpose* in the IB Language Acquisition writing assessment. The data analysis found a general alignment between the students' understanding of the concepts (*Audience*, *Context* and *Purpose*) and the definition of the concepts in the (IBO, 2013b). All the participants demonstrated a good grasp of three concepts (i.e. *Audience, Context* and *Purpose*), as evidenced by their explanations during stimulated recall. The think-aloud protocols further provided evidence that the students apply, and therefore demonstrate an understanding of, these concepts in their writing process when completing the assessment task. As shown in the analysis above, all three concepts of Audience, Context and Purpose featured prominently in the students' planning of the text's content, and to some extent, the organisation of the text (e.g. how many days of camping events to write about; what contextual details to include/exclude given the audience; how to start the text as a diary entry). There was also evidence of the students applying the concepts in the process of translating ideas into linguistic units, as seen in verbal reports of deciding between lexical alternatives (e.g. different terms of address appropriate for the teenager audience; different words for 'making friends' and 'close friends' and whether they are appropriate for the context).

An interesting observation concerned how the students applied the concepts (e.g. *Audience*) in their thinking or writing processes both within the context of the task/

question and the context of the assessment. The participants varied their language to take account of the person(s) they were writing to, thereby the imagined audience related to the task/question. Meanwhile, they also considered the actual audience of their text, the examiner and invoked word choices or content ideas they perceived would get them a higher score. Notably, these decisions at times took precedence over considerations of authenticity. For instance, Chloe decided to write about a family they met at the campsite and had cake together, which she commented to be an unlikely situation in real life.

Perhaps the most significant finding in this study is how the students' ability to demonstrate their conceptual understanding is mediated (often constrained) by their developing L2 Chinese proficiency, specifically vocabulary knowledge. The TAP extracts presented above illustrated how the communication of ideas, otherwise well-thought out in relation to Audience, Context or Purpose, was often compromised by gaps in the students' lexical repertoires in L2 Chinese. We have seen instances where the students had to resort to alternative word choices, not because of their appropriacy for particular audiences, contexts or purposes, but as a result of difficulties in lexical retrieval—specifically, the written form of the words. For example, Sue could not recall the Chinese characters of 'situation' (情況) and replaced the word with 'challenge' (挑戰) instead. This may help explain why, while the TAPs provided plenty of evidence for the students applying the different concepts in their writing processes, this did not match up with their scores on conceptual understanding as awarded by the two experienced examiners. This also echoes the finding in Sabella's (1999) study, where some learners had good conceptual understanding but were inadequate in facts or skills. Another important way in which the students' limited L2 linguistic knowledge constrained a genuine demonstration of conceptual understanding is how they selected a particular text type for their task response according to their familiarity with the relevant discourse conventions or their confidence in using the relevant vocabulary. Such decision-making runs contrary to the intended assessment task design, whereby the selection of one text type (out of three) to respond to the task question should be based on, and therefore would serve as evidence for, students' conceptual understanding of the Audience, Context and Purpose relevant to the task question.

Students' understanding of concepts and the ability to apply them in their thinking across disciplines and contexts is one of the key elements within concept-based learning (Erickson, 2007). A main aim of this exploratory study was to investigate whether and how the writing assessment task is able to capture students' conceptual understanding in learning Chinese as a second language. Through examining students' understanding and application of concepts in completing the writing assessment task using TAP and stimulated recall, this study found that the students in a Hong Kong international school sampled in this study had a competent understanding of the concepts related to writing, namely Audience, Context and Purpose. They applied these concepts at various stages of their writing process, such as planning the content of the text, the organisation of the text, and translating their ideas into words (cf. Kellogg, 1996). Importantly, however, it was evident in this study that the students' demonstration of their conceptual understanding in the writing assessment

task is moderated by their language proficiency, most notably their developing yet limited vocabulary knowledge in L2 Chinese. This has had a considerable impact on their writing product, ranging from macro aspects such as which text type they choose to micro aspects such as word choice.

It must be acknowledged that the findings of this study were based on a highly limited sample of three students in a Hong Kong international school, partly due to difficulties in data collection during the COVID-19 outbreak. Nonetheless, the think-aloud methodology provided insights into the students' writing processes, in particular their consideration of the relevant concepts while writing. Moreover, the triangulation of the students' verbal reports and the examiners' scores for their texts revealed how there might be aspects of conceptual understanding demonstrated in the writing process which are lost in the writing product, and identified L2 vocabulary knowledge as constraining the demonstration, and therefore the assessment, of students' conceptual understanding.

Based on the findings of this study, some implications for the IB writing assessment and potential avenues for future research are outlined. Firstly, as we found that students' demonstration of their conceptual understanding was limited by their L2 knowledge (e.g. understanding vocabulary in the task questions; familiarity with particular text types), one implication for task design is the need to consider the language level of the task prompt—e.g. including glosses for vocabulary items likely to be difficult/unfamiliar to the students, or providing bilingual versions of the task question/topic. Secondly, and more importantly, it would be useful for researchers and test developers alike to consider the potential impact of L2 linguistic knowledge on students' development and demonstration of conceptual understanding within concept-based curricula. Students' conceptual understanding constantly develops within and across disciplines in a concept-driven curriculum. However, as seen in this study, their articulation in assessment as learning outcomes in language subjects is mediated and constrained by the developing (yet limited) linguistic repertoire of the student's L2. Indeed, there may be a threshold of proficiency students need to reach before they can readily demonstrate conceptual understanding in their writing. More research is needed to shed light on this and the implications for how conceptual understanding can be assessed beyond the writing product alone. Relatedly, future research could also explore alternative, innovative ways to assess students' conceptual understanding in different (e.g. internal vs. external) assessment contexts. It is hoped that the present study would stimulate more conceptual and empirical work on assessing concept-based learning in second or foreign languages.

11.6 Reflective Questions

Question 1: Through relevant research, how does concept-based learning in writing practices impact and affect students?

Question 2: Through the exploration of specific performance of students, could concept-based learning really achieve its present teaching goals?

Question 3: Through relevant research results, consider how to further promote and elevate the teaching effect of concept-based learning in teaching Chinese as a second language?

Appendix 1: Writing Task for the Think Aloud Protocol (TAP)

选一道题。从此题的选项中，选用合适的文本类型完成写作。字数在300-480个汉字之间。

你发现一些住在附近的年轻人，因为没有钱而不能参加体育运动。你在本地的体育中心安排了一些免费的体育活动。你想向社区的居民介绍这些体育活动的内容及说明要参加的原因。

访谈	博客	传单

你和一些朋友周末去了露营。这是你第一次参加露营活动，虽然遇到了一些困难，但意外地，你非常喜欢这次的经历。谈谈你在这次露营中遇到的困难和你喜欢这次露营的原因。

演讲稿	日记	传单

学校的网络霸凌事件越来越多。你是学生会主席，希望说明网络霸凌会带来的伤害，并提出几个解决的方法，在下次学校集会时向同学发表。

演讲稿	日记	访谈

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Chapter 12
Measuring Chinese Reading Comprehension Online with SmartReading Diagnostic Assessment of Chinese Competence in International School Learners

Jia-Fei Hong, Yao-Ting Sung, and Tun-Yu Hsu

Abstract This study adopted an online platform SmartReading Diagnostic Assessment of Chinese Competence (DACC) to examine Chinese reading comprehension in learners' reading ability development at an international school. In DACC, five dimensions were testified: vocabulary, literal comprehension, contextual integration, inferential comprehension, and analysis and evaluation. The results showed that the students from the three international schools scored the lowest on vocabulary recognition and the highest score on literal comprehension. The scores for both contextual integration and analysis and evaluation are equally high, indicating that despite not comprehending all the words in the article, the students' reasoning and analytical abilities have been significantly enhanced by their overall education in reading. It also means that students can analyze the meaning and choose the correct answer without relying on understanding all the new vocabulary.

Keywords SmartReading · DACC · Reading comprehension

12.1 Introduction

12.1.1 Reading Literacy

Reading literacy is the foundation for students to learn all subjects and one of the core literacies. It is also an important ability for students to participate in social life (Ho & Lau, 2018). It has important value and significance for cultivating students' creativity. Reading literacy is also an important indicator of a country's soft power,

J.-F. Hong (✉) · Y.-T. Sung · T.-Y. Hsu
National Taiwan Normal University, Taipei, Taiwan
e-mail: jiafeihong@ntnu.edu.tw

and it has become an important factor related to the development and competitiveness of the country and individuals (Li, 2018). Therefore, in recent years, a series of international assessments have taken reading as one of the main contents of their tests. For example, when the International Educational Achievement Evaluation Association (IEA) was launching its large-scale international test TIMSS, it also launched the International Reading Literacy Progress Research Project (PIRLS). The International Student Evaluation Program (PISA) of the Organization for Economic Cooperation and Development (OECD) regards reading as one of its three major areas of assessment (Schleicher, 2019). The National Assessment of Educational Progress (NAEP) in the United States, the Standard Achievement Test Evaluation Project (SATS) in the United Kingdom, and the National Assessment of Educational Progress (NAP) in Australia also regard reading as the main subject of the national education evaluation.
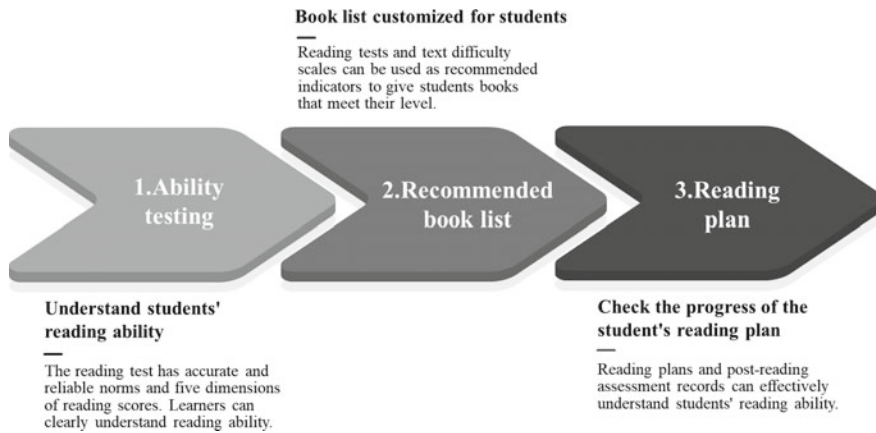
Different reading assessments have different definitions of reading literacy. PIRLS defines reading literacy as "the ability to understand and use those written language forms required by society and/or valued by the individual". It believes that readers can construct meaning from texts in a variety of forms. They read to learn, to participate in communities of readers in school and everyday life, and for enjoyment (Mullis et al., 2016). PISA 2018 defined reading literacy as understanding, using, evaluating, reflecting on, and engaging with texts in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society. PISA 2018 also collected extensive data on students' attitudes and well-being (Schleicher, 2019). No matter what kind of definition it is, cultivating and developing students' reading literacy is an inevitable choice for lifelong ability cultivation.

12.1.2   Reading Assessment

In view of the importance of reading ability, internationally renowned evaluation items all regard reading ability as an important content of the evaluation. However, in previous studies, the Chinese reading test system and its reading ability evaluation indicators are rarely discussed. Therefore, this article uses the Diagnostic Assessment of Chinese Competence (DACC) in the SmartReading platform as a research test tool. The Diagnostic Assessment of Chinese Competence (DACC) is a tool that can efficiently and precisely identify a student's reading level and monitor their progress over an extended period of time.

With the cooperation of AI and question bank, combined with modern test theory and technology. DACC can simultaneously evaluate the overall reading ability and the ability of vocabulary, literal comprehension, contextual integration, inferential comprehension, and analysis and evaluation.

The DACC test results provide a normative reference, and the test taker's results will be compared with those of students in the same grade to understand their relative performance. After the SmartReading platform assesses the reading ability of learners through an adaptive reading test, it will recommend books suitable for the learner's level. After the learners choose books of interest, they can further establish their own

Book list customized for students
—
Reading tests and text difficulty
scales can be used as recommended
indicators to give students books
that meet their level.

| 1.Ability testing | 2.Recommended book list | 3.Reading plan |

Understand students' reading ability
—
The reading test has accurate and
reliable norms and five dimensions
of reading scores. Learners can
clearly understand reading ability.

Check the progress of the student's reading plan
—
Reading plans and post-reading
assessment records can effectively
understand students' reading ability.

Fig. 12.1   Three steps of SmartReading Platform

reading plan, record their reading status in a systematic way and gradually cultivate the habit of reading.

12.1.3   SmartReading Platform

Our study measured students' reading comprehension with "SmartReading", an AI-powered platform developed by a team of psychologists, linguists, and computer scientists at the National Taiwan Normal University. Based on reading learning theory, the question bank and norms established in the platform can not only accurately measure the reading comprehension ability of students, but also grade various reading materials according to their difficulty. Students can use online tests to assess the five major reading abilities, including: vocabulary, literal comprehension, contextual integration, inferential comprehension, analysis, and evaluation skills in about 35 min. After the test, the platform will recommend a book list suitable for students to read. It can also assist teachers to combine teaching strategies to guide students to a deeper and broader reading plan (Fig. 12.1).

12.1.4   IB

The International Baccalaureate (IB) international course focuses on providing students with high-quality international education through a wide range of content, comprehensive courses, and challenging assessments. The courses aim to help children aged 3–19 develop intellectual, physical, emotional, and social ability. (International Baccalaureate, 2021a, 2021b).

The IB international curriculum is not based on a single education model of a certain country. It absorbs the essence of the education philosophy of various countries in the world, and integrates the curriculum advantages of all countries in the world. Through its own innovation, it has successively established the Diploma Programme (DP), the Middle Years Programme (MYP), and the Primary Years Programme (PYP). In recent years, the IB has also established the Career-related Programme (CP). The four major programs are independent of each other and integrated into each other. This is the unique feature of the IB International Course which is different from other international courses. Their common educational purpose is to cultivate young people who like to explore, are knowledgeable, and caring. Also, to make them a proactive, caring, and respectful lifelong learners of different cultures, the ultimate goal is to create a better and more peaceful world.

The IB philosophy focuses on five core skills to strengthen and cultivate students' theoretical study and application, as shown in Fig. 12.2.

The five core skills are:

1. Thinking skills. Emphasizing reflection and criticism of problems, and expecting students to use their existing knowledge to solve the problems they face.
2. Communication skills. Including students' understanding, observation, and interpersonal interaction of texts.
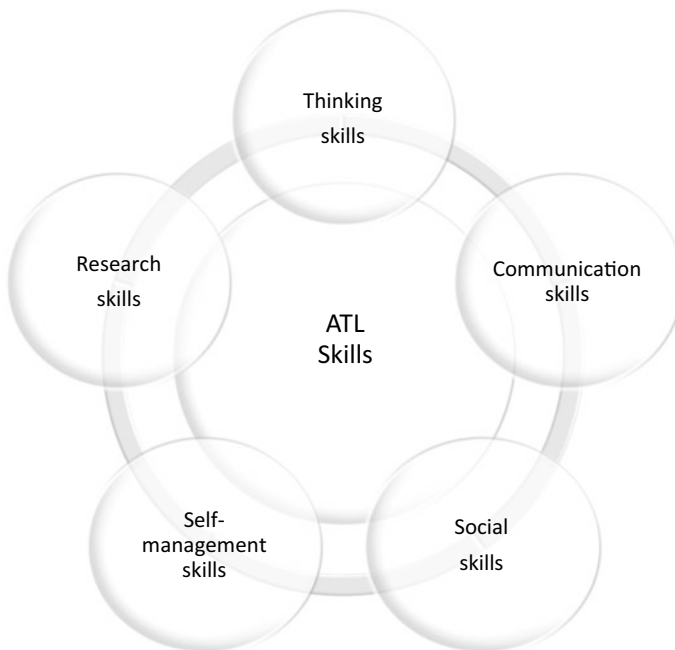
Fig. 12.2 Approaches to learning skills

3. Social skills. IB emphasizes co-learning. Its core spirit is high-frequency cooperation and interaction. Therefore, whether students can show respect for multiple values, express ideas in a timely manner, and be willing to help each other are all taken into consideration.
4. Self-management skills. This ability is not limited to the mediation of emotions, but also includes the ability to organize and integrate information, as well as the ability to manage life and time allocation. Because the maturity of the individual is closely related to the ability to control and assume responsibility.
5. Research skills. This skill is to train students to observe, collect, experiment, verify, organize, interpret, display, and other abilities related to research topics.

Under thinking skills, IB also emphasizes that students must be able to generate ideas (e.g., the use of brain-storming), to generate arguments (e.g., logical progression of arguments, challenging arguments), to solve problem (e.g., identifying problems, planning, evaluating solutions to problems and so on), and to think creatively (e.g., generating ideas, multiple perspectives) (Swartz & McGuinness, 2014a, 2014b).

In addition, under IB International Education, a teacher uses a generic thinking vocabulary like "explain why", "predict", "compare and contrast", "analyse". And teacher may put students into discussion groups in which they engage in these types of thinking in the course of the discussion. Students might be provoked with challenging stimulus material, through reading or a case study, or being presented with some challenging social issues to discuss in which different viewpoints are likely to be expressed, like capital punishment or global warming (Swartz & McGuinness, 2014a, 2014b).

Reading Comprehension includes many abilities, such as making predictions, questioning, inference making, making a conclusion, synthesizing information, recognizing the passage of main text idea, summary, and analysis of the text (Maria et al., 2021). Through the above-mentioned abilities cultivated under international education, students can develop better logical thinking skills, and then improve their overall reading comprehension skills.

12.2 Research Questions

Based on the above findings and introduction, the purpose of this study is to investigate the overall average reading performance of students under the international education framework, as well as the performance of students in five different reading dimensions in DACC. It is hoped that through data analysis, we can see the reading ability of students under the international education system, as well as their better and weaker reading performance. Therefore, this research will explore the following questions:

1. The overall average reading performance of fifth-grade students under the international education framework?

Table 12.1 Data collection time and the number of students taking the test

School	A		B		C	
Data collection time	2020	2021	2020	2021	2020	2021
Number of students	66	68	173	177	9	18

2. What is the performance of the students in the fifth grade of the international school in the five aspects of reading performance (vocabulary, literal comprehension, context integration, reasoning comprehension, analysis, and evaluation)? Is there any pattern?

12.3 Research Methods

12.3.1 Participants

In this study, students from three international schools were selected as the research objects. The data collection period is from 2019 to 2021. A total of 511 data were collected this time (Table 12.1).

12.3.2 Instrument

This research uses the "Diagnostic Assessment of Chinese Competence" (DACC). This assessment tool is based on international tests, using advanced assessment techniques, and adopting an adaptability test model to develop a comprehensive set of an evaluation tool for diagnosing the performance of students' reading ability.

The test content covers common reading materials from elementary schools to junior high schools, suitable for learners of all levels. In addition to measuring students' overall reading ability, the test also provides a diagnosis and classification of students' ability.

Based on the development of reading psychology theory, the reading ability is divided into five dimensions (the ability of vocabulary, literal comprehension, contextual integration, inferential comprehension, and analysis and evaluation). In terms of the test content, provide rich and diverse materials (such as daily conversations and Internet information, etc.), and make good use of various forms of text (such as graphics, tables, letters, etc.) to make the context of the question close to the real-life experience of the students. With detailed diagnosis and learning suggestions, students can grasp their own advantages and discover their reading ability to be strengthened, so that learners can plan their learning process wisely.

After students complete the test, the DACC report will be displayed on the SmartReading platform. In DACC report (Fig. 12.3), the performance of learners

in the five reading dimensions and the performance compared to the norm reference grade level will be displayed. The upper part is the basic information of learners and the three standards of comprehensive reading comprehension scores, including (from the left column to the right column): comprehensive reading comprehension scores, normative reference grade average scores, and DACC grades.

The quality of DACC test questions is controlled by a scientific process. It has been tested by a large number of users. The total number of test subjects has exceeded tens of thousands of times. In addition, it has also passed the review of experts in the field of Chinese language and reading teaching. The reason above are the reasons that make the quality of DACC's examination questions excellent and well-recognized.

Fig. 12.3 DACC report

The next section will introduce the DACC performance data of all 511 students and the quantitative results of this study.

12.3.3   Data Analysis

In terms of overall Chinese reading comprehension scores, the reading scores of the students from the three international schools are higher than the norm scores, and the reading scores of the five reading dimensions are also higher than the norm. School A has an overall average score of 498, and School B and C have test average scores of 488 and 489, respectively. In terms of vocabulary comprehension, students in School B performed the best, and the remaining four reading dimensions (surface textual understanding, textual integration, inferential understanding, analysis, and evaluation) were all performed best by students from School A (Fig. 12.4; Table 12.2).
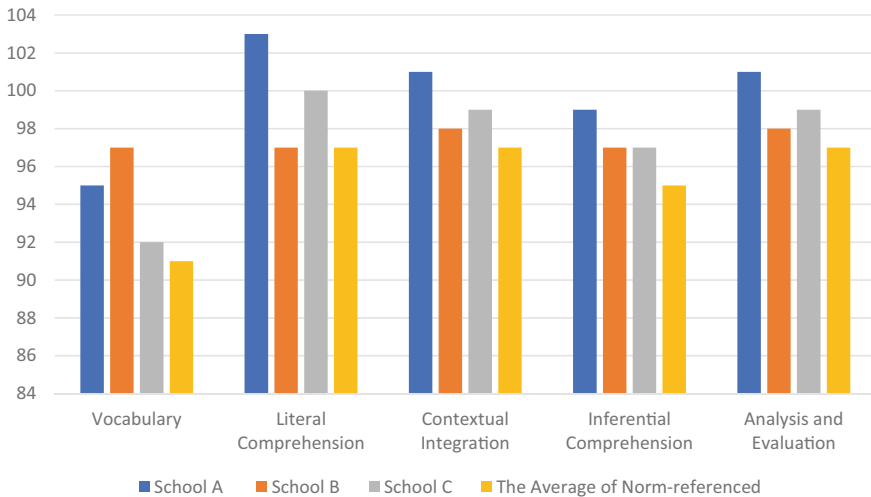

Fig. 12.4   Students performance of five dimensions

Table 12.2   The Overall Reading Comprehension Performance (ORCP)

School	Average score	Vocabulary	Literal comprehension	Contextual integration	Inferential comprehension	Analysis and evaluation
A	498	95	103	101	99	101
B	488	97	97	98	97	98
C	487	92	100	99	97	99
The Average of Norm-referenced	477	91	97	97	95	97

12.4 Discussion

Today, there is no doubt how language and thought are related. Language is used to represent thoughts in any individual's mind. This can be investigated in skills where the major concern is comprehension such as reading and listening comprehension (Yousefi & Mohammadi, 2016). This study analyzes the reading performance of students in three international schools. Reading performance is divided into five test dimensions: vocabulary, literal comprehension, contextual integration, inferential comprehension, and analysis and evaluation. The students from the three international schools scored the lowest on word recognition and the highest score on literal comprehension. The scores for both contextual integration and analysis and evaluation are equally high, indicating that despite not comprehending all the words in the article, students' reasoning and analytical abilities are more prominent. It also means that students can analyze the meaning and choose the correct answer without relying on understanding all the new vocabulary.

Inquiry Questions

1. What are the five test dimensions of the online platform SmartReading Diagnostic Assessment of Chinese Competence (DACC) mentioned in this article?
2. What are some ways to improve reading skills?
3. What do you think is the connection between reading ability and thinking?

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