Developing Students' Intercultural Competence Through Inquiry-Based Learning

By

Mo Wing Pik

A thesis submitted in partial fulfilment of the requirements for

the Degree of Doctor of Education

at The University of Hong Kong

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DECLARATION

I, Mo Wing Pik, declare that this thesis entitled *Developing Student's Intercultural Competence Through Inquiry Based Learning* represents my own work. This study contains no materials that have been submitted previously in whole or part to this university or to any other institution for a degree or other qualification, except where due acknowledgement has been made.

Signature _____Mo Wing Pik

October 2019

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ABSTRACT

Developing students' intercultural competence is an essential element for preparing them to live in a world where opportunities for success require the ability to cooperate within a global community. Intercultural competence entails the knowledge, skills and attitudes needed to collaborate effectively with people from differing cultural backgrounds and is key to succeeding in a globalised society. Intercultural competence is a complex construct that does not lend itself to knowledge-focused transmissive approaches, but rather to more experiential approaches that engage students in critical reflection of their own culture and other cultures. Inquiry-based learning might provide a pedagogical solution. Many studies have explored the effectiveness of implementing inquiry-based learning in the fields of sciences and mathematics, with some studies investigating the use of inquiry-based learning in social studies. However, no known studies have explored the application of inquiry-based learning in developing intercultural

competence among primary level second language learners.

This study aims to integrate an intervention based on inquiry-based learning into a Chinese as a Second Language class at an international school in Hong Kong and to explore whether such an intervention enhances students' intercultural competence. To that end, this research adopts Chen and Starosta's (2000) Five Factors of intercultural sensitivity and Bennett's (1986) Developmental Model of Intercultural Sensitivity (DMIS) of six stages on intercultural sensitivity (IS) to assess students' potential intercultural competence development out of the intervention.

An eight-week intervention comprising of a series of inquiry-based learning activities was developed and implemented at a primary school in a Chinese as a Foreign Language context. Multiple sources of data (e.g., pre- and post-intervention surveys of intercultural sensitivity factors, language test results, teaching journals, students' portfolios) were collected from the Year Five (n=20) experimental group. Meanwhile, data were collected from pre- and post-intervention surveys of intercultural sensitivity factors and language tests results from a baseline group (n=17) to compare the differences between the two groups.

Quantitative and qualitative data analysis were adopted to analyse whether the inquiry-based learning pedagogy increased the students' intercultural sensitivity and how the participants perceived the inquiry-based learning in developing their intercultural sensitivity. Quantitative statistical results showed significantly greater development in the experimental group's intercultural sensitivities and maintained language proficiency development after the

intervention. These results demonstrate that inquiry-based learning can increase intercultural competence without sacrificing learners' language development. Qualitative data findings reveal positive perceptions of inquiry-based learning methods among the students, and that their intercultural development was manifested in a spiralling rather than linear fashion.

This study found that the development of intercultural sensitivity does not follow a liner path and it is a situation specific. The findings suggest that an inquiry-based learning intervention could be an effective pedagogy to help students develop their intercultural competence and language acquisition. There is, however, a need to consider the learner's emotional state, language ability and age. Therefore, appropriate scaffoldings are critical when adopting inquiry-based learning for primary level second language learner's intercultural development. Moreover, this research provides some practical guidelines for the design and implementation of inquiry-based learning intercultural competence training programs in primary school second language contexts.

Key words: Intercultural Competence, Inquire Based Learning, Chinese as a Second Language Young Learner,

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CONTENTS

FIGURES

TABLES

Chapter One: Introduction

1.1 Background

In this increasingly interconnected world, the fluid movement of people across borders, along with global environmental and health issues, have made the ability to communicate with, work with, and understand people from different cultural backgrounds a greater need than ever before (Nichols, 2011). Deardorff (2006) stated that, due to the globalization of political, economic, technological, and environmental structures, educational institutions need to prepare their graduates with effective language proficiency and appropriate communication skills in intercultural settings. Stockwell (2015) emphasised that developing intercultural understanding and the ability to coexist with those from differing cultural backgrounds is a vital factor in achieving success in our global lives. Cross-cultural interactions "have become part of everyday life in our increasingly globalised world and there are strong economic, technological, demographic and amity imperatives for gaining competency in intercultural interactions" (Koester and Lustig 2006). The importance of developing intercultural understanding has been highlighted in various national foreign language curricula and in foreign language teaching guidelines in various organizations. For instance, NSFLL (2006) underscores that students should be able to demonstrate an understanding of cultural concepts by comparing diverse cultures (NSFLL, 2006). The American Foreign Language Teaching Association issued national standards that set five goals for foreign language learning; specifically, "Cultures, Communication, Connections, Comparisons, and Communities" (National Standards, 2006). The National Standards project has highlighted the "exquisite connections between the culture that is lived and the language that is spoken can only be realised by those who possess knowledge of both" (p. 32). Learning a

second language and culture will help learners better understand and reflect upon their first language and culture (National Standards, 2006). The Council of Europe (2011) also issued a guidance document highlighting that second-language learning and teaching should not only focus on obtaining such language elements as pronunciation and sentence structure, but, more important, should also develop the learner's ability to: explore differences in cultural and ethnic aspects between their and the target culture; seek to understand and respect 'others' in order to increase their knowledge; and acquire skills and appropriate shifts in attitude to communicate effectively and appropriately in an intercultural phenomenon. Second-language education should critically reflect upon cultural differences and contribute to one's 'knowledge of the world' (Council of Europe 2001, p. 101). Moreover, the International Baccalaureate curriculum sets fostering an intercultural mindedness as its educational mission and highlights the enhancement of "Intercultural Understanding" and respect through the development of the ten learner attributes listed in the IB learner profile. Intercultural understanding is major goal in language learning and teaching (Lai, 2015).

To prepare themselves for life in an increasingly diverse society, students must broaden their outlook beyond the concerns of their own part of the world (Arigatou, 2008) and immerse themselves in not only their own experience and ideas, but also those of others (Appiah 2006). Accordingly, intercultural education should provide opportunities for students to reflect on their own beliefs and attitudes in a new light, inspire their interest in their own and others' lives, and nurture such positive intercultural behaviours as curiosity, care, empathy, respect, and responsibility. Thus, foreign language educators should no longer simply relay detailed information about the culture being studied, but must also be facilitators using various media and

content to guide students' knowledge acquisition process and motivate their active involvement in exploring, discovering, analysing, and evaluating meaningful information (Byram et al., 2002). Yet, despite the recognized importance of intercultural education, few empirical studies of classroom intercultural learning having been undertaken and gaps exist between academic requirements and classroom practitioners, who have limited capacity to explore teaching pedagogies that might advance intercultural competence (Byram et al., 2001). This exploratory study seeks to develop an effective pedagogy that combines inquiry-based learning and technologies to enhance students' intercultural competence.

1.2 Defining Intercultural Competence

Intercultural competence is a multidimensional and complex concept, and one that intercultural scholars still struggle to define. Byram (1977) suggested that an interculturally competent communicator should achieve five objectives, including "knowledge of yourself and others, attitudes of openness and curiosity, skills of interpreting and relating, skills of discovery and interaction, and critical cultural awareness or political education." Byram and Fleming (1998) further pointed out that an interculturally competent person has "the knowledge of one, or, preferably, more cultures and social identities and has the capacity to discover and relate to new people from other contexts for which they have not been prepared directly" (P. 9). Chen & Starosta (1998) added that interculturally competent people should have the "active desire to motivate themselves to understand, appreciate and accept differences among cultures" (p. 231), while Hammer (2011) asserted that intercultural competence should include the ability to "think and act in interculturally appropriate ways" and "discriminate and experience relevant cultural differences" (Hammer, Bennett, & Wiseman, 2003, p. 422). Deardorff (2004), synthesising

previous scholars' definitions of intercultural competence, identified intercultural competence as "the ability to communicate effectively and appropriately in intercultural situations based on one's intercultural knowledge, skills, and attitudes" (p.194).

1.3 Current Approaches in Developing Intercultural Competence

Developing students' intercultural competence is a complex process, and several researchers have explored different approaches to doing so. Sercu (2006) pointed out that educators should help learners to relate to their culture and those of others, compare and find the differences therein, and thereby cultivate respect for others' cultural points of view. Fantini (2000) also highlighted five key components in developing students' intercultural competence – knowledge, skills, attitudes, awareness, and language proficiency – and claimed that culture should be taught through language teaching, that language and culture are interchangeable items, and that intercultural courses should aim to develop intercultural communicative skills. Sinecrope et al., (2012) further argued that the heart of developing intercultural competence is personal readiness and having people from diverse cultures with whom to interact appropriately and effectively. Intercultural scholars argue that, to perceive other cultures in less ethnocentric manners, it is necessary to structure curricula and develop pedagogical models to prepare students with the skills to critically review others' culture (Byram, 1997), and that "a sharing environment among students of diverse cultural and linguistic backgrounds are crucial for students' intercultural competence acquisition" (Briguglio, 2006).

Research has been conducted to explore the utility of different approaches in fostering intercultural competence. One method of teaching intercultural competence that has attracted

considerable research attention is study abroad or exchange programs. Many researchers have found the advantages of study abroad, with Ziegler (2006) reporting it helps in a range of areas, from "learning about the host culture, to experiencing and being open to social 'otherness', to experiencing cross-cultural bonding, to creating [a] global community (p. 163)." Some studies, however, have reported that, while long-term study programs can enhance learners' intercultural competence, short-term exchange program methods may not be as effective and learners may gain no more than they would have if they had studied at home; moreover, such short-term programs may lack the systematic curricular structures needed to guide learners to interact with the host culture (Perry and Southwell 2011).

Additionally, study abroad and exchange programs are often expensive and predominately designed for tertiary-level students' intercultural competence development. Because of these limitations, some studies have proposed utilizing various technological products—such as film, video clips, Internet resources, and other synchronic tools—that have been reported to have both positive and negative impacts on learning (Hinkel, 2001; Lai, 2015). One positive aspect of technology is that it makes it easier to bring authentic cultural issues into the classroom and mimic a real communication environment in which learners may practice their intercultural competence; on the other hand, the trustworthiness of such products is questionable and many emphasize entertainment elements, which may distract from rather than facilitate educational objectives.

Few studies have explored pedagogies targeting primary-level learners' intercultural development, and researchers have stressed the need to explore further different approaches to

guiding and facilitating learners' acquisition of intercultural competence. To address these research gaps, this study explores an intervention employing inquiry-based learning pedagogy to develop learner' intercultural competence in a primary school second language class.

1.4 About This Study and Research Questions

A fundamental issue in developing students' intercultural competence is the need to explore pedagogies to support different teaching contexts and student profiles, to motivate students' curiosity and enhance students' intercultural understanding. This study seeks more effective pedagogies by exploring how intercultural competence is developed through inquiry-based learning and interactive activities. Providing an effective intercultural learning pedagogy that motivates students learning is a vital element in fostering non-Chinese-background students' growth experience in Chinese language and culture acquisition. The aims of this study are to explore whether inquiry-based learning activities enhance students' intercultural competence, and to analyse student perceptions of intercultural development through the intervention of the inquiry-based learning process. An inquiry-based project was designed and undertaken at an international school based in Hong Kong, with the school's non-Chinese-background students participating. A quasi-experimental case study approach was employed to explore whether inquiry-based learning increased students' intercultural competence. The following question guided this research: Could inquiry-based learning enhance students' intercultural competence?

1.5 Research Methods

This research was an exploratory quasi-experimental design research involving an experimental group of 20 students and a baseline group of 17 students. The research adopted a mixed-method design, gathering both qualitative and qualitative data. Both the experimental and baseline groups' students' intercultural competences were assessed in terms of their intercultural sensitivity and language proficiency, both before and after the intervention. The experimental group's students' work samples during the intervention process were also collected and analysed, and their perceptions of the intervention collected at its end. The quantitative data were analysed to compare the development in language and intercultural sensitivity across the two groups. Qualitative text analysis was adopted to analyse the experimental group's students' responses on ongoing intercultural competence development over the course of the intervention, based on the definitions found in Byram's Developmental Model of Intercultural Sensitivity (DMIS).

1.6 Organization of The Study

This study comprises five chapters:

- Chapter One briefly introduces the research background, the relevant issues related to this study, and the research questions.
- Chapter Two reviews the relevant literature on intercultural competence, the theoretical and pedagogical frameworks adopted in and adapted for this study, and various measurements of intercultural competence, particularly the DMIS measurement model and the five factors of intercultural competence development.

- Chapter Three describes the research paradigm and methodology, research design, conceptual framework, and the process of data collection and analysis.
- Chapter Four details and analyses the findings of this research based upon the conceptual framework of intercultural competence and DMIS and provides qualitative results of language tests and the five factors pre- and post-intervention.
- Finally, Chapter Five discusses the findings in relation to the literature, limitations, and recommendations for further research.

Chapter Two: Literature Review

Intercultural competence is a core element of intercultural education and cultural diversity, one that needs to be considered within and educator's everyday practice (Mushi 2004 and Ruanni, 2014). With many scholars defining culture as comprising the shared behaviours, language, values, and beliefs within social groups (e.g., Ferraro 1998; Hofstede 1994; Kiemele, 2009), there are many clashes around the globe today that are a result of cultural differences (Brigg and Bleiker 2011) and, with various societal disruptions to people's traditional lifestyles, education has a significant role in furthering and bolstering a cohesive and peaceful world (UNESCO 2006). Cushner (2009) viewed intercultural education as something that "strives to eliminate prejudice and racism by creating an awareness of diversity*"* (p. 2), while Scherto Gill (2007) argued that intercultural education is "essentially about change, moving places, encountering people, learning across cultures, and above all, about becoming more aware of self, others and of the interconnectedness and interdependence" (p. 179). To help learners to prepare themselves for today's world, it is vital to design an effective pedagogical training program for intercultural education.

Developing an effective pedagogy and increasing intercultural competence has attracted the attention of numerous educators and inspired widespread education research. A considerable number of researchers have tried to adopt different pedagogies aimed at developing learners' intercultural competence. These include studying abroad and exchange programs (Bhandari and Chow, 2007; Perry and Southwell, 2011) and the use of technologies to assess intercultural

competence development (Hinkel, 2001; Lai, 2015). However, pedagogies involving exchange programs and technologies may not always be practical in various intercultural education environments, especially settings involving younger learners and that are restricted to the classroom. This study investigated whether a pedagogy of inquiry-based learning can enhance learners' intercultural competence and adopted the assessment model developed by Chen and Starosta (1998) – which measures five factors (interaction engagement, respect cultural difference, interaction confidence, interaction enjoyment, and interaction attentiveness) – and Bennett and Hammer's (1998) developmental model of intercultural sensitivity (DMIS) – which consists of three stages of ethnocentric orientation (denial, defence, and minimisation) and three stages of ethnorelative orientation (acceptance, adaptation, and integration) – to assess learners intercultural competence.

This chapter defines intercultural competence, intercultural competence development and expected outcomes, introduces current approaches to intercultural competence developments and the concept of inquiry-based learning, describes the assessment of intercultural competence, and reviews this paper's possible contributions to intercultural competence theory and practice, as related to the research questions.

2.1 The Definitions of Intercultural Competence

Intercultural competence development has been studied for decades. From the 1950s to the early 1970s, intercultural competence research focused on cross-cultural communication problems of westerners working abroad (Sinicrope, 2007); from the late 1970s to the 1980s, the research focus widened to include studying and living overseas, intercultural training,

international trade, business and immigrant integration. In its early stages, intercultural training focused on developing learner's intercultural communitive skills; however, focusing only on communication skills is not enough to ensure intercultural development. As many scholars have pointed out, intercultural competence is normally related to three elements: "knowledge," "attitudes," and "skills," and these elements require intercultural competence far more than communication skills (e.g., Byram, 1997, 2004; Deardorff, 2006; Perry and Southwell 2011).

Intercultural competence is a multidimensional complex concept, and while scholars have attempted to conceptualise its definition, no consensus has been reached (Deardorff, 2006). Deardorff (2004) defined intercultural competence as "the ability to communicate effectively and appropriately in intercultural situations based on one's intercultural knowledge, skills, and attitudes" (Deardorff 2004, p. 247). Some scholars, including Byram (1997), Kim (1998) and Gallois et al. (1988), use the terms "intercultural communicative competence" and "intercultural competence" interchangeably in their models to refer to the same concepts. For instance, Perry and Southwell (2011) summarised that "intercultural communication competence has been defined as the ability to effectively and appropriately communicate with people from diverse cultures" (p. 459). Thus, both Perry and Southwell's definition of intercultural communication competence and Deardorff's (2004) definition of intercultural competence highlight the ability of *effective* and *appropriate* communication in cross-cultural contexts, supported by the relevant knowledge, skills, and attitudes. The term "intercultural competence" has been adopted more widely in extant literature (e.g., Bradford, Allen, & Beisser, 2000; Deardorff, 2006; Koester, et al., 1993) and so has been in this study.

Deardorff's (2009) *The SAGE Handbook of Intercultural Competence* synthesised the definition of intercultural competence as "the appropriate and effective management of interaction between people who, to some degree or another, represent different or divergent affective, cognitive and behavioural orientation to the world" (Deardorff, 2009, P. 7). Deardorff also pointed out that cognitive knowledge, the affective domains of respect, empathy and openness to others, and the process of learning the differences between and similarities among cultures are the key components of intercultural competence (Deardorff, 2004). Further, some leading intercultural scholars (Abbe, Gulick, & Herman, 2008; Byram 1997; Kuada, 2004) argue that cognitive knowledge is not enough for acquiring intercultural competence; it is also necessary to have a healthy attitude in respect to other cultures through being curious, empathetic and respectful, and an intercultural competent person should demonstrate an ability to interact with people from diverse cultures.

Deardorff (2006) further developed a model to describe the intercultural competence as a process (Figure 2.1). This model places one's attitude – including respect, openness and curiosity that facilitate intercultural competence – as a foundational starting point. The two components of knowledge and skills are influenced by attitudes. Knowledge including cultural self-awareness, deep cultural knowledge, and sociolinguistic awareness; skills including listening, observing, analysing, interpreting, and relating. The outcomes of intercultural competence acquisition divide into the two levels of desired internal and external outcomes, which build on the on-going process path based on the three components of attitudes, knowledge, and skills.

Intercultural competence definitions from a number of leading scholars often share common core model components that can be summarised as knowledge, attitudes and skills (e.g., Bennett 2008; Byram 1997; Lustig and Koester, 2006; Wozniak 2009); many scholars have developed conceptual models of intercultural competence to elaborate upon the relationship between these components. Three influential models are reviewed in this section, including Byram's (1997) *Model of Intercultural Competence*, Deardorff's (2006) *Pyramid Model of Intercultural Competence*, and Chen and Starosta's (2001) *Five Factors of Intercultural Sensitivity*.

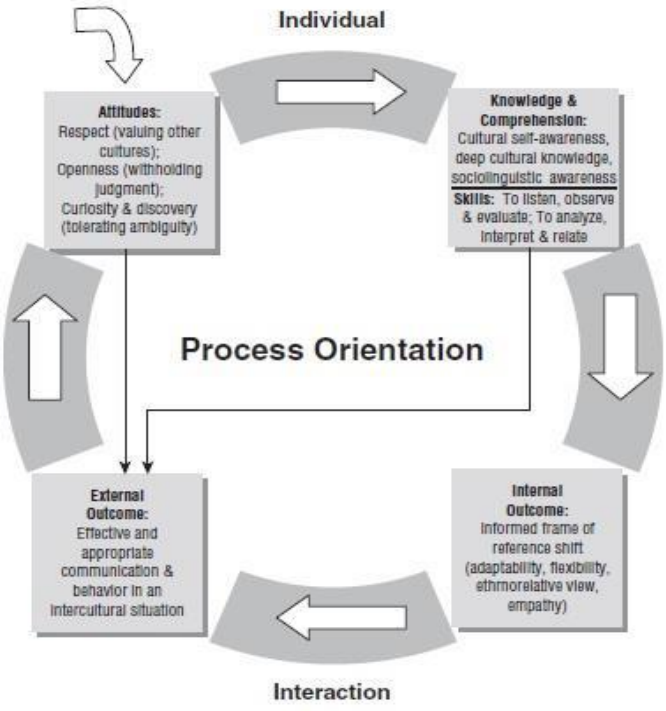

Figure 2. 1 Deardorff (2006) process model of intercultural competence

Source: Deardorff (2009) *The SAGA Handbook of Intercultural Competence* (P. 33).

2.1.1 Byram's Model of Intercultural Competence

Byram (1997) constructed a model (Figure 2.2) of intercultural competence that comprises attitudes, knowledge, critical cultural awareness, skills of interpreting/relating, and skills of discovering/interaction. Attitudes is viewed as a fundamental component and is defined as relativizing one's self, which includes showing curiosity and openness to other cultures, and a readiness to suspend disbelieve to other's and one's own culture. Knowledge comprises two categories: knowledge of social groups in one's self and in others, and social processes of interaction in social groups; and knowledge of critical cultural awareness, which involves evaluating perspectives and products from multi-cultural perspectives. Byram also divides skills into two categories, these being skills to interpret symbols and events from one culture to another, and skills to discover cultural practice knowledge acquisition and procedural application of knowledge in real time.

Byram's (1997) model explores intercultural competence from multiple perspectives and describes a complex relationship between linguistic ability and intercultural competence. Matsuo (2012) reviewed Byram's models and viewed it as being theoretically weak, as it is an individual-oriented list model that is useful mainly for theorists and lacks clear guidance (clearly specified goals) to help teachers to apply this model to develop learners' intercultural competence, an aspect that was elaborated on in Deardorff's Model of Intercultural Competence.

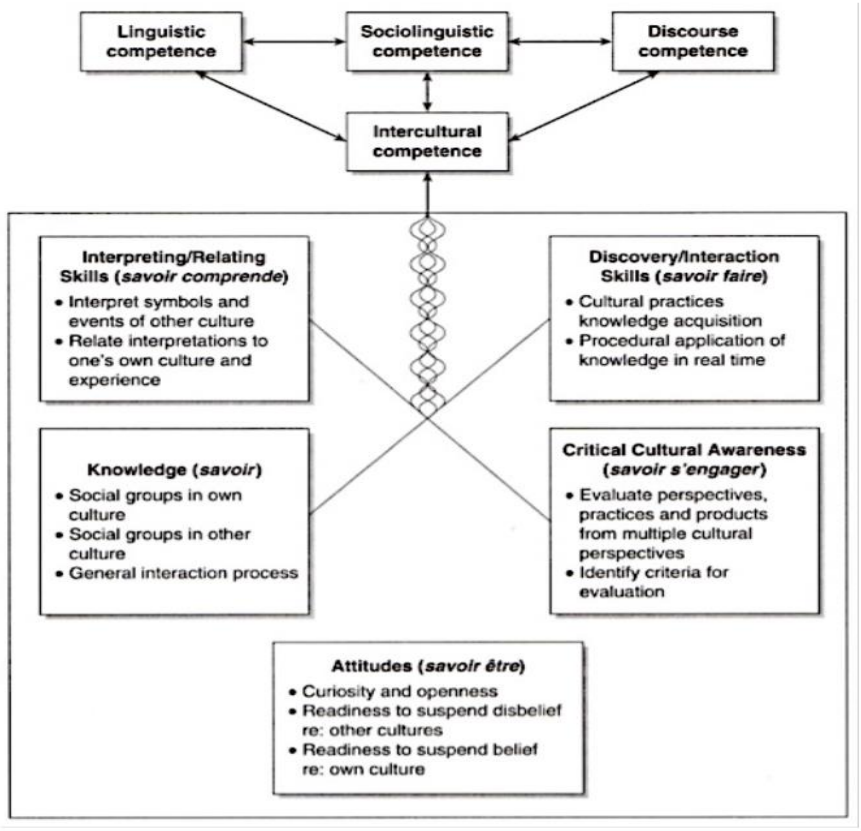

Figure 2. 2 Intercultural competence model (Byram, 1997)

Sources: Deardorff (2009) *The SAGA Handbook of Intercultural Competence (p. 17)*

2.1.2 Deardorff's Model of Intercultural Competence

Deardorff (2006) agreed with Byram on the three critical components of intercultural competence: knowledge, attitude, and skills. He went further, in his pyramidal model (Figure 2.3), to elaborate on the desired internal and external outcomes of intercultural competence. This model shows the top layers of the pyramid with the desired internal and external outcomes, which many other intercultural competence models lack. This model is also constructed based on the three components of attitudes, knowledge, and skills. Attitudes are viewed as same as Byram's (1997) model of the fundamental base, from which the remaining model attributes are

built. Attitudes include respect cultural diversity, showing openness to other cultural values, and displaying a curiosity and discovery to other cultures; knowledge of an interlocutor's worldview, beliefs and behaviours can be achieved through exploring cultural contexts. Skills of interpreting and evaluating cultural events require listening, observation, and analysis during intercultural interaction. The components of knowledge and skills are inter-connected and influence each other.

The desired external outcomes highlight the effective and appropriate behaviour and communication in a specific interactive context—based on one's intercultural knowledge, skills, and attitudes—to achieve an expected level (Deardorff, 2009). The desired internal outcomes in Deardorff's (2006) model refer to an individual filter shift to adaptability and flexibility in a new cultural environment and showing ethnorelative views of and empathy for diverse cultures. Compared to the desired external outcomes that can be assessed in specific intercultural communication contexts, the desired internal outcomes are more accessible and assessable in the classroom teaching context, as they are less context dependent. These internal outcomes give intercultural trainers clear direction in designing programs to develop learners' intercultural competence. Even though Deardorff does not go on to provide explanations of how to apply this model in the classroom, his model added to Byram's (2008) model by setting clear objectives for intercultural competence development in classroom training. Thus, the current study combines both Byram and Deardorff's models of intercultural competences to construct its theoretical framework, which focus on the three components of attitude, knowledge, and skills to achieve the desired internal outcomes.

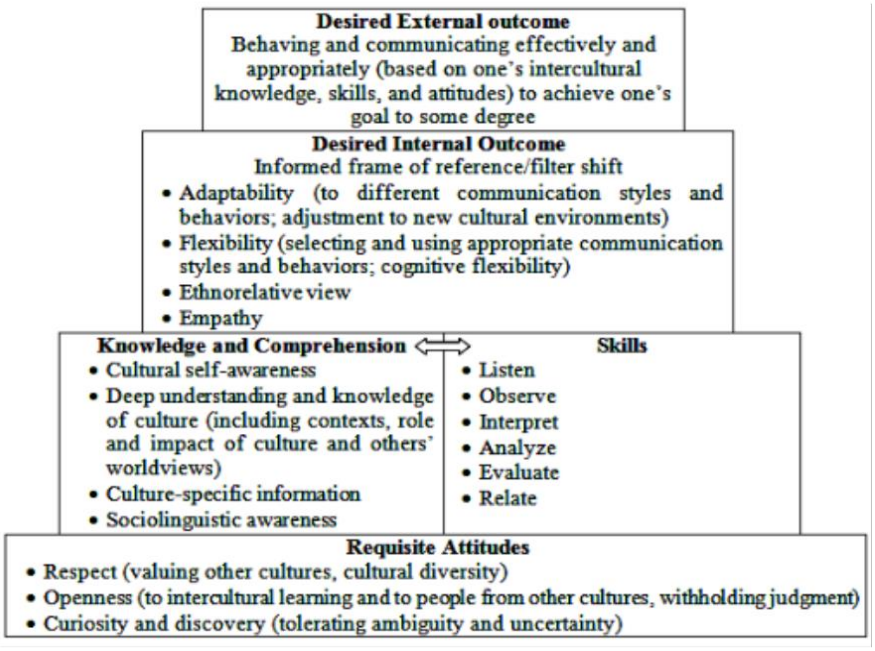

Figure 2. 3 Deardorff's (2006) pyramid model of intercultural competence.

Sources: Deardorff (2009) *The SAGA Handbook of Intercultural Competence (P. 13)*

2.1.3 Chen and Starosta's Model of Intercultural Sensitivity

Another influential model of intercultural competence is Chen and Starosta's (1997, 2000) Model of Intercultural Sensitivity. Instead of elaborating on the dimensions and objectives of intercultural competence, Chen and Starosta's model theorises intercultural sensitivity as the core and key indicator of intercultural competence. They argued that intercultural sensitivity should be the key focus when assessing intercultural competence. Bennett (2004) also highlighted that intercultural sensitivity place a great role in influencing intercultural competence and is a necessary ability for communicating effectively with people from different cultural backgrounds. Tamam (2010) stated that, in an increasingly globalised society, intercultural sensitivity is seen as a main factor in effective intercultural communication, and intercultural sensitivity is "not

only theoretically relevant, but also a practically pertinent construct." (p. 174). To these scholars, intercultural sensitivity is the essence of intercultural competence, and measuring learners' intercultural sensitivity could serve as a good indicator of learners' intercultural competence.

Chen and Starosta (1997) conceptualised two major types of intercultural sensitivities borne from earlier studies about intercultural sensitivity (e.g., Gallwey, 1958, McClelland, 1958 and Bronfenbrenner, et al. 1958): sensitivity to the generalised other, which is a "kind of sensitivity to social norms of one's own group" (McClelland, 1958, p. 241); and sensitivity to individual differences, which is "the ability to distinguish how others differ in their behaviour, perception or feelings" (Chen 1997, P. 4). Chen (1997) stated that sensitivity is a daily life mind-set wherein individuals should be able to "accept personal complexity, to avoid communication inflexibility, to be conscious in interaction, to appreciate the ideas exchanged, and to tolerate intentional searching. These elements appear to be embedded in the cognitive, affective and behavioural dimensions of intercultural interaction" (P. 4); Chen that the three aspects of intercultural sensitivity—affective, cognitive and behavioural—are closely related but separate concepts. Thus, intercultural sensitivity can be conceptualised as "an individual ability to develop a positive emotion towards understanding and appreciating cultural differences that promotes an appropriate and effective behaviour in intercultural communication." (P. 5). Chen and Starosta (2000) further developed five factors of intercultural sensitivity including: intercultural engagement (individuals often show open-minded and positive responses to other cultures, and enjoy interacting with people from diverse cultures); respect of cultural differences (individuals respect the ways and values of people from diverse cultures); interaction confidence (individuals feel confidence when interacting with people from diverse cultures); interaction

enjoyment (individuals feel encouraged and engaged when interacting with people from diverse cultures); and interaction attentiveness (individuals are sensitive and feel comfort when interacting with people from diverse cultures). Chen and Sarosta argued that these five factors need to be assessed when measuring individuals' intercultural sensitivity.

2.1.4 Conceptual Framework in This Study

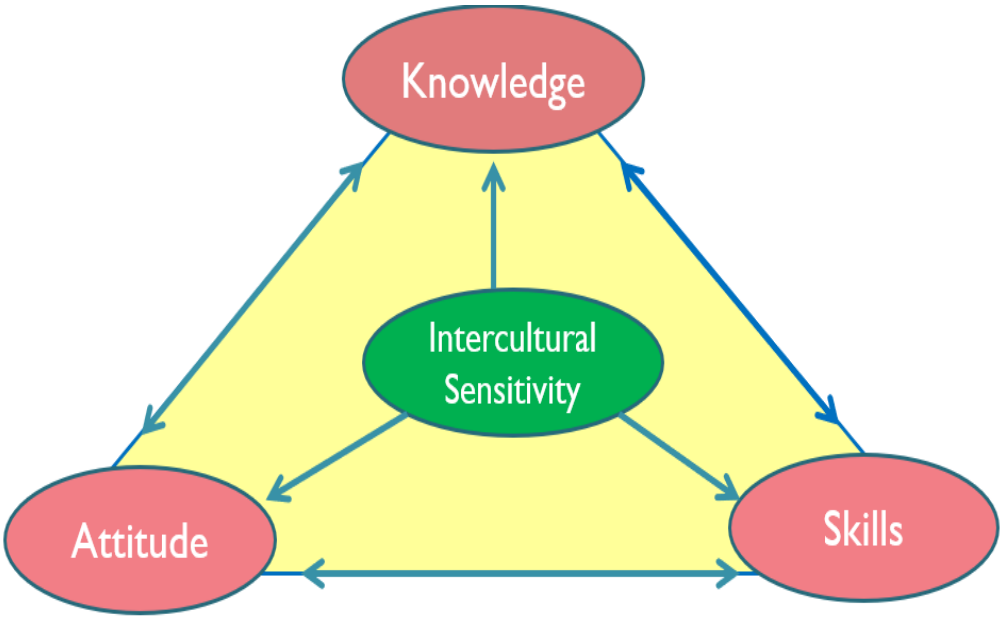

Figure 2. 4 Theoretical framework in this study.

Sources: Combined the conceptual model from Byram's (1997) and Deardorff's (2006) intercultural competence models.

This study's framework conceptualises the components of intercultural competence——attitudes, knowledge and skills based on the literature reviewed in the previous sections (Figure 2. 4)—not as separate components, but as tightly inter-connected that affect each other. As Byram and Morgan et al. (1994) stated, each component influences the other components; for example,

increased knowledge of cultural differences may create positive attitudes; if an intercultural speaker expresses attitudes of openness and curiosity to other cultures, this increases their skills of discovery and interaction, and those involved in the intercultural interaction can operate more effectively and have reduced psychological stress (Kim, 1988; Furnham & Bochner, 1986). Intercultural knowledge links to the skills of interpreting and relating existing knowledge to understand a specific document or behaviour, and comparing different documents and behaviours with those of their own social groups to obtain a higher intercultural skill (Byram, 1997). Simultaneously, skills can be shown through social interaction and reflected in an individual's attitude and knowledge, with Byram (1997) describing intercultural skills as the "ability to operate knowledge, attitudes and skills under the constraints of real time communication" (p. 61). Once intercultural knowledge is acquired, students then need to apply their knowledge in an intercultural environment to interact with people from other cultures to develop their skills. Deardorff's (2006) model shows the that's relationships between knowledge and skills are interconnected and positively influence each other. As such, intercultural skill depends on the knowledge of one's own and the interlocutor's cultures, and the acquisition of intercultural skills relies on an individual's attitude and willingness to obtain intercultural knowledge. Therefore, the three components of intercultural competency—attitudes, knowledge, and skills—strongly influence each other.

Attitudes

Attitudes is a foundational component in both Byram (1997) and Deardorff's (2006) intercultural competence model. Positive attitudes toward other cultures help a learner to express openness and curiosity. Byram (1997) defined attitude as "an openness and curiosity, a readiness

to suspend disbelief and judgment with respect to other's meanings, beliefs and behaviours and a willingness to suspend belief in one's own meanings and behaviours, and to analyse them from the viewpoint of the others with whom one is engaging" (p. 34).

Attitude is often characterised as bias, prejudice or stereotype (Allpot, 1979), but not always rejection, and creates a successful interactive conversation (Byram, 1997). Many writers have challenged Byram's claim, adding that intercultural attitude is not just showing the willingness of one person to be aware of his or her own values, beliefs, behaviours, demonstrate a curiosity and openness towards others, but should also include 'cultural sensitivity', 'empathy', 'respect for others', and 'tolerance of ambiguity' (Deardorff 2004, Fennes & Hapgood 1997; Fantini 1997). Byram (1997) further pointed out that attitude is the key to opening the door of success in gaining intercultural competence, which is the "pre-condition for successful intercultural interaction need to be not simply positive, since even positive prejudice can hide mutual understanding" (p. 50), and that intercultural speakers need to display the attitudes of curiosity and openness to other cultures. Byram (1997) further stated that, while intercultural attitude includes one's own convictions, contexts and behaviours through comparisons with others, skills of interaction and discovery are employed more easily if those using them have attitudes of openness and curiosity.

Within educational frameworks that aim to develop critical cultural awareness, making relevant the value of others and one's own convictions, contexts and behaviours does not occur unless reflective and analytical challenges are made to the ways such convictions, contexts and behaviours are formed. Byram (1997, p. 51) further highlighted the objectives of attitudes as:

- *A willingness to seek out or take up opportunities to engage with otherness in a relationship of quality;*
- *An interest in discovering other perspective on the interpretation of familiar and unfamiliar phenomena both one's own and other cultures and cultural practices; and,*
- *A readiness to experience the different stages of adaptation to and interaction with another culture during a period of residence and engage with the conventions and rites of verbal and non-verbal communication and interaction.*

Knowledge

Intercultural knowledge is demonstrated through a person's a knowledge of their own and others' cultures. Byram, Nichols and Stevens (2001) emphasised that knowledge of intercultural competence is not a "general knowledge about specific culture, but rather knowledge of how social groups and social identities function, both one's own and others" (p. 5). Byram (1997) characterized intercultural knowledge into two categories—knowledge concerning one's cultures and social groups within their own community and comparing such knowledge against other cultures, and a knowledge of the processes concerning individual and social interactions across various levels. Deardorff (2004) further pointed out that intercultural knowledge should include knowledge of how social groups and identities function, and knowledge of social processes and how people perceive other's culture.

Intercultural knowledge is acquired by the process of social interaction. One's primary knowledge is largely acquired from family interaction, while secondary knowledge is acquired usually through formal education. Byram's (1997, p. 51) definition of intercultural knowledge

emphasises knowledge of one's own and one's interlocutors' social groups, products and practices, and the process of societal and individual interaction. Byram further described the objectives of gaining knowledge of intercultural competence as:

- *The knowledge of the historical and contemporary relationships between one's interlocutor's and one's own countries;*
- *The methods needed to establish contact or help resolve problems with interlocutors from another country;*
- *The process of misunderstanding and cause between conversers whose original culture differ;*
- *The perceptions of a converser's nation and how the nation is perceived by another converser; and,*
- *Conversers' definitions of geographical space in their respective countries and how these are perceived by others from differing countries.*

Skills

Intercultural skills are the ability to interact with people from diverse cultural backgrounds effectively and appropriately. Byram (1997) defined intercultural skills as "the ability to recognise significant phenomena in a foreign environment and to elicit their meanings and connotations, and their relationship to other phenomena" (p. 38). Yet, some have argued that Byram's definition relies too heavily on intercultural communication, with Deardorff (2004) further pointing out that intercultural skills are not just the ability to communicate effectively and appropriately in an intercultural situation, but also the ability to interpret and explain a document and an event from one culture to another culture, and to acquire new knowledge related to

situations through intercultural encounters, with acceptable and appropriate behaviours. Byram (1997) further added that intercultural skills are the means to: make sense of a document originated from one country for a person from a different country; recognise and determine relationships between differing countries documents; explain documents from one's own to other cultures and vice versa; and acquire new knowledge from discovering cultural practice. Byram further identified the objectives of skills as:

- *The capacity to recognise ethnocentric or similar perspectives in an event or artefact and describe or convey their origins;*
- *Identify areas of misunderstanding, flaws and discrepancies between conversers and illustrate them to those within the interaction;*
- *Intercede between conflicting interpretations of experiences;*
- *Elicit from other cultural values of documents to develop an explanatory system susceptible application to other phenomena; and,*
- *Elicit significance and connotations from interlocutors' significant documents or reference.*

2.1.5 Desired Outcomes

The framework of outcomes in this study were expected based on the structure of Deardorff's (2006) pyramidal model of intercultural competence. The outcomes in Deardorff's model divide into two levels—external and internal outcomes. The external outcome reviewed in the previous section (2.1.2) is not applicable in this study, as it can be acquired through interactive communication with people from different cultural backgrounds. However, the

internal outcome, as reference shift, can be obtained through classroom training and requires learners who can demonstrate appropriate communication style, behaviour, cognitive flexibility, ethnorelative view and empathy in intercultural situations (Deardorff, 2006).

Adaptability and Flexibility

In the current globalised society, specific job skills alone do not necessarily help individuals to succeed. Studies have shown that adaptability and flexibility are key competencies for career success (Chan and Starosta 2000; Griffin and Hesketh 2003). Deardorff (2006) emphasised that adaptability and flexibility outcomes are essential outputs during intercultural training. He further asserted that adaptability to communicative style and behaviour could improve an individual's correspondence between self and others and increase one's ability to fit into a new cultural environment. Griffin and Hesketh (2003) explained that behavioural adaptability can be described through three types of behaviours: proactive behaviour (showing positive effect to fit the new environment); reactive behaviour (modifying one's behaviour to better suit the new environment); and tolerant behaviour (showing a tolerant mindset). Researchers have also found adaptability and flexibility performance to be significantly a correlated with cognitive ability, emotional stability and achievement motivation (Pulakos et al. 2002).

Ethnorelative View

Having a greater ethnorelative view is correlated with having a higher intercultural competence for dealing with intercultural situations. This can be explained by Bennett's (1993, 2003, 2004) definition of the terms *ethnocentric* and *ethnorelative*. Ethnocentric refers to

individuals' perception of their own cultural experience as 'central to reality'; ethnorelative refers to "the experience of one's own beliefs and behaviours as just one organization of reality among viable possibilities" (Bennett 2004, p. 62). Bennett conceptualised three stages of ethnocentric orientation (*Denial, Defence* and *Minimization*, with the latter being a transitioning stage from ethnocentric to ethnorelative) and three ethnorelative stages (*Acceptance, Adaptation and Integration)*. Acceptance is the initial stage of ethnorelative orientation; adaptation follows acceptance; and integration is the highest level in one's ethnorelative orientation. The lower the ethnocentric orientation an individual possesses, the more likely it is that they will avoid situations of cultural difference, while those with greater ethnorelative worldviews will positively seek cultural differences. People with ethnorelative worldviews normally show a kind of self-reflexive perspective and are "able to experience others as different from themselves but equally human" (Bennett 2004, p. 68). Intercultural training programs should aim to change learners' worldview from an ethnocentric one to a more ethnorelative condition by developing their intercultural knowledge, attitudes, and skills, and not simply focus on particular knowledge and skills acquisition in a subject (Bennett 2004).

Empathy

Empathy is a complex psychological term with many definitions. A common definition of empathy is one in which a person who shows her/his understanding of a subjective experience of similarity to other's thoughts and feelings (Baron-Cohen, 2011; Decety & Ickes, 2009; Icken, 1997). There is an old saying—'putting yourself in one's shoes'—that encourages one to consider and show empathy for others' perspectives. Empathy could comprise many components, such as cognitive, affective, language, and cultures; however, current literature only focuses on

cognitive and affective components (Baron-Cohen, 2011). Decety & Ickes, (2009) stated empathy requires making a connection to and having a shared representation between self and others that "self-other awareness is a vital component of human empathy; behaviour is the basic element of empathy" (p. 106), and human self-reflexive capability is fundamentally different to other animals (Povinelli, 2001). Thus, empathy is an essential element to respond to others and influences people's relationships within their family and social life. Empathy is a valuable and powerful element for solving social conflicts, as it allows a person to consider others' perceptions and to understand their situations in varying cultural environments (Deardorff, 2009).

2.1.6 Summary

Intercultural competence is a multidimensional concept, with many scholars debating how best to conceptualise its definition. A common definition used in a great many present-day researches is Deardorff's (2004), which it sees intercultural competence as the ability to communicate and interact with people appropriately and effectively in an intercultural environment, based on one's attitude, knowledge, skills. Given these arguments, Deardorff (2006) further constructed a pyramidal model, based on existing literature highlighting the outcomes of intercultural competence, which provides an orientated process but which intercultural trainers can help students to develop intercultural competence. Deardorff's model provides clear intercultural competence orientation development process that adds to Byram's (2008) model for helping trainers to set objectives for intercultural competence development in classroom training. Chen (1997) argued that intercultural sensitivity is a prerequisite of intercultural competence that is often replaced with intercultural competence, and further conceptualised intercultural sensitivity as "an individual ability to develop a positive emotion

towards understanding and appreciating cultural differences that promotes an appropriate and effective behaviour in intercultural communication." (P. 5). Bennett (1993) also emphasised the importance of intercultural sensitivity in developing learner's intercultural competence, and developed an orientation comprising intercultural sensitivity stages of three stages of ethnocentric (denial, defence and minimisation) and three stages of ethnorelative (acceptance, adaptation, and integration). Chen and Starosta (2000) agreed with Bennett's conceptual framework and developed five additional factors (interaction engagement, respect cultural differences, interaction confidence, interaction enjoyment and interaction attentiveness) of intercultural sensitivity to assess intercultural competence.

All the reviewed intercultural scholars' contributions to intercultural competence development models have advantages and limitations in defining intercultural competence. The theoretical framework used in this study utilises aspects of reviewed models and constructs three components, including attitudes, knowledge, and skills, that influence intercultural sensitivity. These components are inter-connected and affect each other over the process of intercultural development. The outcomes are divided into two levels of internal and external outcomes, based on Deardorff's model of intercultural competence. The external outcome is not applicable in this study, as it can be acquired through interactive communication with people from different cultural backgrounds; however, the internal outcome, as reference shift, can be obtained through classroom training and it was therefore measured in this study.

2.2 The Development of Intercultural Competence

Conceptualizing intercultural competence has been discussed in the previous section; the following task is to seek how intercultural competence can be developed. Bennett (2009) argued that, to develop learner's intercultural competence, teaching such cultural factors as historical and institutional aspects is not enough; it is necessary when teaching subjective culture to focus on exploring cultural self-awareness and alternative worldviews. Byram et al. (2004) agreed that the development of critical thinking awareness is a key requirement for intercultural competence development. Thus, both Bennett and Byram agreed that, to develop intercultural competence, students need to critically examine their own culture and others, not just acquire knowledge about a given culture.

2.2.1 Pedagogical Condition for the Development of Intercultural Competence

a) Awareness of one's own and others' cultures

Many interculturalists view awareness of self and others as a critical dimension in the development of intercultural competences (e.g., Fantini 2000； Kinginger and Associates, 1999; Stevens, 1971). Fantini (2000) stated that self-awareness has become increasingly recognised as an essential condition of intercultural development, for several reasons: first, awareness is reflective and introspective about one's self in relation to someone or something, which involves exploring, experimenting and experiencing; second, awareness leads to deeper cognition, skills, and attitudes that could enhance the development of intercultural competence; third, awareness is the key to intercultural entry and to one's acceptance by people from other cultures (p. 28). Fantini (2006) concurred with Freire (1970, 1973, 1998) that awareness that "can produce a

transformation of the self and of one's relation to others…, can lead to dealing critically and creatively with reality" (Fantini, 2006, P. 29). Thus, interculturalists perceive awareness as the most powerful dimension for intercultural development, and researchers have explored different activities to develop learners' awareness, such as through social-networking (Reinhardt & Ryu 2013), collaborative work, friendship management (Vie, 2007), and self-presentation and self-identity (Donath & Boyd, 2004).

b) Critical Thinking Skills

Deardorff (2009) pointed out that critical thinking skills play a crucial role in developing intercultural competence, and that critical understanding of the cultural aspects is a vital condition for achieving intercultural outcomes. Byram's (1997) model also highlights the importance of critical thinking skills, when "intercultural speakers" seek to evolve intercultural iterations into exchanges and critically understand cultural differences and build upon mutual respect and understanding. Accordingly, Byram's model express is the view that favourable communication can be reached not just through an understanding of how cultural contexts influences perceptions and interpretations of what a person writes or speaks, but also through the development of critical understanding between oneself and others, on both cognitive and affective levels (Wang et al., 2003). The core concept of Byram's (1997) intercultural competence model focuses on the relationship between one's own and others' critical thinking awareness.

c) Multiple Perspective Taking

Taking others' perspectives and understanding other worldviews, as well as showing empathy, respect, openness and curiosity are also important considerations and in obtaining intercultural competence (Deardorff, 2009). Baron-Cohen (2011) pointed out that developing people's empathy should focus on cognitive and affective aspects and should aim to help people to switch their empathy on, so that they would not just think of their own interest, but rather take other people's interests into consideration. Developing learners' empathic views of interaction and understanding other's perspectives share similarities. O'Sullian (1996) argued that empathy can be developed through their interaction with the environment, while Kalisch (1971) conducted training activities comprising didactic, role play, experiential and role modelling to develop learner's empathy. However, there is paucity of evidence to show any effective methods for developing empathy (Cutcliffe & Cassedy, 1999). To develop a high standard of empathy Gadamer (1977) proposed that one must take on the perspectives of the others and seek to have a perspective of those others; he also considered "outsideness" mandatory for gaining new insights (Bakhtin, 1986).

2.2.2 The Development Stages of Intercultural Competence (Bennett's DMIS model)

Bennett regarded intercultural sensitivity as the foundation for the development of intercultural competence, stating "it is the construction of reality as increasingly capable of accommodating cultural difference that constitutes development" (1993, p. 24). Bennett (1993) described the key concept of intercultural sensitivity as being "the way people construe cultural difference" (p. 24). He argued that intercultural sensitivity follows a linear development progression and developed the Developmental Model of Intercultural Sensitivity model. This

model comprises two components; the first component consists of three ethnocentric orientations (Denial, Defence, Minimization), where one's culture is experienced as central to reality. The definitions of ethnocentric orientation are summarised as follows:

- *Denial:* Denial is the most ethnocentric orientation stage. A person in the denial stage is "generally grown up in culturally homogeneous environments" (Paige, et al., 2003, p. 469), and has limited contact with people from different cultural background; thus, he or she is often ignorant of cultural differences and does not socialise with people from diverse cultures, and is often separated from other cultural groups. As Bennett (2004) pointed out, individuals in the denial stage may express superficial statement of tolerance and fail to notice cultural differences, as "as long as they all speak English, there's no problem" (Bennett, 1993, p. 2).

- *Defence:* People in the defence stage can recognise cultural differences but feel threatened by such differences and can apply negative stereotypes towards other cultures, whilst promoting the superiority of their own culture. Michael Paige et al., (2003) defined three dimensions of defence—*superiority, denigration, and reversal*. In *superiority*, individuals perceive their own culture as better than that's of others, exaggerate the attributes of their own culture and criticise those of others'; in *denigration*, persons all negative stereotypes of other cultures and use derogatory term to describe other groups; *reversal* is opposite to *superiority*, with individuals holding negative stereotypes of their own culture and consistently viewing other cultures as superior to their own save.

- *Minimization:* In minimisation, individuals emphasise the similarities among people; i.e., they acknowledge superficial cultural differences but consider all cultures as being effectively the same, with little or no differences, and believe that all human beings have the same needs, physically and spiritually. Bennett (1993) asserted that someone may say, "the key to getting along in any culture is to just be yourself-authentic and honest" (p. 516). Michael Paige et al., (2003) set two substages of minimisation—*physical universalism* and *transcendent universalism*. The *physical universalism* stage is based on the fact that all human beings have physiological similarities and similar needs. In the *transcendent universalism* substage, individuals perceive human beings as being similar, due to "spiritual, political or other overarching commonalities" (p. 470).

The second component includes three ethnorelative orientations (acceptance, adaptation, integration), wherein one's culture is experienced in the context of other cultures (Hammer, Bennett, and Wiseman, 2003). The definitions of ethnorelative orientations are summarised as:

- *Acceptance*: this is the first stage of the ethnorelative worldview and those in this stage accept and appreciate cultural differences and respect cultural differences in behaviours and values. Individuals at the acceptance stage acknowledge one's own culture is not inherently better or worse than another. Per Hammer, Bennett and Wiseman (2003) in the acceptance stage "one's own culture is experienced in the context of other cultures" (p. 5); individuals in this stage do not judge other cultures by their own group' cultural standards, and learners perceive that no one culture is not inherently better or worse than another (Paige et al., 2003, p. 471). Paige at al., (2003) identified two substages of acceptance—-*behavioural relativism* and *value relativism*. In behavioural relativism, persons understand

behavioural differences, accept the idea that behaviour varies across cultural groups, but are not necessarily comfortable with specific differences. Value relativism means accepting that different cultural perceptions, values and beliefs exist and vary across cultural communities.

- *Adaptation:* people in this stage have developed the ability to shift their frames of reference to other cultural worldviews through empathy and pluralism. Empathy refers to the "ability to shift one's perceptive into an alternative cultural worldview," whereas pluralism refers to the "internalization of more than one complete worldview" (Paige et al., 2003, p. 471). Hammer & Bennett, (1998)' DMIS stated that adaptation includes both cognitive adaptation and behavioural adaptation. Bennett (1993), in giving an example of adaptation, stated, "to solve this disrupt, I'm going to change my approach" (p. 3). Paige et al., (2003) further described individuals in this stage as consciously trying to imagine how the other person is thinking about things and employing alternative ways of solving problems.

- *Integration:* Integration is the last stage of ethnorelative orientation; in the stage, individuals can expand and incorporate other worldviews into their own worldviews. Paige et al., (2003) described persons in this stage as defining themselves at the margin of cultures and facilitating constructive contact between cultures through two substages of integration—*contextual evaluation* and *constructive marginality*. Contextual evaluation is defined as "the ability to employ different cultural frames of reference in evaluating a given situation" and constructive marginality as the "ability to facilitate constructive

contact between cultures and they are likely to participate in in a marginal reference group" (p. 472). People in this stage become fully competent in bicultural or multicultural environments.

Bennett (1986) argued that the development of intercultural sensitivity follows a linear progression from an ethnocentric worldview to an ethnorelative worldview, and that this linear progression (Figure 2.5) passes through denial to defence, minimisation, acceptance, adaptation and, finally, integration. Bennett (1993) further claimed that learners do not have to completely resolve the issues involved in any one stage (e.g., minimisation) before moving on to the next (e.g., acceptance). Garrett-Rucks (2004) pointed out that "Bennett's DMIS supported the measurement of incremental intercultural competence change in response to pedagogical interventions" (p. 188).

Figure 2. 5 Developmental Model of Intercultural Sensitivity (Bennett 1986).

Sources: Based on Deardorff (2009) *The SAGA Handbook of Intercultural Competence (P. 23)*

Bennett (2008) summarised that the DMIS model can "provides particularly useful grounding for the international balancing of optimal learning in stressful contexts" (p. 24); DMIS is an important cultural mentoring tool for intercultural competence development (Deardorff, 2009).

2.2.3 Current Approach to the Development of Intercultural Competence

Even though intercultural competence is a lifelong learning process, it can be developed through training programs (Byram 1997) and, as such, many scholars have tried to develop a pedagogy for intercultural competence development (e.g., Byram, 1997; Deardorff, 2006). Intercultural competence is a complex multidimensional concept, and one that cannot be acquired through knowledge-focused transmissive approaches (Byram, 1997; Deardorff 2000; Pusch 2004). Some researchers have proposed a constructivist approach that may, through experiential learning with authentic experiences (Glisan and Shrum 2005), provide a possible solution. Altstaedter and Jones (2009) pointed out that such a constructivist approach "provides learners with the experiences they need to approach, appreciate, and bond with people from other cultures," which could facilitate learners' constructing their own understanding and reflecting on the target culture. Experiential learning could provide an effective learning strategy to develop learners' mutual understanding and respective manner, as many scholars have argued that *experiential learning* allows learners to interact with their peers to discover problems based on their real-life circumstances, and to explore strategies for solving authentic problems by applying their existing knowledge (Dewey, 1938; Kolb, 1984; Neill, 2006; Spera, 1996). Experiential learning (learning by doing) is the most historically pervasive form of learning in human society and human culture (Malcolm 2015; Rogoff, et al., 2003). Neill (2006) stated that experiential learning aims to develop learners' analytical skills, self-confidence, risk recognition, teamwork and leadership management skills, and could bring many advantages; for example, experiential learning is a realistic problem-solving activity (Bruner, 1996; Gordin et al., 2000), comprises culturally and socially mediated interaction with others (Henson, 2003; Piaget, 1952; Vygotsky, 1978), concludes with reflection on experience (which is an integral element of learning (Dewey, 1921;

Fenwick, 2000), transforms learners and generates personal growth (Dewey, 1997; Miller and Bound, 1996), and leads to the acquisition of new skills and the construction of new knowledge (Wells, 1999). The Vygotskian-Deweyan framework of experiential learning takes emphasises knowledge acquisition through social interaction, which leads to cognitive, affective, and social benefits (IBO, 2008). Tharp and Gallimore (1998) also pointed out that human learning requires social interaction from different forms, either directly or indirectly. Some commonly adapted methods in this field have followed the experiential learning tradition; these include study abroad, exchange programs and the use of information communication technology to support learners' intercultural competence development.

Study Abroad

Some studies have concluded that study abroad or exchange programs are the optimal way to absorb a second language and culture, since they provide opportunities for staying in the target language country and being immersed within the social context of the objective language's cultural environment (Bhandari and Chow, 2007). When studying abroad, it is often expected that second language learners will be immersed into the cultural environment and will naturally develop their intercultural competence. However, study abroad is an expensive investment for both students and their parents, and Nichols (2011) reported that some studies have shown that study abroad does not always promote more opportunities for intercultural development when compared with studying at home. For example, Anderson, et al., (2006) did a case study of short-term study abroad program to explore learner' intercultural competence development, adopting Hammer and Bennett's (2002) intercultural development inventory (IDI) instrument to measure the six stages of intercultural sensitivity, and reported no significant changes in the

participants' intercultural competence development. As such, when study abroad contains very limited intercultural guidance and clear objectives, and when learners lack preparation for the use of the host language in social situations and receive little support during their period of study, study abroad may not prove to be an effective approach (Williams 2005). Additionally, study abroad approaches have predominantly been associated with the training of adults or tertiary learners and require heavy financial support, which restricts learning opportunities for many learners. Study abroad participants may gain as much as they would have through studying at home within a systematic curricular structure to guide learners to acquire intercultural competence, which study abroad may lack (Perry and Southwell 2011). Expected levels of intercultural competence acquisition are not being realised; as Piage et al. (2004) found, study abroad programs "frequently leave [students] without any formal preparation for language and culture learning in the field and without materials specifically intended to assess them" (p. 254)

Technology supported intercultural competence development

Given the limited accessibility of study abroad or exchange programs, researchers have proposed utilising technology as an alternative solution. It is possible that many more learners could be exposed to a second culture and language in the virtual world, through such technology mediums as film, video, TV programs, and Web 2.0. (Hinkel, 2001; Lai, 2015; Lee and Markey 2014; Mishan, 2005; Turner and Stets, 2006). Lai (2015) argued that web-based technology would play a critical role in intercultural education because digital media serves as an important source of intercultural information and technology provides various communicative tools (such as blogs, wikis, online social networking) which have been used to create an experiential learning experience. Chamberlin-Quinlisk, (2013) pointed out that when using Internet materials

as resources for intercultural education, educators face challenges of judging the trustworthiness and the "accentedness" of information. Lai (2015) summarised that when, creating online communication and immersing students in online interactions, differences in cultural communication expectations, social relations and accepted technology communication methods may result in misunderstanding among students; thus, pedagogical support mechanisms are critical to the effectiveness of technology-enhanced intercultural education. There are a number of benefits to be gained from integrating technology to develop learner' intercultural sensitivity; for example, Lee & Markey (2014) reported that Jin and Erben (2007) conducted a research and found that Chinese students developed "greater intercultural sensitivity and showed respect for cultural differences through an online exchange via instant messenger" (P. 283), while Markey also stated that, through online social engagement, learners "not only gained cultural knowledge but also became more aware of their own beliefs and attitudes toward their own culture" (p. 295); Truong & Tran (2014) did a cases study on the use of film to develop intercultural understanding and reported that learning through film enabled learners to "increase their awareness of values, believes and communication style of other cultures" (p. 215).

Some research, however, has reported that technology does not always support learning, due to some technologies having more entertainment elements than educational elements, which can be disruptive to learners (e.g., Lee and Markey 2014; Truong and Tran 2004). Mikre (2011) described the limitations such technologies pose for student behaviour management, noting students can be easily distracted by online games and communication channels and become over-reliant on online resources. These limitations restrict a student's critical thinking and can limit their opportunities to develop oral and hand-writing skills.

Thus, current literature has shown that experiential approaches do have advantages in developing intercultural competency. But at the same time, however, current experiential approaches have limited applicability to primary school contexts. This study aims at exploring alternative ways to develop primary school students' intercultural competence through inquiry-based learning that providing experiential experience in the classroom learning context.

2.2.4 Conceptual Framework for Intercultural Competence Development in this Study

As discussed in the previous section on the intercultural competence development process, this conceptual framework informing this research (Figure 2.6) is based on Byram's (1997) and Deardorff's (2000) conceptual frameworks of intercultural competence, which comprise three dimensions of attitudes, knowledge and skills; this intercultural competence development process was measured by Bennett's (1986) six stages of ethnocentric and ethnorelative intercultural competence.

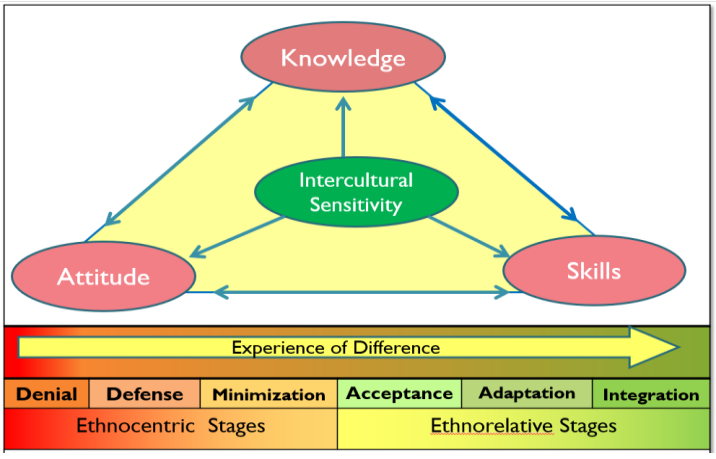

Figure 2. 6 Conceptual framework of intercultural competence development. Resources: Based on Byram (1997) three elements of intercultural competence and Bennett (1993) DMIS

2.2.5 Summary

The development of intercultural competence is an ongoing process that requires developing learners' critical thinking, self-awareness and alternative worldview (Byram et al. 2004; Bennett, 2009). Bennett's (1993) DMIS model comprises three stages of ethnocentric (denial, defence and minimisation) and three stages of ethnorelative (acceptance, adaptation and integration) orientation in the intercultural competence development process. Deardorff (2006) further conceptualised a framework of intercultural competence comprising external and internal outcomes that highlight the direction of intercultural competence development. To achieve these outcomes, the most common current approaches are study abroad and the implement of technologies. Researchers found significant improvement in learners' intercultural competence through long-term study abroad programmes (Bhandari and Chow 2007), while others found the limitations of study abroad, such as their being financially expensive (Nichole, 2011) and lacking preparation (Piage et al. 2004). Scholars have explored integrating different technological media, such as movies and short video clips, to support learners to acquire intercultural competence in a classroom learning. However, some research has reported that using such technologies may be disruptive to learners (e.g., Markey 2014; Truong and Tran 2004). The reviewed literature suggests that further research work is needed to understand how best to develop intercultural competence among primary school students. This study turns to inquiry-based learning to look for possible answers.

2.3 Inquiry-Based Learning

2.3.1 The Definition of Inquiry-Based Learning

Inquiry-based learning is defined as a learning process in which learners are guided two seek to acquire knowledge through active involvement in finding answers for their inquiry questions (Bransford, Brown, & Cocking, 2000). The adage "tell me and I forget, show me and I remember, involve me and I understand" recognises that involvement is key for learning. Following this concept of learning, many other definitions have been used in other research papers, including:

> "[the concept of inquiry] encourages teachers to allow learners to get in touch with authentic situation, and explore and solve problems that are analogues to real life" (Shih, at el., 2010 p. 51);
>
> "A seeking for truth, information or knowledge-seeking information by questioning" (Concept to Classroom); "…pushing significant questions through using questions and ways of research for a range of knowledge systems" (Wells,1999).

These definitions highlight the process of knowledge acquisition through a learner's involvement in connecting the known to the unknown. As Gluck and Myers (2001) explained, learners connect what they already know to what they are learning to help them understand the unknown. Inquiry-based learning is regarded an active learning method with research-led, student-orientated, and student-centred approaches, and comes in a variety of forms, including problem-based learning, collaborative learning, performance learning and service-based learning (Clark & Foster 2017).

Inquiry-based learning is based on the concept of student-centred learning, where students take an active role in discovering new knowledge (Bruder & Prescott 2013). Experimental investigations have an inquiry facet wherein students investigate issues to achieve understanding through a series of classroom procedures, such as asking questions, to acquire aimed at acquiring knowledge and development (Loyens and Rikers, 2011). Simek and Kabapinar (2010) studied the efficacy of inquiry-based learning on student learning and found improvements in the learner's understanding and processing skills. One's knowledge begins with experience, but it does not follow that all knowledge comes from our experience (Kant, 1959, p. 25). People need to build knowledge based upon their own individual experiences and by reflecting on those experiences. Leslie, et al. (2011) stated that many scholars believe that children are capable thinkers, but lack experience and knowledge. Teachers should see children as "theory-builders" and construct settings to assist students to learn how to ask questions and seek answers during the inquiry process. Children learn best when they are interested in the topic and immersed in a social setting; therefore, education should be practical and teach children how to think and adapt to an environment outside the classroom (Dewey, 1902, 1929).

The phrase "inquiry-based learning" mostly alludes to student-focused teaching approaches that encourage learners to raise questions, explore events and situations, and advance solutions. It involves active learning, as opposed to the "transmission model, " which may only inspire low, shallow, surface methods of learning (Biggs 2003; Brew and Boud 1995; Prosser and Trigwell 1999). Inquiry-based learning is a method of active learning that seeks to have students openly engage with research. According to Robertson and Bond (2001) many academics believe

students need to obtain an acceptable level of foundational knowledge before they are able to contribute when studying the "hard disciplines." The concept of inquiry-based learning is derived from experiential learning theory, which examines how "knowledge is created through the transformation of experience" (Kolb,1984). Healey argued that inquiry-based learning provides a mechanism for students to explore different learning styles and experiences, irrespective of whether certain subjects have favoured learning approaches (Healey et al., 2005, Healey and Jenkins 2000).

2.3.2 The Empirical Evidence on the Advantages of IBL

Many researchers have advocated inquiry-based learning (IBL) as an effective learning and teaching method. For example, researchers have stated that inquiry-based learning can pique students' curiosity and provide a framework for guided discovery (Scott, 2015), and can enhance content knowledge and encourage learning (Guccione, 2011). It can provide active learning in authentic situations (Lim and Li, 2008), and is a process of experiential learning (Kant, 1996; Loyens and Rikers, 2011). Levy et al. (2010) listed the many benefits of inquiry-based learning methods, including increasing students' interest, engagement, and motivation, and developing higher levels of thinking, critique, reasoning and achievement. Clark and Foster (2017) summarised inquiry-based learning as a "cluster of strongly student-centred approach to learning and teaching that are driven by inquiry of research, …… not only improved student grades, but also helped students to develop a range of meta-cognitive and academic skills" (p. 263).

Many studies have investigated the use of inquiry-based learning in the subjects of science and mathematics and reported the advantages of integrating inquiry-based learning in these fields.

For example, Hattie (2009) reported that inquiry-based learning was "shown to produce transferable critical thinking skills as well as significant domain benefits, improved achievement, and improved attitude towards the subject" (p. 209-210); Bruder & Prescott (2013) concluded that the participants in inquiry based-learning often "demonstrated new and more creative ideas for solutions" (P. 6). Researchers have found that, when implementing IBL, students show a more positive attitude across all subjects (Amaral et al. 2002), better content knowledge than in traditional classrooms (Boaler, 1998), and greater proficiency in language, reading and different subjects (Amaral et al. 2002). When students learning mathematics engaged in inquiry-based learning, they commented that "they had developed the beliefs that mathematics required active, flexible thought" (Bruder & Prescott, 2013, P. 10). Students showed significant improvement in problem-solving skills and increased their motivation and dedication, when they were provided with guided inquiry (Gallagher et al. 1992).

Researchers have also found obvious advantages to using inquiry-based learning in the field of social science. When students were engaged in inquiry-based learning with social studies, McCarty et al. (1991) found students showed increased great interest in connecting to social, economic, and cultural realities of their society. Newmann et al. (1995) reported that students increased their content knowledge, confidence, and the acquisition of critical thinking skills. Bruder, & Prescott, (2013) had similar findings in the field of mathematics and social science, in that students showed greater improvement through guided inquiry and "[learned] more deeply from strongly guided learning than from discovery learning" (P. 16).

Thus, current research literature on the efficacies of inquiry-based learning has shown that inquiry-based learning not only promotes positive learning of content knowledge but also develops learners' critical thinking and boosted their self-efficacy. At the same time, some researchers have produced different findings, with not all research results showing positive efficacy when implementing inquiry-based learning in different subjects. Cronbach (1981) discussed this condition, and made some critical comments about inquiry-based learning teaching efficacy's reliance on learning content, teaching and learning time, type of teacher and type of learner; many researchers have argued that students' prior understanding is strongly influence inquiry-based learning results; as such, students have stronger prior knowledge of a topic have achieved better results with inquiry-based learning pedagogy (e.g., Hermann, 1981; Kirschner et al. 2006). Chan (2006) suggested that teacher's feedback, facilitating and scaffolding strongly influence learning outcomes when students engage in inquiry-based learning.

2.3.3 Mapping Inquiry-based Learning into the Pedagogy Conditions of Intercultural Competence

Hattie (2009) stated that inquiry-based learning was "shown to produce transferable critical thinking skills" (p. 209). Inquiry-based learning is widely recognised as a pedagogy for increasing students' critical thinking skills, and that could help them achieve one of the critical conditions for intercultural competence development – critical thinking skills (refers to 2.2.3). Bruder & Prescott (2013) showed an example of researchers who studied 4th and 5th grade students and found a significant difference in the critical thinking skills of the inquiry-based learning students. Inquiry-based learning is a concept of open-ended, student-centred learning

activities that aims to encourage students through social interaction with questioning, discussion, critical thinking, using authentic situations to explore and solve problems encountered in real life (Biley and Smith, 1998; Feletti, 1993; Li and Lim, 2008).

Inquiry-based learning also provides a great opportunity for learners to develop their self-awareness and awareness of others through creating a collaborative and social interactive learning environment (Greedy et al., 1992). Thus, inquiry-based learning environments could potentially provide favourable learning contexts for developing yet another critical condition for intercultural competence development – awareness of self and others. (Fantini, 2000). The current literature suggests that social interactive learning activities such as, social-networking, collaborative work, and friendship management (Donath & Boyd, 2004; Reinhardt & Ryu 2013; Vie, 2007) are critical for developing learners' awareness. Inquiry-based learning has the potential to assist students to develop the understanding that people from differing cultures have varying outlooks and to critically think about and respect such views, without necessarily having to agree with them (Stathers, 2008). Researcher have found that, in inquiry-based learning environments, students increased their interest in connecting to the social and cultural realities of their society and increased their confidence in interacting with others and acquisition of social critical thinking skills (McCarty et al., 1991; Newmann et al., 1995).

Byram (2004) stated that intercultural competence not only enhances knowledge, but also changes the learner's behaviours and attitudes to show respect for and empathy to others. Many researchers have explored different methods to develop these intercultural competence requirements (e.g., positive attitude, respect and empathy); Perry and Southwell (2011)

concluded that most intercultural trainers commonly use instructional methods such as lectures, cultural assimilators and class discussions, and that these methods can enhance knowledge but do not change behaviour and attitudes; they suggested that "training programs need to more effectively target these areas" (p. 457). The inquiry-based learning process provides various opportunities for learners to develop their positive attitudes, respect and empathy in intercultural competence. For example, the collaborative planning and preparation stage is an important activity for learners to develop their respective behaviours through the inquiry-based learning process. Levy et al., (2010) found that through inquiry-based learning, students increased their positive attitudes towards the subject and showed more respective behaviour to others. Bennett (2009) stressed the importance of introducing and actively using culture general approaches to enable learners to start seeing aspects of culturally informed behaviour in their own interactions and those of others. Through collaborative work, learners can focus on the "me" in culture before exploring the "other;" this can help learners "see" these aspects of culture, their complexity, and give learners a framework to interpret intercultural interaction (Lawrence 2010).

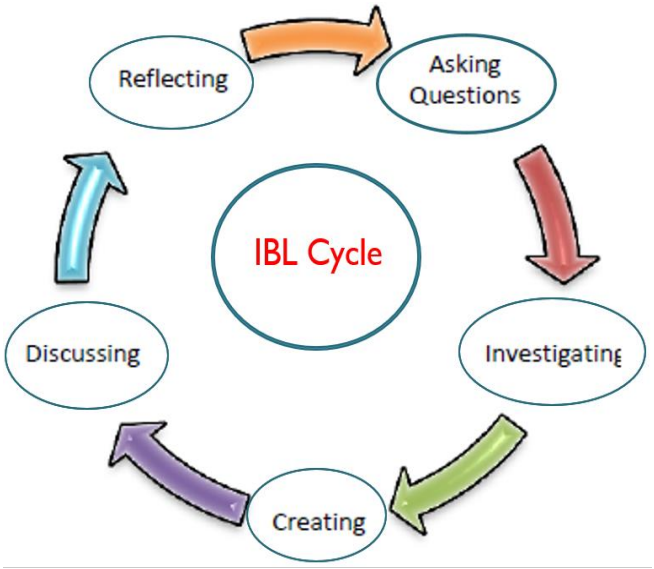

Figure 2. 7 Inquiry-based learning cycle.

Resource: Based on inquiry cycle (Casey and Bruce, 2011, P.79).

2.3.4 Inquiry-Based Learning Cycle

Inquiry-based learning is a cyclical learning process (Figure 2.7) wherein the learner, as the inquirer, learns via working on a problem using authentic materials (Scott, 2015). The Inquiry-based learning cycle includes a five-step process of asking questions, investigating, creating, discussing, and reflecting (Casey and Bruce, 2011).

Asking questions

Asking questions is the fundamental stage of inquiry-based learning, and aims to develop a learner's inquiry by raising questions or problems from their experience (Bruce and Casey 2012). Asking questions is a way to push a learner's thinking farther and to encourage them to explain their ideas articulately (Kawalkar and Vijapurkar 2013). Scott (2015) pointed out that

questioning in inquiry-based instruction feeds students' curiosity and provides a framework for them to explore and answer their questions through careful research. The discourse of inquiry-based teaching intends to facilitate building students' conceptual knowledge. Given this, the purpose of questioning is to help the learner evoke ideas, express those ideas, and to expand and reflect upon their own ideas and those of others. Questions further seek to encourage students to challenge and reconcile conflicting views and establish relationships and settings for ongoing active learner inquiry (Chin, 2007; Erdogan & Campbell, 2008).

Investigating

Investigating helps learners to turn their curiosity into the act of discovering new knowledge to solve the problems they inquired into at the first asking stage. Learners gather information through such various activities and resources as online resources, interviews, observation, and experiment (Bruce and Casey, 2012). In this stage, teachers need to consistently provide supportive resources and interactive learning environment to engage learners in investigating solutions for their inquiry (Kawalkar & Vijapurkar, 2013). These resources and interactive learning environments include face-to-face discussion and technology facilitation. When providing technology-based supports, educators need to first assess any constraints thereof, so that the technology does not distract from the learning objectives (Hutchison & Woodward, 2014, p. 462). Educators also need to make richer learning contents—including speaking, listening and other skills—that can help the learners comprehend concepts and clarify their ideas about the learning topics. During the investigating stage, students need to integrate themselves within the "learning community" through exchanging information that increases there and others' knowledge within their learning community; carrying out scientific

inquiry requires the recollection of required foundation knowledge and critical thinking skills. As critical thinking skills are only in their infancy in the middle grades, teachers have the important task of supporting students by providing necessary "cognitive scaffolding" to help students to solve their inquiry problems (Flick, 2000).

Creating

Per Dewey's definition of creating as "controlled or directed transformation," this stage demonstrates the learner's multiple skills—such as comprehensive, critical thinking and collaborative skills—over the learning process. This stage is a hands-on learning stage that offers a creative way of displaying their new knowledge products through collaborative work and synthesises information that connects their prior knowledge (Bruce and Casey, 2012). At the primary grade level of creating stage, the teacher needs to provide clear guidance, with explicit explanation about the deliberations needed to better meet the project goals (Kawalkar & Vijapurkar, 2013). Once students have a clear idea of how to display their work, they can then work with their peers to transact independent inquiry activities.

Discussion

Discussion is the process of sharing discoveries among learners and envisioning the larger picture when conversing with others, while settling upon a suitable project. Discussion is a social interaction stage (Bruce & Casey 2012) that is elaborated through "presenting, debating, sharing, discussing, communicating and arguing" (Manoli et al., 2015, p. 53). Through discussion with peers, teachers, parents and online learners, students can come to understand that different people may have differing perceptions of the same event.

Reflection

Reflection is the final procedure in the inquiry-based learning cycle and seeks to help learners express their learning experience and construct new concepts towards their next action (Bruce and Casey, 2012). This stage provides students and teachers an opportunity to review what they have done well or what they may need to improve during the inquiry-based learning process to improve their further inquiry. Chen (2006) pointed out that project reflection is not only evaluative, it is also a supportive process for further questions. In order to better evaluate this inquiry-based learning approach, the teacher must also become the facilitator of this process, guide students in reflecting on their learning process, and consider the process of scaffolding and resources design (Roth, 1996), which helps teachers to improve their practical skills and enables them to design more effective inquiry-based learning activities for future projects.

Much of the existing research into inquiry-based learning primarily focusses on its use in the fields of science and mathematics teaching and learning. Many researchers perceive that inquiry-based learning is a pedagogy that not only enhances learner's ability and academic results, but also significantly changes a learner's attitudes towards learning and increases their self-confidence and communication skills (e.g., Gormally, et. al., 2009; Luckie et. al., 2004; Marx & Soloway, 2002;). Whether inquiry-based learning can be applied to the field of language learning and developing intercultural competence is still an empirical question, as there have been limited studies examining its efficacy in promoting intercultural competence development.

2.3.5 Summary

Inquiry-based learning pedagogy is based on the philosophy of knowledge acquisition through questioning when engaging in dialogue within an authentic learning environment. Empirical studies have shown that inquiry-based learning increases students' critical thinking, learning motivation, content-understanding, and interest in connecting to the social and cultural reality of their society. There are three structural levels of inquiry-based learning, including *structured inquiry*, *guided inquiry,* and *open inquiry*. Bruder & Prescott (2013) reported that "guided inquiry was shown to be the most effective method of implementing inquiry-based learning in the classroom closed task that support learning of rules" (p. 21).

Intercultural competence development aims to develop students' critical thinking, respective behaviour, empathy, problem-solving and communication skills to prepare students to live in a world where opportunities for success require the ability to cooperate in a global community. Inquiry-based learning pedagogy is likely to meet these conditions, as the key features of inquiry-based learning are a student-centred and question-driven learning process that includes thinking of ways to answer questions and, developing their explanations, evaluation and communicating skills. Many researchers have used empirical evidence of inquiry-based learning methods to map the condition of intercultural competence development and have found that inquiry-based learning: provides five clear steps of asking, investigation, creating, discussing, and reflection to guide learners throughout the various activities to complete their tasks; carefully designs activities based on the learning objectives and learner's interests; and motivates students to gain critical thinking and problem-solving skills, and show positive attitudes and respectful behaviour to others in order to develop learners' intercultural competence.

2.4 Research Question

This review of the existing literature concerning intercultural competence has shown developing learners' intercultural competence is essential for students to grow their abilities and competence in preparation for today's globalised society. Intercultural educators have increasingly placed emphasis on intercultural competence development and have experimented with various approaches to developing a learner's intercultural competence. The most common approaches are learning abroad or exchange programs, based on the belief that intercultural competence is acquired through experience. Yet, experience may not equal understanding, with some researchers reporting that studying abroad and exchange programs are primarily aimed at the tertiary learner, may not approach the objective of intercultural competence, and can be constrained by time, finances, and spatial considerations (Williams, 2005). Studying abroad and exchange programs are impractical for many students, especially younger ones. Given the challenges and limitations of overseas study, the use of film and videos to help learners to acquire intercultural understanding has been explored, with Truong and Tran (2014) reporting that such technology aids generally focus on entertaining rather than educating the viewer, and lack inherent pedagogical frameworks.

Furthermore, the extant research predominantly focuses on developing older students' intercultural competence in Western cultures with English content, and on learning through overseas study and utilizing technologies. There is a lack of research into the pedagogical development of younger learners' intercultural competence, and limited reference materials and resources for teachers to use to encourage younger learners to enhance their intercultural

competence. Coupled with the limited research on younger learners, there is a dearth of research exploring the development of student intercultural competence, specifically in the context of learning Chinese as a second language.

This study aims to contribute to the theory and practice of intercultural competence development in a second-language learning environments. Given the limitations in current approaches to intercultural competence development and the lack pedagogy for developing younger second language learners' intercultural competence, many researchers have recognised that inquiry-based learning can bring various benefits to the field of science and social science teaching. With the paucity of pedagogy in developing learners' intercultural competence, inquiry-based learning is adopted in this study to develop students' intercultural competence. It focusses on integrating inquiry-based learning and pedagogical teaching activities into learning Chinese as a second language classroom at the five-year-old level. This research emphasises students' intercultural competence development through reflecting on their own culture and comparing it with the target Chinese culture when learning Chinese as a second language environment. The objective of this study is to address the following research question:

Could inquiry-based learning enhance students' intercultural competence?

2.5 Conceptual Framework for this Study

The framework for this study (Figure 2.8) is based on the literature review in this chapter and encompasses theoretical and pedagogical frameworks, integrates a definition of intercultural competence and DMIS intercultural measurement methodologies, and reflects the five steps of inquiry-based learning—asking questions, investigating, creating, discussing and reflecting.

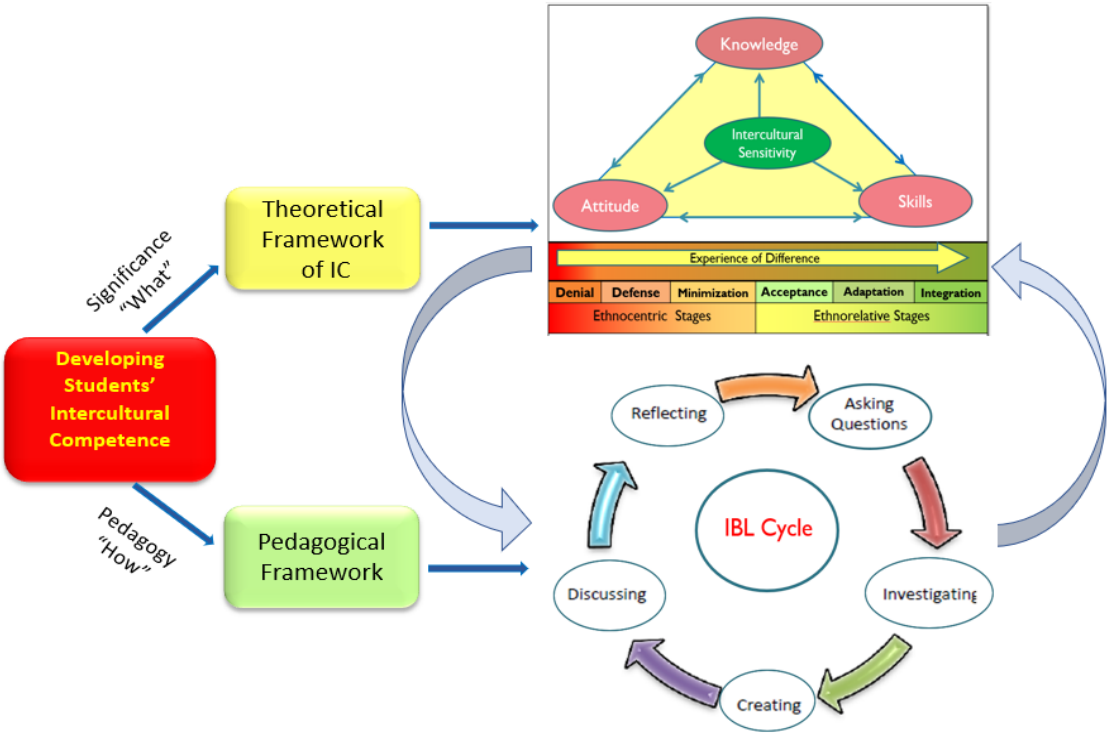

Figure 2. 8 Conceptual framework of developing students' intercultural competence.

Based on Byram (1997) three dimensions of intercultural competence, Bennett (1986) develops six stages of DMIS and Scott (2015) inquiry-based learning cycle

This chapter details the research design and rational of methodology for this study. It begins by describing the study's overall research design, followed by its objectives and research

questions. The rationale for using a mixed-methods approach is that discussed, along with the research's contextual background and its participants. Finally, the inquiry-based learning activities designed for the intervention are discussed, after which the data collection process and data analysis techniques are described.

3.1 Aim of This Study and Overall Research Design

The aim of this study is to investigate the use of teaching pedagogy of inquiry-based learning in developing learners' intercultural competence. By doing so, there is a specific question to guide this research: Could inquiry-based learning enhance students' intercultural competence?

This study employed a quasi-experimental design to compare the differences in intercultural competence development between an experimental group and a baseline group studying the same topic (i.e., "Animals"). The experimental group were taught with the introduced inquiry-based learning pedagogy, while the baseline group were taught using traditional instructional methods. Participants' from both groups intercultural competence was measured through questionnaires adopted from Chen and Starosta's (2000) five factors of intercultural competence. The experimental group's intercultural development was assessed utilising Bennett's (1993) six stages DMIS. Figure 3.1 shows the data collection procedures that addresses the research question. Quantitative data were collected from both the experiential and baseline groups via pre- and post-intervention tests; qualitative data were collected throughout the intervention to identify learner's attitudes towards and perceptions thereof over the course of their intercultural competence development.

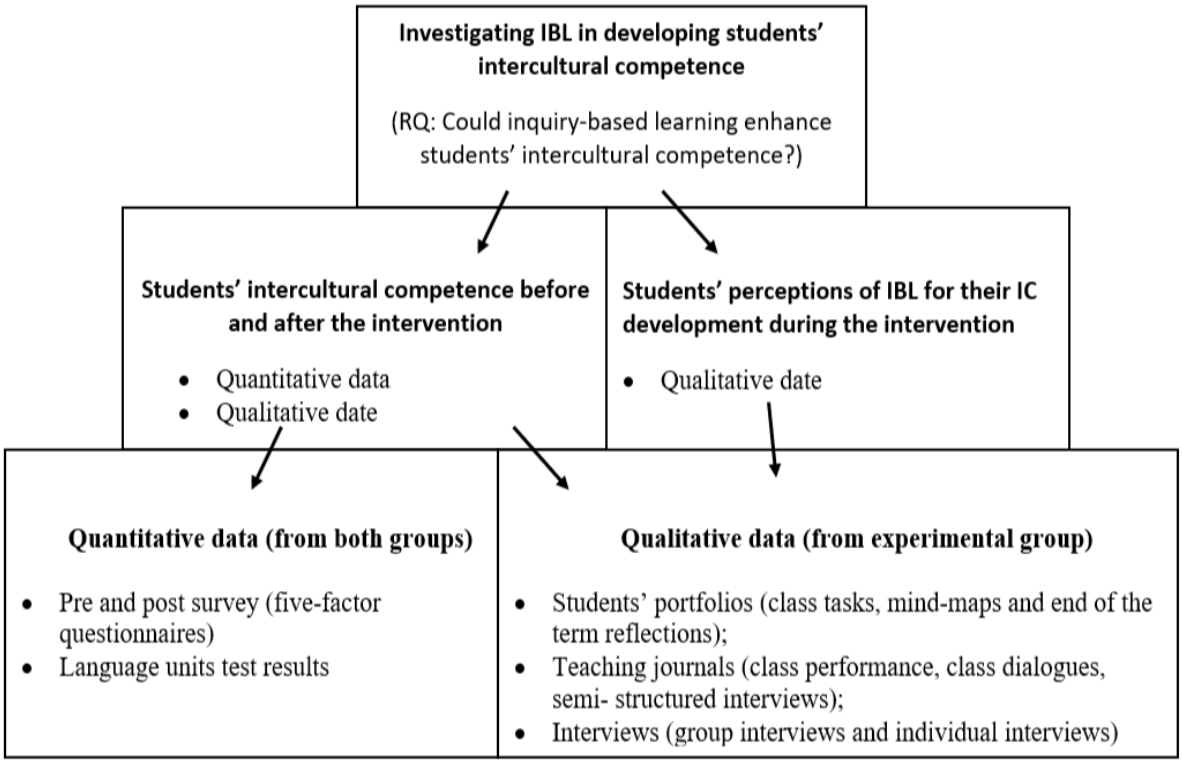

Table 3. 1 Research design for this study

Mixed methodologies combining both quantitative and qualitative data were adopted in this research. A mixed-methods research paradigm comprises both the positive paradigm (i.e., quantitative research methods) and constructivist research paradigm (i.e., qualitative research methods) (Creswell 2003, Collins et al. 2006). Denscombe (2008) concluded mixed-method research has the following benefits: improving the accuracy of data; producing a more complete picture by combing multiple data sources; and avoiding the biases intrinsic to single method approaches. The quantitative data were collected from a survey and language units test scores from both the experimental and baseline groups, before and after the intervention. Qualitative data were collected from the experimental group participants' ongoing learning process and included students' portfolios (class tasks), group interviews and teaching journals (the

researcher's class reflection, including students' class performance, semi-structured interviews and dialogues between students' peers or teacher-students).

The intervention was designed and based upon the school curriculum topic, "Animals," and followed the inquiry-based learning process steps (asking, investigating, creating, discussion and reflection). The experimental group students were taught using the inquiry-based learning cycle model; baseline group students also followed the topic of "Animals," but were taught through traditional instructive methods that focused on language acquisition (e.g., phonetic and lexical skills).

This study was conducted in a Hong Kong based international school that closely followed the New South Wales (Australia) education department's curriculum. Chinese is a compulsory subject for all primary level students at the school, and is divided into a two-stream (Chinese-background class and non-Chinese-background class) teaching system; the near-native stream utilised Singapore's Chinese textbooks, which focus on Chinese literacy and Chinese culture, while the non-Chinese-background stream's curriculum was designed by the school's Chinese department and focused on communication and cultural understanding between the Chinese and target cultures. This study was administered to a year-five non-Chinese background class for one term (eight weeks). The placement test and pre-intervention questionnaire results suggest that both the experimental and baseline groups has similar Chinese language levels and cultural backgrounds.

3.2 Rationale of Employing Mixed-Method

A mixed-methods research design is a procedure for collecting, analysing, and "mixing" both qualitative and qualitative methods in a single study or series of studies to understand a research problem (Creswell & Plano Clark, 2011). Quantitative research methods provide scientific evidence to verify statements and seek to provide causal explanations, while qualitative knowledge is the test and building block of quantitative knowing (Campbell.1979). However, the choice of an appropriate method depends on the purpose of a study; for example, if a study aims to collect data to analyse a student's learning outcomes or individual changes, quantitative methods would better meet the research objectives, while if the study aims to explore learners learning attitude or behaviour, qualitative methods would be more appropriate. However, if the study aims to explore *why* a learner's attitude and behaviour influence the learner's learning outcomes, a mixed method would be more appropriate to measure the outcomes (Coolican 2009). Pring (2015) pointed out that different methods reveal different explanations.

Although different methods serve different research purposes, mixed methods are widely adopted in current educational research (Byram, 2006, 2008), as doing so can render noticeable advantages. For example, Creswell pointed out that "mixed methods research is an emerging research approach in the social and health science that involves combining both statistic trends and stories to study human and social problems" (Creswell, 2012). Greene and Caracelli (2003) described that using a variety of qualitative and quantitative data and analytic techniques better achieves research objectives, while Anguera et al., (2012) pointed out that "mixed method can offer a more holistic understanding of human motor behaviour and is well suited to dealing with its complexity" (p. 4). A mixed-methods approach not only gathers different kinds of data about

human behaviour, but also implies combining the inductive approach to concept generation with deductive logic (Bergman 2010). Greene et al., (1989) conceptualised five purposes of utilising mixed-method research—triangulation, complementarity, development, initiation, and expansion. These purposes can be applied to the whole research process, including problem definition, data collection, data analysis, interpretation of results and the final report (Wolcott 2009).

The mixed-methods approach has been gaining popularity in intercultural research, as it has been reported that it is appropriate for measuring intercultural competence (Deardorff, 2006b). Deardorff (2006) noted that quantitative methods do not seem better suited to measuring a person's intercultural competence, and that higher education administrators mainly use mixed methods to assess students' intercultural competence, as the fundamental component of intercultural competence is attitude (Byram, 1997; Deardorff, 2006)—i.e., people's values, behaviours and perceptions. Measuring attitude is about more than just considering quantitative differences and qualitative data provides us with a more enhanced understanding of what attitude is about. Byram (1997) suggests that, to assess intercultural attitude of intercultural competence, "qualitative progression in contrast to quantitative display and leaps in insight as compared to incremental increases in knowledge" (p. 104); the key factor to consider in assessing the intercultural attitude is "the existence or absence of a perceptive shift (p. 108)."

The rationale for adopting a mixed-method approach in this study was in line with the above advantages. A mixed-methods approach enabled this research to investigate whether inquiry-based learning teaching pedagogy could enhance participants' intercultural competence development over the intervention period. Qualitative data provides the statistical data necessary

to analyse the similarities among and differences between the experimental and baseline groups over the intervention, while the qualitative data served to triangulate the quantitative findings as well as provide more detailed evidence about and in-depth understanding of the experimental participants' attitudes, behaviours and perceptions concerning cultural studies during the intervention.

The data collected in this study were gathered from three sources, based on their data types: quantitative data were drawn from participants' language test scores before and after the intervention, and were used to measure whether inquiry-based learning influenced language proficiency; quantitative data were gathered from the results of both groups' surveys, which used questionnaires adopted from Chen and Starosta's (2000) five factors of intercultural competence, and were administered before and after the intervention; these data were used to analyse and compare the differences in intercultural competence development between the experimental and baseline groups, given the two groups' different teaching methods; qualitative data from the experimental group were sourced from participant portfolios, teaching journals, and interviews and used to investigate participant base-level and progression-level of intercultural competence—based on Bennett's six stages of intercultural competence development—over the intervention.

3.3 Contextual Background

This study was conducted in an international school in Hong Kong. Despite its international cosmopolitan appearance, Hong Kong is quite ethnically homogeneous. As recently as 2009, approximately 97% of its population were ethnic Chinese, with no more than 3% of the

population being native English speakers (Lin, 2009). As Britain governed Hong Kong as a colony for one-hundred and fifty-six years, English remains the predominant language for government correspondence and communication, and 'has been restricted to the local elite who acquire the language mostly by way of formal education' (Lai, 2013, p. 41). Luke and Richards (1982) pointed out that "Hong Kong was a case of societal bilingualism, but individuals were mainly monolingual with only a small group of bilingual Cantonese functioning as linguistic middle–men between the Chinese locals and the English-speaking expatriates." (Lai, 200, p. 113) However, since Hong Kong was returned to Chinese sovereignty in 1997, Hong Kong students have been expected to become proficient in written English and Chinese both, and as to speak fluent English, Cantonese and Putonghua (Lai, 2001); i.e., to be biliterate and trilingual. Use of Putonghua has become more common in social communications and formal education circles in Hong Kong. Evans et al., (2002) believed English and Putonghua would eventually enjoy equal status within Hong Kong businesses and professions, while Cantonese would continue to be the daily communicative language of the common man. According to the Hong Kong Bureau (1995), international schools in Hong Kong are not required to follow the local curriculum, nor are their students required to participate in local examinations. International schools are "operated with curricula designed for the needs of a particular cultural, racial or linguistic group for students wishing to pursue their studies overseas" (Education department 1995:4-5).

As an international school, the participants' school embraces Australian values, whilst still incorporating the rich cultural experiences available within an international city such as Hong Kong. The school's curriculum is based on the Australian National Curriculum and has been adapted to suit the Hong Kong setting. The learning philosophy of the school is inquiry

based and provides learning in varying areas (e.g. English, Mathematics, Chinese etc.). Chinese is a compulsory subject from Kindergarten to grade six with all years offering five 45-minuteslessons per week . The Chinese language curriculum is divided into two different streams—i.e., for Chinese-background students and non-Chinese-background students.

Whilst the school's overall teaching and learning method is inquiry-based, Chinese teaching methods heavily rely on memorization and drilling transmission models to teach the language components of character and grammar. Drilling is commonly used in Chinese classrooms within the school, as all students are asked to take a standardised test at the completion of the school year to determine their placement in the following year's class. Krashen (1982) argued that exploring cultural differences provides more opportunities for a second language learner to be exposed to a target language and gain knowledge of its language components.

As the participating school's curriculum states that both the target language and culture should be equally racing in second language education, the Chinese language department's approach to cultural education consists of the following aspects:

- Students acquire cultural knowledge through the topics in the prescribed textbooks;
- Teachers can introduce cultural acquisition activities in addition to the standard curriculum, such as topics covering Chinese festivals; and,
- Students acquire knowledge of Chinese culture through participating in the school's "Chinese Week."

To help the teachers integrate culture be into the language classroom, the school's prescribed textbook was arranged around various topics. At the end of each topic there was a section focusing on a cultural difference relevant to the topic. In guiding the students through these sections of the textbooks, many Chinese teachers simply showed their students videos or explained topics in the text; some teachers ignored this section entirely. There were neither clear objectives nor structural guidance for scaffolding students to acquire knowledge of cultural awareness. Whilst the use of textbooks on culture is ineffective for cultural acquisition, many of the school's Chinese teachers emphasised cultural learning around important Chinese festivals, such as Chinese New Year, Qingming (ancestor commemorations), and Chinese Dragon Boat celebrations. Teachers normally focused a minimum of two lessons on cultural understanding, using videos, stories, and different activities during these times. Some teachers prepared different class activities to engage students in experiencing a traditional Chinese cultural atmosphere; however, some teachers did not, as they claim they were too busy teaching the prescribed curriculum.

Chinese Week is a planned festival that encourages the whole school to explore Chinese culture. Class teachers have students explore a cultural aspect or engage in a themed activity that suits their class interests. Various activities are promoted at both the individual, class, and whole-school levels. The wider school can experience Chinese culture via activities that include a professional dragon dance performance, dragon dance workshops and Beijing opera workshops. Some students' parents also participate in activities, such as setting up a mini Chinese shopping market where students can purchase Chinese-themed gifts that provide an opportunity for students to apply their knowledge of the target language and culture in a near-

real-life situation. However, intercultural scholars argue that learners cannot obtain knowledge of intercultural understanding and sensitivity through cultural facts and heritage activities alone (Fantini and Tirmizi, 2006; Roben, 1976); rather, intercultural training needs to be systematically planned and implemented (Byram,1997; Deardorff, 2004).

3.4 Participants in This Study

Both the experimental and baseline groups were classified as "non-Chinese-background communication competence groups," per the research school's standards. These students were then allocated to individual class groupings based on:

- their previous end-of-year benchmark test results;
- teacher recommendations concerning the students' learning abilities; and,
- balanced gender and behavioural dynamics;
- Languages spoken at home.

The school conducts a mandatory end-of-year benchmark test for all students from year two to year six. The test consists of two parts that test students' reading and writing:

a) Chinese vocabulary and sentences students were asked to read, and then translate into English and answer questions based on the text; and,
b) Written tasks that required students to translate English text into to Chinese and write a short essay.

To avoid bias, each benchmark test paper was marked by two independent teachers who did not teach the assessed year level.

At the time of the study, the teacher of the baseline group had taught at the primary level for 16 years, all at international primary schools in Hong Kong. She had worked at the research school for 14 years and regularly used methods that focused on repetitive drilling vocabulary, sentence formation and writing short passages while, covering the topics within the prescribed textbooks. She emphasised high discipline and behaviour with her students, who carefully and attentively listened to her instructions and strove to read and write the lesson's texts perfectly.

At the time of the study, the experimental group's teacher (also the researcher) had taught Chinese as a second language for 14 years, with the last 10 years having been spent at the research school. The teacher had taught Chinese language for the bulk of her career, including a stint at a Montessori school, and has previously taught Fine Arts, and has followed Chinese, American, and Australian teaching curricula.

All participating students were from year-five non-Chinese-background classes, with the experimental group consisting of students within the researcher's class and the baseline group being pupils from a class taught by one of the researchers peers (see Table 3.2).

In the experimental group, there were twenty students including eleven girls and nine boys. Eighteen students were monolingual English speakers with no Chinese heritage. Two students in the experimental group were ethnic Chinese but primarily communicate in English at home and socially and, for the purposes of this study, were deemed monolingual English speakers with Putonghua as their second language. The baseline group comprises seventeen students (ten females and seven males). All students were effectively native English speakers, with sixteen

students being of Western ethnicity and one being ethnically Chinese. Even though baseline and experimental class teachers' teaching style and methods may differ, standardised test papers are used in both classes at semesters end to assess students learning outcomes. To establish the effectiveness of using an inquiry-based learning pedagogy to enhance the experimental group's intercultural competence and to investigate whether the inquiry-based learning affected the group's language acquisition, the standard test paper results from the experimental group were compared with those of the base-line group.

Table 3.2 shows the information of the participants. In the experimental group, approximately 90% of students were Australian and were monolingual English speakers. About 30% of participants had been learning Chinese for over five years; 50% of them had leant for three to four years and 10% for one to two years. In the base-line group 94% of students were Australian and were monolingual English speakers. About 37 % of base-line group participants have learnt Chinese over five years, over 60 % had learnt for three to four years, and only one had learnt Chinese for one to two years. Even though the students had learnt Chinese for different periods of time, they were all still considered to have similar standard skills and had achieved similar results in benchmark assessments.

Two students in the experimental class (both of whom were ethnic Chinese born overseas) used English as their primary language of communication at home and shared similar personal-identity views with most class members. The school assessed these students' Chinese language proficiency to be similar to that of most members of the "non-background" class.

Table 3. 2 Participants' information:

Number of Students		Australian	Non-Australian	Monolingual English speaker	English as a second language	Over 5 years of learning Chinese	3-4 years Learning Chinese	1-2 years Learning Chinese
Exp.	20	18	2	18	2	7	10	2
Base.	17	16	1	16	1	6	10	1

Exp. = Experimental group and Base. = baseline group

3.5 The Intervention Design

The pedagogical practice in this study was inquiry-based learning—which comprises five stages: asking, investigating, creating, discussion and reflecting. It was applied in this study to increase learners' intercultural competence which comprises three components—attitudes, knowledge and skills—within the internal desired outcomes of adaptability, flexibility, ethnorelative views and empathy. Each activity undertaken in the intervention was designed to achieve the objective of the given conceptualised intercultural competence component. The topic in this research was the school's prescribed curriculum of "Animals," which involved exploration of "the relationship between animals and humans," to better set clear objectives for cultural understanding. This research intervention design utilised structured inquiry, as defined in the literature review, by following systematic design procedures.

This research operated over a term of eight weeks and consisted of three broad stages: pre-intervention; during intervention and post intervention. This eight-week intensive training intervention period was conducted over 40 lessons (five, 45-minute lessons per week). Various

studies have reported study abroad durations of from a few days to several months; for example, Olson and Kroeger (2001) conducted a three-month experimental study abroad, while Behrnd & Porzelt's (2012) study abroad cultural exploration program lasted only a few weeks. Deardorff (2006) stated internal outcomes refer to an individual filter shift that can be trained (and changes observed) through an intensive classroom training program. Given the durations of previous intercultural interventions and the intensive nature of the intervention in this study, we deemed 8 weeks appropriate. Table 3.3 describes the duration, class tasks, and data collection instruments used at each stage.

The first stage of this research (pre-intervention) aimed to investigate both the experimental group and baseline group learners' prior knowledge of the target language and their intercultural understanding. Data were collected to identify the differences between and similarities among both groups' language proficiency levels and foundation knowledge of intercultural competence.

The second stage (during intervention period) covered the five elements of the inquiry-based learning cycle and was conducted with the experimental group only. This stage involved eight weeks of inquiry-based learning activities, with learners being guided through various activities that followed the inquiry-based learning cycle and its requirements. During the intervention, three questions that tapped into the intervention process were asked regularly at different times during the intervention period, to investigate learner's intercultural awareness and sensitivity over time (refer to Table 3.1):

Q1: How do people perceive the relationship between humans and animals?

Q2: Do you think some countries' treatment of animals is better than other countries?

Q3: If someone from different culture where to eat a type of meat that you would not choose to eat, how would you feel?

Students' works during the intervention were kept in the form of a portfolio.

The last stage was administered after the intervention and required both the experimental and baseline groups to undertake a language proficiency test to gauge the development of their Chinese language proficiency in the animal unit. Students in both groups were also asked to complete a survey to measure their intercultural competence. The data collected from this stage were used to facilitate comparison with the pre-intervention results. Students in the experimental group also completed an evaluation survey on their learning experience during the intervention.

Table 3. 3 Research schedule

<table>
<tr><th colspan="3">Research Schedule</th></tr>
<tr><td>Duration</td><td>Activities</td><td>Data collection</td></tr>
<tr><td>Before the Intervention</td><td>• Language unit tests
• Pre-survey (five factors of intercultural competence) (both intervention and baseline groups)</td><td>Test scores

Survey results</td></tr>
<tr><td colspan="3">During the Intervention (experimental group)</td></tr>
<tr><td>Week 1

Questioning</td><td>• Introduce the topic
• Asking, raising questions
• Initial inquiry question
• Class task: answer Q1</td><td rowspan="5">Portfolio

Group

interview

Teaching

journal

• Class performance
• learning attitudes
• Knowledge of IC
• Skills of interpret documents</td></tr>
<tr><td rowspan="2">Week 2-4

Investigating</td><td>Week 2
• Grouping
• Decide their inquiry question
• Class task: answer Q 2 and Q3</td></tr>
<tr><td>Week3 and Week 4
• Group plan their final project
• Design their studies
• Retrieval information from multiple media sources and authentic materials
• Identifying resources</td></tr>
<tr><td rowspan="2">Week 5-7

Creating</td><td>Week 5
• Organised the resources
• Synthesis the information
• Decide their display format
• Class task: Answer Q1and Q3</td></tr>
<tr><td>Week 6-7
• Groups continue work on their inquiry project
• Synthesizing the information to answer the driving questions
• Get ready to present their work
• Class task: Answer Q2 and Q 3</td></tr>
<tr><td>Week 8
Discussion & Reflection</td><td>• Group presentation
• Discuss, debate their arguments
• Communicating new understanding
• Give group feedback
• End of unit reflection</td></tr>
<tr><td>After the Intervention</td><td>• Language unit tests
• post-survey (five factor of IC) (both groups)</td><td>Test scores

Survey results</td></tr>
</table>

3.6 Assessment of Intercultural Competence

Many approaches have been developed to assess intercultural competence including: the Behavioural Assessment Scale for Intercultural Competence (BASIC) (Koester and Olebe,1988); the Intercultural Sensitivity Inventory (ISCI) (Bhawuk and Brislin, 1992); the Intercultural Development Inventory (IDI) (Hammer and Bennett 2002); the Model of Developmental Model of Intercultural Sensitivity (DMIS) (Bennett, 1993); and the Five Factors of Intercultural Sensitivity (Chen and Starosta, 2002). However, no one single method has yet been deemed best for measuring intercultural competence. Bennett's (1993) DMIS has been widely discussed in the research literature (Hammer et al., 2003; Paige et al., 2003), as it provides clear definitions for each stage of intercultural competence development and describes how to apply this model over the experiment of intercultural competence training (Sinicrope and Watanabe 2007). Bennett (2017) claimed that intercultural competence development is the process of developing students' ability to move alone the continuum from *Ethnocentrism* to *Ethnorelativism*:

> This ability to have more complex personal experience of otherness is termed *intercultural sensitivity.* Intercultural communicative competence is the forming of intercultural sensitivity into behaviour that coordinates meaning across cultural contexts with more or less the same ease that one coordinates within one's own culture. Notable behavioural forms of intercultural sensitivity are empathy (the generation of appropriate behaviour in alternative contexts); and meta-coordination (the "third-culture" contexts that generate value from cultural diversity) (P. 3).

Therefore, DMIS was adopted in this study to measure learners' intercultural competence over the intervention; to provide triangulation analyses, Chen and Starosta's (2003) five-factor

intercultural sensitivity instrument was also employed to measure learners' intercultural differences before and after the intervention.

3.6.1 Bennett's Developmental Model of Intercultural Sensitivity (DMIS)

Bennett (2017) stated that the trustworthiness and reliability of DMIS has been assessed by a wide range of contexts and it can be assumed that the credibility and trustworthiness of DMIS has been accepted. The six stages of DMIS have been examined and deemed reliable (Paige et al., 2003). To measure the reliability and validity of the orientations of DMIS, Hammer and Bennett (1998) developed a qualitative interview designed to elicit how respondents made sense of their experiences with cultural difference. The interview consists of six questions that stimulate discussion around the six stages ethnocentric (denial, defence, minimisation） and ethnorelative (acceptance, adaptation and integration) of the DMIS; the data demonstrated that higher ethnorelativism scores correlated with higher world mindedness and lower social anxiety scale scores, as theoretically predicted. To further test the reliability and validity of the DMIS model, Bennett developed the Intercultural Development Inventory (IDI), which seeks to measure intercultural competence inclination according to DMIS. Paige et al., (2003) used factor analysis based on 60-item IDI questionnaires to examine the six scales and reported the scales are "acceptable in terms of internal consistency reliability" (p. 475). Yuen (2010) reported "since the IDI measures cognitive structures rather than attitudes, it is less susceptible to situational factors, and thus tends to be more stable and more generalizable than other measures of cultural sensitivity." Researchers have tested the six stages of DMIS and found it to be the most reliable and most frequently used instrument in intercultural training; DMIS has been found, through

many test processes, to be valid and reliable (Deardorff, 2004; Paige, 2004). Hammer (2011) stated that DMIS has been extensively tested and deemed to be a reliable tool.

3.6.2 Chen and Starosta's Five Factor of Intercultural Sensitivity

In order to provide triangulating data analysis, Chen and Starosta's (2000) five-factor measurement paste was adopted to measure the three dimensions (attitude, knowledge and attitudes) of intercultural competence. Chen and Starosta (2000) criticised the existing definition of intercultural competence as ambiguous, noting that many intercultural scholars did not clearly recognise differences between intercultural competence, intercultural awareness and intercultural sensitivity, and that this introduced conceptual confusion, leading to difficulties in evaluating intercultural training and measuring intercultural competence. Given this, Chen and Starosta (2000) further conceptualised five factors to measure intercultural competence: "interaction engagement, respect of cultural difference, interaction confidence, interaction enjoyment, and interaction attentiveness" (P. 12).

The five factors developed by Chen and Starosta (2000) have been examined and found to have high reliability and usefulness (Fritz and Chen 2001) for measuring intercultural competence. To validate the reliability of the five factors, Chen and Starosta first specified six elements (self-esteem, self-monitoring, open-mindedness, empathy, interaction involvement, and non-judgment) of intercultural sensitivity and measured these with American college participants through a pre-study 73-item questionnaire; a 24-item questionnaire was then generated to measure the developed five factors. Next, Chen and Starosta adopted exploratory factor analysis to test the 24-item questionnaires (Appendix B) in German, with these results confirming the

validity of the overall structure of the five-factor instrument. Fritz and Chen (2000) analysed the results and reported the factors as having "strong reliability and appropriate concurrent validity" (p. 12). Chen and Starosta (2000) further concluded that this instrument was satisfactory and overall indicated the 'applicability and usefulness' (Fritz and Chen 2001, p. 11) of the instrument in measuring intercultural competence. As such, in this study, the five factors were adopted to measure intercultural competence development.

Chen and Starosta's Intercultural Sensitivity Scales (ISS), which is comprised of five factors being a 24-item questionnaire (seven questions for interaction engagement, six questions for respect of cultural difference, five questions for interaction confidence, and three questions for interaction enjoyment and interaction attentiveness) to measure students' intercultural sensitivity. The ISS has been widely tested in different cultural settings and its measurement instruments have been found to be valid for measuring an individual's culturally sensitivity (Chen, 2000). Nine items of the ISS questionnaire are negative statements (e.g., "I think people from other cultures are narrow-minded") and to require reverse-coding to ensure that all items are positively worded; i.e. if the participant responds 1 (strongly disagree) to Item 5 ("I don't like to be with people from different culture") it is reverse coded to 7.

3.7 Inquiry-Based Learning Activities Design

Kremer and Schlueter (2006) summarised the inquiry-based learning structure into three levels: structured inquiry, guided inquiry, and open inquiry. In structured inquiry, a teacher presents a question and learners investigate it through a prescribed procedure; in guided inquiry, a teacher presents a question, and learners designed procedures to investigate the question;

finally, in open inquiry learners investigate their own questions through self-designed procedures. Guided inquiry structure was applied in this study for inquiry-based learning activities designs. As Bruder & Prescott (2013) reported, Guided Inquiry is "important for all students (including gifted students, ELL students, Indigenous students), across subjects and grade levels" (P. 13) and is the most effective in several aspects, as teachers take on a supportive role in students' learning.

Inquiry-based activities need to be carefully designed and implemented to ensure that all students will be involved in completing the tasks. Inquiry-based learning emphasises creating a student-centred learning environment for learners to explore and discover new knowledge through collaboration and communication. Vygostsgy (1978) pointed out that inquiry-based activities designers and instructors need to consider the "zone of proximal development" and carefully design and implement inquiry-based activities to ensure that all students are involved in completing the tasks. As such, inquiry-based learning pedagogy also highlights the teacher's role in eliciting students' ideas through questioning, facilitating their investigative skills (Keys & Kennedy, 1999), and helping students revise their understandings and build on their current knowledge (Eick & Reed, 2002; NRC, 1996). Students also need to take responsibility for their own learning through inquiry learning processes and ensure that their individual on-task behaviours include positive participation, rich collaboration, and self-directed learning (Lim 2004).

3.7.1 Questions Designed for Pre and Post- test of Intercultural Competence

To assess whether the inquiry-based learning pedagogy intervention induced students' intercultural competence and whether the degree of intercultural competence differed between the two groups, both the experimental and baseline groups were invited to participate in an exercise. This exercise involved both groups being given a series of pictures (Appendix A) concerning the relationship between humans and animals. The students were then required to answer the question "*Are there differences in the ways people treat animals and what are the reasons that cause these differences?"* This exercise was conducted when the unit topic commenced and was repeated at the unit's conclusion.

3.7.2 Question Designed for Intercultural Competence Development Process

In order to explore whether the participants' intercultural competence developed during the inquiry-based learning process, students were required to answer a series of questions (Table 3.4) at various stages of the learning period. This section compares participants' answers to similarly posed questions at various stages of the intervention. Table 3.4 indicates which questions were analysed and in what week of the intervention the questions were posed.

Table 3. 4 Questions were explored during the intervention

Analysed question	Questions were posed
Question 1: How do people perceive the relationship between humans and animals?	Week1, 5
Question 2: Do you think is some countries' treatment of animal and human relationship better than other countries?	Week2, 6
Question 3: If someone from diverse cultures eats a type of meats that you would not want to eat, how would you feel?	Week2, 5, 7

3.7.3 Procedures of Inquiry Activities Design

The topic (*The relationship between animals and humans*) and the central inquiry question (*How do people perceive the relationship between humans and animals?*) were introduced with supporting images (Appendix A) for students to consider at the beginning of the intervention to provoke students' awareness of the relationship between humans and animals; to help them to identify cultural differences and similarities, and to understand that people from diffident cultural backgrounds have different perceptions concerning animal treatment; to help them to demonstrate knowledge by analysing the relationship between human beings and animals from those different perceptions; and to help them better understand how to avoid prejudices and stereotypes.

Stage 1: Asking (Week 1).

This stage focused on arousing students' interest and curiosity about the relationship between humans and animals, to establish their prior relevant knowledge of intercultural understanding through the learning topic, through the following activities. First, teachers encouraged students to raise questions about the inquiry topic by asking them, "*when you see the words 'animals' and 'humans', what do you think of?"* The 20 students (whole group) were instructed to individually consider their ideas and thoughts on the question. Students were then required to discuss their thoughts in small groups and develop new questions. These initial individual reflections and group discussions were recorded and analysed to understand the participants' prior knowledge and level of intercultural understanding.

Second, a group of pictures was selected (Appendix A) and presented. The learners were required to draw a mind-map to show what these pictures made them think of, in respect to the relationship between animals and humans. This mind-map data were then used to analyse their fundamental intercultural knowledge.

Third, individuals were asked to write down their own questions that they wanted to explore regarding the relationship between humans and animals, and then were required to respond the open-ended question, "*How do people perceive the relationship between humans and animals*?" Learner responses were collected in move your portfolios. In order to finalise the inquiry questions, the teacher collected all the questions from the students, and grouped them based on content; for example, questions related to pets, countries, religion, regions, as changing times were grouped accordingly, and then summarised to construct five related questions (i.e.,

about pets, countries, religion, regions, and changing times) to explore the relationship between humans and animals, gave understanding of cultural differences, and develop students' intercultural competence. During the *asking* stage, students became active questioners by asking questions, responding others' questions, and revising their own questions. As Olds, et al. (1980) stated, there is an "enormous pedagogical difference between answering someone else' question and formulating your own" (P. 40).

Stage 2: Investigating (Week 2-4).

In this stage, multiple scaffoldings were provided to facilitate students to increase their critical thinking skills—including teacher-enhanced scaffoldings that provided authentic scenarios to guide students to analyse a situation from different perspectives and different angles, and technology-enhanced scaffoldings that offered various accessible resources to support students critical thinking to improve their intercultural understanding through comparison and analysis from multiple resources.

This stage aimed at developing learners' intercultural competence through various activities, including: selecting the inquiry question formulated based on their own questions raised in the *asking* stage; planning how and where to find the relevant resources and carry out an action; the and collecting and synthesising relevant information to answer their inquiry question. The following activities were arranged as follows. First, the participants were asked to work in groups of two or three students, based on common interest, to discuss the five questions and then select one that they wished to explore for their final project. The five questions were generated from the questions collected from the participants during the *asking* stage, and are:

1) *Why do people keep pets? Do people differ in their reasons for keeping pets? If so, why?*
2) *How do people in different countries (China, Australia) perceive the relationship between animals and humans? What might have led to the differences?*
3) *How do people in different religions (Buddhism; Christian; Hinduism, etc.) perceive the relationship between animals and humans? What might have led to the differences?*
4) *Do people living in the countryside and those living in big cities differ in their relationships with animals, and if so why?*
5) *Do humans' relationships with animals change over time; if so, what causes the changes?*

Second, upon each group deciding their investigating question, they determined a plan for obtaining relevant information and conducting their investigation.

During the investigating period, the participants needed to collect and synthesise the information to gather the evidence needed to address their investigating questions. As discussed above, this was a guided task; over the investigation process, the teacher guided and scaffolded individual group's study based on each group's investigating questions. As Bruce and Casey (2012) emphasised, scaffolding by the teacher is vital for guiding learners' investigation; by doing so, the teacher provides supportive resources and guidance for each group, according to their progress, to lead them towards the desired intercultural competence development objectives (Deardorff, 2006). The participants were guided and grew new ideas from the many activities the teacher provided. For example, the teacher provided various resources from the Internet, including stories and lectures and demonstrated how to collect and analyse data from different various sources; role play was also performed by the students.

Third, to examine whether the learners had increased their knowledge of intercultural understanding through the process of investigating, they were instructed to answer the following open-ended questions: "*Do you think some countries' treatment of animals is better than that of other countries? If someone from a different culture were to eat a type of meat that you would not choose to eat, how would you feel?"* The responses were collected in each student's portfolio and the data used to analyse the participants' ongoing intercultural competence development.

This investigating stage helped the participants turn their curiosity into action (Bruce and Casey, 2012). The participants gained not homely cognitive knowledge of intercultural understanding but also obtained metacognitive and affective knowledge through the learning process (Flick, 2000). In this stage, scaffoldings of supportive resources and guidance were vital elements that to led the young learners to carry out their plan (Kawalkar & Vijapurkar, 2013).

Stage 3: Creating (Week 5-7).

The *Creating* stage provided opportunities for students to demonstrate their understanding of the inquiry question, in order to show their new knowledge of intercultural understanding, demonstrate their ability of constructing and reasoning with the inquiry question, that display their collaborative and creative skills through the final project. The following activities were undertaken:

First, the learners were asked to select a medium (a poster, PowerPoint or cartoon story) to create and use it to present their project. The participants needed to discuss with their group

members and choose which format would be the most appropriate to demonstrate the understanding they had collected. Each group needed to select a group leader, who was responsible for making sure every member contributed to project equally and controlling the overall project quality.

Second, the learners were asked to carry out a 'hands-on activity' to create their presentation product, having previously planned and decided upon the format they would use to display their work. This stage required learners to transform the information they had researched into representative evidences of their understanding, to address their inquiry question. Samples (e.g., PowerPoint presentations, videos) were provided for students' reference and they were given a clearly explained rubric (Appendix C) to ensure the requirements for their final project were understood.

Third, students were required to respond to the following open-ended questions: "*How do people perceive the relationship between humans and animals*? *Do you think some countries' treatment of animals is better than that of other countries? If someone from different culture were to eat a type of meat you would not choose to eat, how would you feel?*" These questions provided learners with the opportunity to express their knowledge of intercultural understanding. Data were collected from the students' portfolios and used to analyse their intercultural competence development.

In the creating stage, learners demonstrated multiple skills—such as comprehension, critical thinking, and collaborative skills (Bruce and Casey, 2012)—over the process of creating.

For example, the presentation format requires fewer words, so learners needed to summarise and synthesise the information to express their understanding of the inquiry question, and needed to compare their own perceptions to others' and produce critical comments about intercultural differences; the rubric required equal efforts from group members to produce the final product, to encourage collaborative work.

Stage 4 &5 _discussion and reflection (Week 8).

This final stage combined discussion and reflection, and aimed to provide learners with opportunities to: present and share their work with the whole class; discuss and debate their arguments and allow other groups to provide feedback on their work; and reflect upon their own work and the whole learning process. First, each group was required to present its work in front of the class and respond to peer questions. Classmates were asked to provide peer feedback sheets critiquing the presentations. Second, whole-class discussions were held to explore and share participants' learning experiences, including their views on activities and their intercultural learning experiences. This was followed by every student completing a reflection sheet (Appendix D).

At the last stage (*Discussion and Sharing*), the activities provided opportunities for whole-class discussion, debate, explanation, and evaluation (Bruce & Casey 2012; Manoli et al., 2015). This helped students gain new knowledge and enhanced their understanding of the learning objective of intercultural understanding through the topic of "relationship between humans and animals." Reflection allows both learners and teachers look back on the learning process, reflect on what learning objectives were achieved, and apply their learning experiences to further

studies (Chan, 2006) in different learning subjects. Reflection also helps teachers to improve their pedagogical design (Roth, 1996).

3.7.4 Sample Questions Designed for End of The Course Reflection

At the end of the intervention, students were required to reflect on their intercultural development by answering a series of questions based on Hammer and Bennett's (1998) sample IDI orientation stages, as follows:

Denial sample question: "*Do you like to interact or play with people from diverse cultures? Why or why not*?"

Defence sample question: "*Do you think your culture is better than others, or any other cultures are better than yours? Why?"*

Minimization sample question: "*Do you enjoy the differences that exist between yourself and people from other cultures? Why, why not?"*

Acceptance sample question: "*Do you think people from other cultures should have the same values and goals as people from your own culture? Why?"*

Adaptation sample question: "*Do you feel there are any advantages in working or studying with people from more than one cultures?"*

3.8 Research Instrument and Data Collection

Data collection was conducted for both the experimental and baseline groups. During the intervention period, both groups were taught the same topic ("Animals"). At the beginning of the intervention, the two groups did the same language unit test and responded to open-ended

questions about intercultural understanding. During the intervention, the experimental group followed the inquiry-based learning process activities designed by the researcher, who aimed to develop learners' intercultural competence in the second language teaching and learning classroom. Meanwhile, the baseline group was subjected to the school's regular language instructive teaching method, which focused on drilling students all on vocabulary and sentence structures related to the topic. At the end of the intervention, both groups took the same unit test and responded the same open-ended questions about intercultural understanding.

Intercultural assessment should include a "mix of quantitative and qualitative methods… including interviews, observation, and judgement by self and others" (Deardorff, 2006, p. 241). To aid this approach, the instruments used to collect data in this study involved three groups:

- language proficiency tests that tapped into language differences between the experimental group and baseline group;
- surveys that helped to determine the differences in intercultural competences between the experimental and baseline groups, before and after the intervention;
- teaching journals and students' portfolios, which were used to analyse the experimental students' attitudes, knowledge, and skills of intercultural learning during the intervention.

Data collection instruments for intercultural development should be based on the definition of intercultural competence and the outcomes of intercultural competence development, as discussed in the previous sections. Overall outcomes refer to individuals' understanding of others' perspective and show respective and empathetic behaviour to others (Deardorff, 2011). Given the complexity of intercultural competence definition and multi-methods intercultural

competence development, multi-perspective assessments are needed to assess intercultural competence; thus, some scholars have asserted that direct and indirect assessment methods would provide greater and more complete narratives of intercultural facts and observation (e.g., Deardorff, 2011; Fantini, 2006; Straffon, 2003). Direct assessments include: performance (Byram, 1997; Ruben, 1976); interviews (Byram, 1997; Fantini and Tirmizi 2006; Straffon, 2003); and portfolio (Byram, 1997; Jacobson et al., 1999), while indirect assessments include survey (Bhawuk & Brislin, 1992). Fantini (2006) suggested that educators should consider "a combination of indirect and direct assessments will produce a more comprehensive picture of intercultural competence development" (Sinicrope et al., 2007 p. 33)

3.8.1 Language Proficiency Test

As Deardorff (2006) noted, "target language is frequently ignored in many models of intercultural competence." (p. 459). This study was conducted in a target language learning classroom to measure whether and how a program focused on the development of learners' intercultural competence would affect the development of target language proficiency; accordingly, language proficiency tests were of vital concern in this research.

The participants' school usually administers a language benchmark test at the end of each school year to assess learners' Chinese language development during the school year. Students are given 45 minutes to complete three parts: basic Chinese character recognition; reading comprehension; and a short essay. The students participating in this research undertook this test at the end of their Year Four (at the end of the 2016 academic year), with the test comprising basic character recognition and covering fundamental characters and sentences taken from Year

One to Year Four curriculum content, while the reading comprehension part selected texts from Year Four learning topics; the last part required examinees to write an essay selected from the listed topics (*all about me; my family; my school; what I have learned this year*) to show their expression skills in the target language. Test papers were marked by a panel of Chinese teachers, with one teacher responsible for marking a given section (e.g., written essay) for all students in the given year level to maintain a consistent evaluation approach and reduce bias. Of the 80 students classified as non-Chinese-background who undertook the test in 2016, the 40 highest scoring students were evenly placed into two groups for their Year Five studies, with these groups being referred to as advanced non-Chinese-background language groups. These two groups participated in this research and their Year Four benchmark test results were used, in conjunction with later tests, to determine participants' language ability, in both the experimental and baseline groups, before the intervention.

During Year Five, both the experimental and baseline group students undertook further standardised language proficiency unit tests. Each test was 45 minutes in duration, with the examination topic in Term One being "Daily Activities" and that of Term Two being "Animals." Throughout Term One, both the experimental and baseline groups were taught using non-experimental methods in learning the topic of "Daily Activities," which focused on language acquisition. Teachers used the same teaching pedagogies to instruct character recognition through writing Pinyin and making sentences using the new vocabulary. Both groups undertook the same classwork and homework sheets. At the end of Term One, Unit 1 test scores were analysed to determine differences in language abilities, both groups having been taught the same topic using similar methods before the intervention.

In Term Two, the baseline group continued to be taught using the same teaching methods applied in Term One to teach the topic of "Animals," whereas the experimental group adopted the inquiry-based learning method to focus on developing learner's intercultural competence through language teaching. Both groups undertook the same end-of-term unit test, the results of which were used to identify and compare differences after the intervention and assess whether the experimental group members has maintained their language development while focusing on their intercultural development, in comparison to the baseline group's development.

3.8.2 Survey

Surveys can be easily administered but are unable to establish evidence for assessing a learner's on-going intercultural competence progress. As Hashem (1995) stated, surveys are "standard cultural tests" that incorporate multiple choice answers or Likert-type elements that can be easily administered but are unable to establish evidence on the surveyed intercultural competence, as the survey only examines factual understanding. Such understandings can be stereotypical and generalised, quite notably in anthropological culture. As Ruben stated, "the validity of data of this type rests fundamentally on the presumption that respondents have the desire and ability to engage in valid self- assessment" (Ruben, 1989, p. 231).

The survey in this study used Likert-type seven-point scale questionnaires adapted from Chen and Starosta's (2000) five-factors model – interaction engagement, respect of cultural difference, interaction confidence, interaction enjoyment, and interaction attentiveness:

1. Interaction engagement: the interlocutor demonstrates the degree of participation in the intercultural interactive environment. For example, "*I have a feeling of enjoyment towards differences between my culturally-distinct counterpart and me. I enjoy interacting with people from different cultures."*
2. Respect of cultural difference: the interlocutor demonstrates respective and acceptive behaviour to people from different cultures. For example, "*I respect the ways people from different cultures behave. I respect the values of people from different cultures."*
3. Interaction confidence: the interlocutor performs a confident manner in an intercultural communication environment. For example, "*I am pretty sure of myself when interacting with people from different cultures. I always know what to say when interacting with people from different cultures."*
4. Interaction enjoyment: the interlocutor shows delight in interacting with people from different cultures. For example, "*I often get discouraged [reversed form] when I am with people from different cultures. I often get upset [reversed form] easily when interacting with people from different cultures."*
5. Interaction attentiveness: the ability of the interlocutor to receive and respond to people from different cultural backgrounds. For example, "*I try to obtain as much information as I can when interacting with people from different cultures. I am sensitive to my culturally-distinct counterpart's subtle meanings during our interaction."*

Chen and Starosta (2000) further provided 24-item questionnaires for measuring these five factors of intercultural sensitivity to test their validity; they reported the results were satisfactory, and that the factors were applicable and useful instruments for assessing learner's intercultural competence. Fritz and Chen (2000) did another test and reported the factors have "strong

reliability and appropriate concurrent validity" (p. 12). Therefore, the five-factors model was adopted in this study to measure the experimental group participants' intercultural competence development and compare any differences between it and that of the baseline groups intercultural competence levels, before and after the intervention.

In order to collect the most relevant and quality data to address the research question, the 24-item questionnaires were piloted in the same year level, to ensure that participants understood the wording and could provide appropriate answers before administrating the survey. During the pilot study and when answering these questionnaires, learners raised questions such as: "What does culturally distinct counterpart mean?" and "What points should I give for these questions (e.g. I don't like to be with people from diverse cultures) if I disagree with it?" In order to provide explicit questionnaires with the same meaning to suit the participants' age and contextual background, terms were explained either verbally or in writing. For example, 'culturally-distinct counterpart' was clarified by adding 'people from diverse cultures' in parentheses (i.e. "…culturally-distinct counterpart (people from diverse cultures…"). Verbal explanations for the revised questions were also provided; for example, "When you answer the question '*I think my culture is better than other cultures,*' if you agree with this statement, you should give it a high score, but if you disagree with the statement, give it a lower score; you need to read the questionnaire very carefully." The questions were further refined and tested again with another group of Year Five students cynical of there being no further questions or queries about the questions, they were adopted as the final version.

In this study, students in both the experimental and baselines groups were invited to complete the 24-item questionnaire before and after the intervention with 15-20 minutes being allocated; the questionnaire was adopted from the original version, which was conducted in English. This data were used to analyse and compare the pre- and post-intervention differences in intercultural competence between the experimental and baseline groups and within the experimental group itself, with the results to address the research question on whether inquiry-based learning can enhance students' intercultural competence.

3.8.3 Teaching Journals

Students' performance in intercultural situations demonstrates their learner's attitude, their appropriate behaviour in response to other's beliefs and values, and their knowledge about other cultures. Such performance assessment could provide an opportunity for students to apply their intercultural knowledge and skills in real-world situations (Deardorff, 2011). Although this study could not provide students with an authentic intercultural environment in which to showcase their performance, learners' performance can be assessed through class discussions, peer-work, class-level unstructured interview, and role-play. Ruben (1976) promoted performance appraisals wherein individuals are observed in simulations that mimic potential future situations. If these simulations do not occur naturally, they could be devised "using a simulation, game, or structured experience" (Ruben, p. 337).

A teaching journal is not just a useful tool for a teacher to collect data (as a researcher), but also to help the teacher reflect upon his or her beliefs, values and feelings about teaching during the research process (Eick and Reed 2002). Traditional written tests are never an effective

measure of intercultural competence (Deardorff, 2009, p. 462) and keeping a teaching journal can help the researcher to "focus on our internal responses of being a researcher and to capture our changing and developing understanding of method and content" (Etherington, 2004, p. 127).

The purpose of the teaching journal in this study was not just to record any evidences relevant to students' intercultural competence development during the intervention inside and outside of the classroom, but also to reflect on any challenges or strengths in the teaching process and students' perceptions of teaching content and methods, as observed and recorded in journal entries. For example, during the discussing session in this study, the teaching journal was used to record students' attitudes towards intercultural issues; students' dialogues with peers or with the researcher; and students' engagement with the activities.

Francis (1995) suggested four steps for reflective writing to assist teachers when writing a teaching journal: summary, new learning, questions, and personal reaction. Although Francis seems to be talking of using a journal as a teacher professional development tool, this format provides a structure for class data collection in a professional manner. The teaching journal is intended to briefly describe the key points of what has happened in the class, including content, activities, student involvement and teaching reflective comments, questions that emerge from topics, issues or strategies, and repeated questions about how the lesson could the conducted differently, why the lesson approach should continue, and how to make the lesson better through content and management strategies. Even though Francis gives valuable guidance on writing a teaching journal, this study used this guidance as something to be adapted and referred to, rather than strictly followed, as it is not possible to write a daily reflective journal using such a formal

format; moreover, the focus for this teaching journal was on collecting relevant data about the learner attitudes, knowledge and skills necessary for intercultural understanding, to provide evidence to address the research questions.

A sample of a day's teaching journal (Appendix F) entry, which comprises the date, activities, class observation and reflective comments. The date marks the day on which the activities took place; the activities describe the teaching objectives for that lesson; the observation recorded how the participants performed within the class activities; and the reflection noted personal feelings and thoughts related to the class, summarised the whole lesson, and provided suggestions for the following lessons. The teaching journal was also dues during class structured and semi-structured interviews to record the learners' perceptions and opinions about the learning activities throughout the intervention. The data collected from the teaching journal were used to measure individuals' intercultural competence developmental progress over the intervention; participants' perceptions of using the inquiry-based learning method in developing their intercultural competence; and whether inquiry-based learning were an effective or ineffective method of enhancing students' intercultural competence development.

3.8.4 Interviews

Interviews are a qualitative data collection instrument used to obtain data on individuals' or group's feelings and opinions about a topic (Basch 1987). Byram and Morgan (1997) employed interview concerning a personal topic with a "mother tongue" speaker; participants could prepare for a dialogue concerning "regional identity." Interviewees were requested to extrapolate on how their perceptions of social identification were related to their birthplace (Byram, 1997).

Interviews are a widely used data collection tool in social research to assess people's experiences and perceptions in developing an understanding of the phenomenon under study, from the perspective of the participating human actors (Yin, 2002). Byram and Morgan (1994) argued that interviews can be particularly useful in assessing students' intercultural sensitivity, as students can be "far more forthcoming in an informal interview than in a formal examination situation," and one can, through face-to-face interviews, gather more evidence (including nonverbal cues) on whether students truly possess respect, empathy, or an open mind toward other cultures. As such, classroom interviews were adopted in this study to collect data about students' perceptions of intercultural understanding with the inquiry-based learning process.

The classroom interviews were conducted during the students' group working time and normally lasted fewer than five minutes. During group working periods, the teacher regularly worked with individual groups and facilitated them to carry on their group task; students were asked questions relevant to their task at a time that did not disrupt the group participants' work and that allowed them to respond in a relaxed manner.

Unstructured interviews were conducted to capture data pertaining to the research participants' attitudes towards and their perspectives concerning the tasks the participants had been set on the day of the interview. Interviews were conducted during the groups' working time on a weekly basis, with a typical interview lasting from five to 10 minutes. The interviews were deemed to be unstructured, as the interviewer had no specific predefined questions and conducted the interview in a manner that mimicked daily conversation (Minichiello et al. 1990).

These interviews formed part of ongoing fieldwork observation (Patton, 2002). Ellis (1997) stated that the collection of behavioural data in small-sample-size research can be achieved by "studying small groups via observation or unstructured interviews" (p. 385).

As Minichiello et al. (1990) pointed out, an unstructured interview is "always a controlled conversation, which is geared to the interviewer's research interests" (P. 93); accordingly, the unstructured interviews performed in this research were conducted to ensure that the interview's focus remained on the study's objective and encouraged participants' contribution through controlling the direction of the conversation.

Unstructured interviews encouraged the students to share their experiences and perceptions of the learning content, which helped the researcher to analyse the process of the learners' intercultural development and their perceptions of inquiry-based learning, as demonstrated in the following sample transcript of an unstructured interview, conducted when a group was researching how people from different religions treat animals:

Researcher: What's your religion?

S1: I am Christian; S2: I don't know; S3: I am non-religious……

Researcher: Are there any restricted food in your religion?

S1: We can eat any meat, but I eat more beef; S2: I like to eat chicken; S3: do you know Buddhists don't eat any meat; all of them: Buddhists are so nice to animals…

The semi-structured interviews were conducted after class working time, with three to four students randomly selected from the class. Interviews were conducted during the students' free

period in the Chinese classroom and were 10-15 minutes in duration. Semi-structure interview questions were set to seek data to explore whether students believe inquiry-based learning aids in developing their intercultural competence. These structured questions were supplemented with group conversations that were guided by unstructured questions, to allow the researcher the freedom to vary the conversation as needed. Accordingly, the interviews were deemed to be semi-structured in nature, as Fylan (2005) explained:

> Semi-structured interviews are simply conversations in which you know what you want to find out about and so have a set of questions to ask and a good idea of what topic will be covered, but the conversation is free to vary… [unlike] structured interview, in which there is a predetermined list of questions that are covered in the same order for each person (P. 65-66).

This study attempts to determine how students perceive inquiry-based learning as it pertains to developing their intercultural competence, and why students hold those perceptions; thus, semi-structured interviews were used to gain a deeper understanding of the participants' perceptions and reasons and to provide a more appropriate format for discussing sensitive topics (e.g., personal feeling, beliefs and views). A sample transcript shows the use of structured questions, followed by an instructed question:

> *Researcher: What do you think of this term's activities for your Chinese learning? (structured question)*
>
> *S1: I like the discussion part; we can learn more Chinese by talking to others;*
>
> *S2: we have more freedom to explore what we are interested;*

S3: we learnt more cultural differences between Chinese and Australians when we are working on the research project…

What cultures have you learnt through these learning activities? (unstructured question)

S1: I learnt different country have diverse cultures;

S2: different religious have diverse cultures;

S3: people have different beliefs and behaviour, because they have diverse cultures;

……

3.8.5 Portfolio

Portfolio is a collection of learners' direct learning evidences and can include critical reflection sheets, class tasks, and other artefacts generated during the intervention process. Portfolio proves greater direct evidence for teachers to track learners' specific outcomes and overall ongoing intercultural competence development (Deardorff, 2011). Jacobson et al. (1999) highlighted that there is no straightforward way to undertake an assessment or allocate grades that indicate what a student has learned, but portfolios could do so. A learner should seek to identify examples from their experiences where they have communicated with people from other cultures; surmised portfolios can provide a beneficial mechanism for evaluating intercultural competence (Jacobson, et al., 1999).

Students' portfolios provide direct evidence that allows the researcher to monitor their ongoing learning process and are straightforward in being able to see the learning outcomes (Deardorff, 2011; Jacobson, 1999). A number of scholars (e.g., Deardorff, 2009; Ingulsrud et al., 2002; Jacobson, Sleicher and Burke, 1999;) have suggested the use of portfolios to assess the students' intercultural competence and they "better represent the complexity of the cross-cultural

experience" (Ingulsrud et al., 2002, p. 476). Yancey (1999) recognised that a portfolio of students' work can lead to more reliable and valid assessment than standard tests or single-paper assessment. To realise the benefits of the data captured within a portfolio, research participants were required to keep all their class tasks within their portfolio during the intervention.

Students' portfolios collected various data, including students' daily class tasks, weekly elective assessments (Appendix E), and end-of-unit reflection sheets (Appendix D). Daily class tasks were set as formative assessments of students' in-process hands-on activities, including mind-maps of students planning, student thoughts when discussing questions during class, and short quiz answers. One example is a lesson in which the class discussed "how people perceive the relationship to animals?" After the class discussion, students were required to write a few sentences about their thoughts on the question. Weekly reflective assessments required students to review and consolidate their learning; tasks were designed to achieve the weekly objectives and encourage students to explore and produce prior experience and reflect on new knowledge learnt during the week. Reflection sheets were assigned at the conclusion of the intervention to gather data on participants' perspectives on the learning process and on using inquiry-based learning for intercultural development.

Three open-ended questions were repeatedly asked of the experimental group participants over multiple weeks to examine how their responses to the same questions may have changed during different periods of the intervention. The three questions were designed to assess the intercultural understanding changes among the experimental group participants during the intervention's on-going learning process. The first question *(How do people perceive the*

relationship between humans and animals?) was assessed in Week One and Week Five; the second question *(Do you think some countries' treatment of animal and human relationships is better than other countries'?)* was assessed in Week Two and Week Six; and the third question *(If someone from a different culture where to eat a type of meat that you would not choose to eat, how would you feel?)* was assessed at Weeks Two, Five and Seven. Data captured were used to analyse whether the participants' intercultural competencies had changed at different stages of the intervention. The data facilitated triangulation analysis to assess regarding whether inquiry-based learning could increase intercultural competence. The qualitative data collected from these three questions were also used to identify learners' intercultural competence developmental orientation stages, according to Bennett's DMIS definition of the six stages of intercultural sensitivity.

3.9 Data Analyses

This study used both quantitative and qualitative methods to analyse the data and address the two research questions. First, the survey results were compared in a quantitative manner to identify any possible differences between the two groups pre- and post-intervention; the baseline group pre- and post-intervention; and the experimental pre- and post-intervention. Second, the language proficiency test scores were used to compare the differences between the two groups initial standard language proficiency; the Unit 1 tests (using the same teaching methods); and the Unit Two test (using different teaching methods). Third, the teaching journal and portfolio data were analysed qualitatively to examine the differences in the experimental group learners' intercultural understanding before and after the intervention; their understanding during the

ongoing learning process; and the learners' perceptions of using inquiry-based learning in developing their intercultural competence.

3.9.1 Quantitative Data Analysis

To answer whether inquiry-based learning would enhance learners' intercultural competence, paired samples *t*-test was used to compare the experimental group students' pre- and post-intervention mean scores and *p-values*, using data collected from Chen and Starosta's (2000) five factors of intercultural sensitivity questionnaire. Independent-sample *t*-tests were conducted to compare the differences between the experimental and baseline groups on the five factors assessed in questionnaire to identify any pre- and post-intervention relationship between or improvement in inquiry-based activities, and the differences between the experimental and baseline groups' intercultural sensitivity after the intervention.

To examine whether the participants could maintain their target language acquisition while developing intercultural competence, paired-sample and independent-sample t-tests were also adopted to compare the benchmark test and unit test results between the experimental group and baseline group, before and after the intervention.

3.9.2 Qualitative Data Analysis

In order to triangulate the quantitative data to seek how inquiry-based learning might influence students' intercultural competence, this research also used qualitative data gathered through:

- students' portfolio data collected from their class tasks;
- teaching journal data collected from students' class performance including students' verbal responses to class tasks, conversations between students and their peers and between students and the researcher;
- students final project; and,
- semi-structured interviews.

The data were analysed using the three analysis strategies outlined by Lewis (2015, p. 148) who suggested "preparing and organizing the data"; "reducing the data into themes through a process of coding and condensing the codes"; [and] "representing the data in figures, tables or discussions."

In undertaking the text analysis, key terms, and meanings were created and the texts reviewed for the frequency of occurrence of the created key terms and meanings. Bennett (2013) gave some examples of using qualitative data to analyse the DMIS stages, explaining that denial consists of ignorance and a limited knowledge of cultural differences, and is indicated by responses like "[I] don't care what culture they're in." In the defence stage, one demonstrates a recognition of cultural difference but a negative evaluation of those differences and adopts an attitude of superiority to criticise other cultures; a defence worldview shows stereotyped perceptions and the belief that the world is organised into "us and them," where either one's own culture ("us") is seen as superior to those of others ("them"), or others' is seen as better than ours. Minimization emphasizes human similarities rather than differences; for example, "we are all human beings, no matter what cultural they are"; in the acceptance stage, one recognises and

appreciates cultural differences, employing such statements as “diverse cultures have different values and beliefs, we need to respect each other”; in the adaptation stage, one tries to imagine and employ other cultures’ behaviours and beliefs as one would one’s own (“I would like to try other people’s problem-solving skills to solve my problem”); and in the integration stage, people define themselves as existing on the cultural margins and products of cultural transformation, and try to integrate other languages, food or values into their own daily life.

Text analysis and content analysis were used to examine any changes throughout the intervention process. Mayring （2004) pointed out that the “object of (qualitative) content analysis can be all sort of recorded communication (transcripts of interviews, discourses, protocols of observations, video tapes, documents ...” (P. 2). Artefacts within portfolios were analysed to identify evidence of students’ perceptions, understanding and attitudes towards diverse cultures. To provide triangulation analysis to answer the first research question, three open-ended questions were designed to repeatedly assess the learner’s intercultural ongoing development over the term of the intervention. Data collected from these three questions (see 3.7.1) were analysed with reference to Bennett’s six stages of intercultural sensitivity. For example, defence was defined as individuals having negative stereotypes about other cultures and showing an attitude of superiority about their own. The categories were defined based on the key words ***negative stereotype*** and ***cultural superiority***, to analyse if any responses within the meanings of the two key words belonged to the defence stage. Similar procedures were conducted to investigate the learners’ overall changes in intercultural sensitivity over the intervention. Mayring (2004) described the central interest of qualitative approach as “to develop

the aspects of interpretation, the categories, as near as possible to the material, to formulate them in terms of the material" (P. 3).

Lewis (2015) stated that interpreting data based on one's hunches, insights, and intuition can introduce bias. To minimizethis potential risk, the researcher invited peers and external colleagues to participate in the data interpretation and coding process. Data obtained from class tasks and teacher artefacts gathered both before and during the intervention were used to analyse and compare the baseline and experimental groups and provide evidence of any differences between the two groups in answering the research questions.

3.9.3 Trustworthiness and the Researcher's Role

This research was conducted as a quasi-experimental study. The experimental group participants came from the researcher's Year Five class and the baseline group participants from a peer's Year Five class. The researcher also being the class teacher brought both advantages and disadvantages to this research. As an insider-researcher with prior knowledge of the participants' contextual backgrounds, individual learner's cognitive skills, and participants' learning characters, the researcher could design more effective inquiry-based learning activities that reflected participants' experiences with and cognitive knowledge for intercultural development. Being an insider-researcher also provided a convenient way for the researcher to communicate with the baseline group teacher and interact with colleagues, who also acted as critical friends, and discuss the on-going process in order to revise activities to better suit the participants' learning needs, which helped in establishing the validity and reliability of the data

collection. Some researchers agree that the inside-researcher can benefit from collaborative reflection and critical communication (e.g., O'Hanlon,2003; Rearick and Feldman,1999).

However, this quasi-experimental research also has a possible disadvantage that might influence the data collection. Being an insider-researcher could influence the study's results, as the researcher had multiple responsibilities and had to focus on both teaching the curriculum and at the same time being conscious of the research objectives. Accordingly, there was a risk that relevant data could be missed or overlooked while the teacher focused on teaching content, classroom management, etc. Balancing the sometimes contradictory demands of completing the curriculum objectives and collecting quality data for research targets was a major challenge for the researcher. These challenges may not be faced by an outsider-researcher, who can focus simply on observing other teachers application of inquiry-based learning pedagogy either their class to develop students' intercultural competences.

To increase the trustworthiness of the findings, this study followed "triangulation" (Denzin, 1978) strategies, including: reviewing multidimensional theories, including different intercultural scholars' perceptions about the definition of intercultural competence and the methodology of developing learner's intercultural competence; employing a mixed-methods research approach in which quantitative data were collected pre- and post-intervention to investigate the learners' intercultural competence development, and in-depth qualitative data were collected to triangulate the intercultural competence development over the learning process; collecting data from multiple resources, including language proficiency test results, student

portfolios, teaching journals and interviews; and involving more people in qualitative data interpretation by inviting colleagues to act as critical friends.

In summary, this study adopted both quantitative and qualitative methods to analyse the gathered data and address the research questions. The quantitative data were analysed by using SPSS *t*-test to compare survey results and language proficiency test results before and after the intervention. The qualitative data were analysed through a coding scheme and word frequency counts of key words and phrases, based on the six orientations of intercultural development. Finally, as this research was conducted by an insider-researcher, there was an inherent risk of bias. To overcome this possible bias, research validity and reliability were ascertained through the triangulations of multiple data resources.

3.10 Research Ethics

All ethic approval forms were signed by the school administrator, the research participants and the participants' parents before the research was conducted. In addition, all participants were informed of the following, via written notice:

- There are no known or anticipated risks associated with participation in this study and participants would continue to be taught and assessed against the prescribed school curriculum.
- Participation in this research would in no way affect or contribute to the participants' grading or other assessments.
- All information gathered in this research would be maintained securely by the researcher and destroyed after a prescribed time. Research stakeholders were also advised that,

from time to time, the researcher may seek advice from the course supervisors, which may entail data being transmitted electronically via email.

- All the information gathered would be treated confidentially, with only the investigators and authorised individuals within the University of Hong Kong being given access to it.
- All identifying details, such as participants' names, would be stored separately and/or masked (as appropriate) to prevent identification of an individual; participants would not be personally identified in any research publication without parental consent.

Parents and participants were also advised of the following rights and guarantees:

- Participation in the study was voluntary; parents and children had no obligation to be involved and children could be withdrawn at any time.
- Parents had the right to have any unprocessed information provided by their child withdrawn and destroyed, provided it could be reliably identified.

Chapter Four: Findings

This chapter presents the research findings regarding the role of inquiry-based learning in developing students' intercultural competence in a Year Five (n=20) experimental group in an international school in Hong Kong. The results developed through quantitative and qualitative analyses help to show whether inquiry-based learning can enhance students' intercultural competence.

This section consists of three parts. The first part presents the statistical results of the five factors of intercultural sensitivity scales (ISS) by comparing the pre- and post-survey results between the two groups, and by analyzing qualitative data regarding students' intercultural development over the term of the intervention. The second section provides statistical comparison results of both groups' language proficiency test results, while the third section reports the participants' perceptions of the rule of inquiry-based learning in developing their intercultural competences.

4.1 Intercultural Competence Development Through Inquiry-Based Learning

This study used Chen and Starosta's (2000) five-factor ISS questionnaire (interaction engagement, respect for cultural differences, interaction confidence, and interaction enjoyment and interaction attentiveness) to measure intercultural sensitivity. An independent-samples t-test was conducted to compare the five factors of sensitivity (Chen, 2000) between the experimental group (n=20) and the baseline group (n=17). The following tables report the results from

comparisons of both groups pre-and post-survey answers, mapped against Chen and Starosta's five ISS factors.

4.1.1 Reliability Statistics of The Intercultural Sensitivity

To measure the internal consistency of the five factors of intercultural sensitivity in this study, SPSS was adopted to analyse their reliability. The reliability statistics in Table 4.11a show a Cronbach alpha of α=0.775, indicating the five items are of acceptable reliability.

Table 4. 1 Reliability statistics

Cronbach's Alpha	Cronbach's alpha based on Standardised items	Number of items
.775	.782	5

4.1.2 Statistical Analysis of Two Groups Pre-survey

Independent t-tests on prior to the intervention revealed no significant differences between the experimental and baseline groups for the five factors of intercultural sensitivity measures (Table 4.2).

Table 4. 2 Comparing experimental and baseline groups pre-test results.

Comparing experimental and baseline groups pre-test						
Five- factors	Group	Mean	SD	T-test	df	Sig.(2-tailed)
F1_Interaction engagement	Experimental	4.97	0.87	1.17	35	0.25
	Baseline	4.66	0.69			
F2_Respect of cultural difference	Experimental	5.82	1.04	2.45	35	0.19
	Baseline	5.15	0.43			
F3_Interaction confidence	Experimental	4.91	1.12	.67	35	0.50
	Baseline	4.67	0.99			
F4_Interaction enjoyment	Experimental	5.21	1.62	-.19	35	0.85
	Baseline	5.29	0.55			
F5_Interaction attentiveness	Experimental	4.53	1.07	1.18	35	0.25
	Baselines	4.08	1.02			

For Factor 1 (interaction engagement), the scores for the experimental group were (M=4.97, SD=0.87) and for the baseline group were (M=4.66, SD=0.69) (conditions; t (35) =1.17, p = 0.25). These results suggest there were no significant differences between the two groups' enjoyment of diverse cultures before intervention. Similarly, the Factor 2 (respect of cultural differences) scores for the experimental group (M=5.82, SD=1.04) and the baseline group (M=45.15, SD=0.43) (conditions; t (35) =2.45, p=0.19) indicated there were no statistical differences in terms of the two groups' pre-intervention respect for other people's values, opinions and behaviours. In terms of factors three Factor 3 (interaction confidence), the scores for the experimental group (M=4.91, SD=1.16) and the baseline group (M=4.67, SD=0.99)

(conditions; t(35)=0.67, p=0.50) can be interpreted as either showing differences were showing no significant difference in the two groups' pre-intervention interactions with people from diverse cultures. The scores for Factor 4 (interaction enjoyment) for the experimental group (M=5.21, SD=1.62) NT baseline group (M=5.29, SD=0.55) (conditions; t (35) =-0.19, p=0.85) suggest there was no statistically significant difference in the two groups' pre-intervention enjoyment of interacting with people from diverse cultures. Finally, the scores for Factor 5 (interaction attentiveness) for the experimental group (M=4.53, SD=1.07) and the baseline group (M=4.08, SD=1.02) (conditions; t (35) =1.18, p = 0.25) indicate that there were no significant differences between the two groups' pre-intervention ease of obtaining information when interacting with people from diverse cultures. These results suggest the two groups exhibited no statistically significant differences before the intervention integrating inquiry-based learning into the unit teaching.

However, independent t-test analyses of students' post-intervention ISS between the two groups revealed statistically significant differences between the two groups in all ISS factors.

Table 4. 3 Comparing experimental and baseline groups' post-test results.

Comparing experimental and baseline groups post-test						
Factors	Groups	Mean	SD	T-test	Df	Sig.(2-tailed)
F1_Interaction engagement	Experimental	5.67	0.58	3.89	35	0.000
	Baseline	4.90	0.62			
F2_Respect of	Experimental	6.20	0.51	4.44	35	0.000

cultural difference	Baseline	5.44	0.51			
F3_Interaction confidence	Experimental	5.75	0.73	4.56	35	0.000
	Baseline	4.96	1.99			
F4_Interaction enjoyment	Experimental	6.13	0.74	2.42	35	0.021
	Baseline	5.45	0.98			
F5_Interaction attentiveness	Experimental	5.87	0.79	3.75	35	0.001
	Baseline	4.39	1.53			

Table 4.3 shows that, for Factor 1 (interaction engagement), the scores for the experimental group (M=5.67, SD=0.58) and the baseline group (M=4.90, SD=0.62) (conditions; t(35)=4.89, p=0.000) show a significantly difference in interaction engagement between the two groups, post-intervention. For Factor 2 (respect of cultural differences) the scores for the experimental group (M=6.20, SD=.51) and for the baseline group (M=5.44, SD=0.51) (conditions; t (35) =4.44, p=0.000) indicate a significant difference in respect for cultural differences after the inquiry-based learning intervention between the two groups. The scores for Factor 3 (interaction confidence) for the experimental group (M=5.75, SD=0.73) then for the baseline group (M=4.96, SD=1.99) (conditions; t(35)=4.53, p=0.000) indicate a significant difference was found for interaction confidence post-intervention between the two groups. Similarly, the scores for Factor 4 (interaction enjoyment) between the experimental group (M=6.13, SD=0.74) and the baseline group (M=5.45, SD=0.98) (conditions; t (35) =2.42, p=0.02) indicate a significant difference in the two groups' interaction enjoyment after the inquiry-based learning intervention. Finally, the scores for factor five Factor 5 (interaction attentiveness) for the experimental group (M=5.87, SD=0.79) and the baseline group (M=4.39, SD=1.53) (conditions; t (35) =3.75, p=0.001)

indicate that, in contrast to the non-significant differences found for the ISS measures prior to the intervention, the experimental group demonstrated significantly greater intercultural sensitivity across the five dimensions compared to the control group, after the inquiry-based learning intervention; this significantly higher rating among the experimental group students indicates the intervention led to the development of their intercultural competence.

Over the course of the intervention process, students developed their intercultural understanding and intercultural awareness, as can be observed from the scores obtained in Factor 2 (respect of cultural difference) and Factor 3 (interaction confidence). After the intervention, the students showed more positive attitudes towards people of diverse cultures and an increased respect of other people's cultural values, opinions and behaviours. This change in attitudes was noted through class observation and students' dialogue; for example, at the beginning of the intervention, a number of students viewed their culture as superior (e.g., *'I like Australians, they do everything better than others'; '...of course, Australians treat animals so much nicer than Chinese... at least, we don't eat dog'*). In contrast, at the end of the intervention, those same students had altered views towards other cultures: "*I don't think one culture is better than others, because every country has their culture, we need to respect each other, we can live in a peaceful world." "Australian [culture] is not really better than others, because diverse cultures have special beliefs, religions that make them treat animals differently, ... like Australians eat many cows, Chinese don't eat many, Indian are not allowed to eat cows" (portfolio).*

Students showed more confidence when engaging in group work and interacting with people from diverse cultures. For instance, at the beginning of the intervention, some students expressed the view that it was difficult to talk in front of people from diverse cultures; e.g., "*I*

don't like to talk to people who are not like me, because I worry about they don't understand what I am talking about"; "*when I was in China, people wanted to talk to me, I ignored them and left*"; "*I prefer work with people who have same culture and same language with me"* (from an unstructured interview at the beginning of the term, involving a group students who were talking about their holiday). However, after the intervention, they felt more comfortable about interacting with people of diverse cultures. When asked how they felt when working with people from different language and cultural backgrounds, some students responded, *"I feel comfortable when working with everyone, no matter where they are from." "...many of my friends are from a different culture. sometimes, it depends on their personality and sometimes it depends on how well I know that culture." "I like to work with people from different culture or country, even though we may not understand each other, we can use more sign language" "I can learn more Chinese from my group partner Angie who is from China." (*this sources from unstructured interview: at the end of the intervention*).*

4.1.3 The Development of Intercultural Competence Among the Baseline Group Students

To further understand the development of intercultural competence within each team, paired-samples t-tests were conducted on all dimensions of intercultural competence across the pre- and post-survey responses for both groups. The paired-samples t-test on the baseline group before and after the unit teaching and learning showed significant differences in students' responses to only one factor, while their responses to the remain four factors remained the same (Table 4.4).

Table 4. 4 Paired sample test of baseline group.

Paired Sample Test of the Baseline group						
Factors	Test	Mean	SD	T-test	Df	Sig.(2-tailed)
F1_Interaction engagement	Post	4.89	0.62	1.71	16	0.107
	Pre	4.66	0.69			
F2_Respect of cultural difference	post	5.44	0.51	1.88	16	0.198
	Pre	5.16	0.43			
F3_Interaction confidence	post	4.96	1.21	3.64	16	0.002*
	Pre	4.67	0.99			
F4_Interaction enjoyment	post	5.45	0.99	1.09	16	0.292
	Pre	5.29	0.55			
F5_Interaction attentiveness	Post	4.39	1.53	1.90	16	0.076
	Pre	4.08	1.02			

Table 4.3 shows that, in the baseline group, four factors of intercultural sensitivity were found to have a P-value greater than 0.05. As such, we can conclude that there were no statistically significant differences among Factors 1, 2, 4, and 5. Only the scores for Factor 3 (Interaction Confidence) were found to be significantly different pre-test (*M*=4.67, *SD*=0.99) and post-test (M=4.96, SD=1.21); t (17)=3.64, P=0.002<.005. The significant increment in students' confidence about intercultural interaction is understandable, as students might have been more confident in their language ability for intercultural interaction after another unit's study. However, the remaining factors showed no statistical differences of note before and after the

learning unit. Therefore, whilst the results show teaching language only can increase students' interaction confidence, it does not increase the remaining intercultural sensitivity factors.

4.1.4 The Development of Intercultural Competence Among the Experimental Group Students

A paired-samples t-test was conducted to compare the five ISS factors among the experimental group students prior to and after the intervention. Table 4. 5 shows that all factors were found to have significant differences in the experimental group, pre-and post-post survey.

Table 4. 5 Paired sample T-test of experimental group

Paired Samples Test of the experimental group						
Factors	Test	Mean	SD	T-test	Df	Sig.(2-tailed)
F1_Interaction engagement	post	5.66	0.57	4.63	19	0.000**
	pre	4.97	0.87			
F2_Respect of cultural difference	post	6.19	0.51	6.38	19	0.000**
	pre	5.51	0.67			
F3_Interaction confidence	post	5.75	0.73	4.58	19	0.000**
	pre	4.91	1.13			
F4_Interaction enjoyment	post	6.13	0.74	2.50	19	0.022*
	pre	5.22	1.62			
F5_Interaction attentiveness	post	5.87	0.79	5.72	19	0.000**
	pre	4.53	1.27			

(Through the 1960s it was a standard practice in many fields to report P values with the star attached to indicate $P < 0.05$ and two stars to indicate $P < 0.01$(Fisher, 1950)).

As Table 4.5 shows, there were significant pre-and post-test differences in the scores for all five factors. These paired samples t-test scores showed that the p-value smaller than 0.05 for all factors indicating that the students had made significant progress in all five ISS factors, post-intervention.

4.1.5 Word Frequency Analysis

Word frequency analysis of participants' responses to questions on how people treat animals differently before and after the intervention was undertaken by using the Voyant digital text-mining program. Diagram 4.1 shows the frequency of word use pre- and post-intervention through visual graphs; frequency is indicated through the text size of the word in question, with font size increasing according to the frequency with which the word is used. Before the intervention, the most frequently used words were identified as animal, human, people, kill and caring. The high frequency of these words indicates the participants used a narrow set of vocabulary to describe the relationship between human and animals. The data further demonstrate that the students failed to highlight cultural differences and only focused on general human actions, and they frequent repetitive use of words and terms without reference to specific cultures when responding to the question at the beginning of the intervention.

After the intervention however, the participants used a broader range of words—including animals, people, differences, think, cultures, beliefs and treat. The data demonstrate that the

participants' responded to the same questions with more ethnorelative views, highlighting their increased awareness of intercultural differences. This digital data-mining analysis revealed that the inquiry-based learning intervention positively affected students' intercultural development and helped the looters to use more relevant cultural words to express their understanding and increased their intercultural sensitivity.

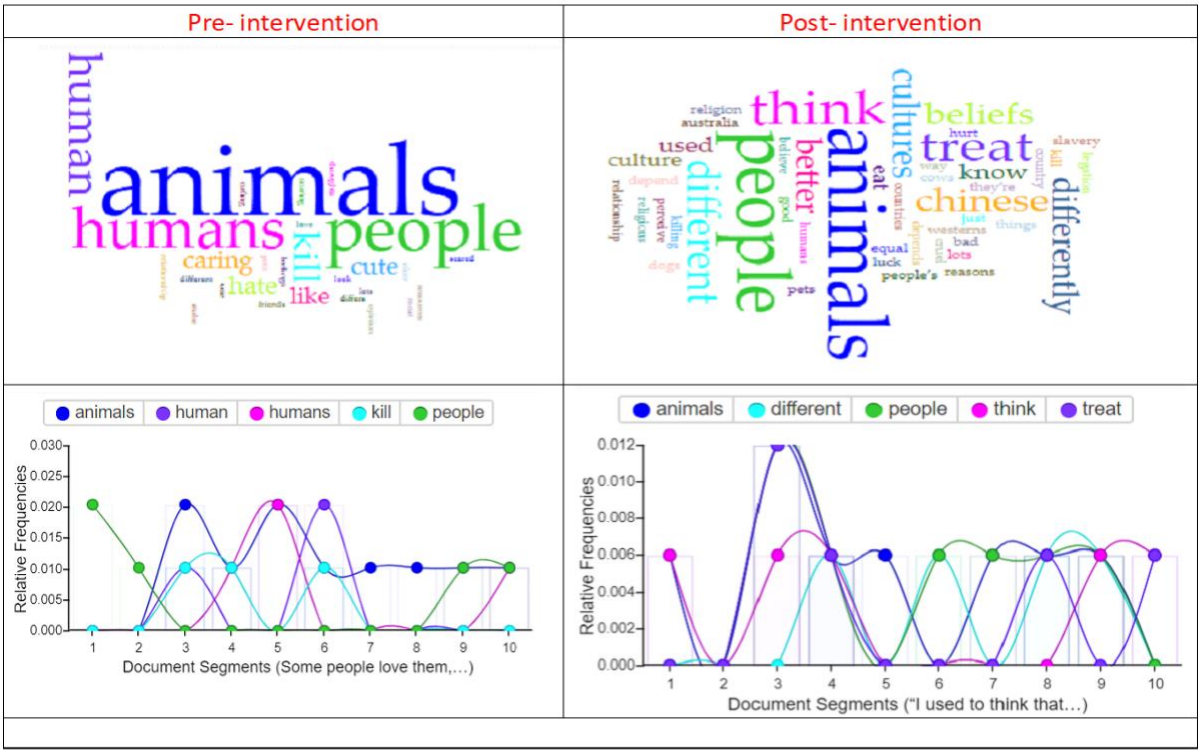

Figure 4. 1 Voyant digital text analysis for pre and post response

4.2 The Experimental Group's Intercultural Competence Across Time

During the intervention, data from different sources (teaching journal, semi-structured interviews, class dialogues, student learning portfolios) were collected that could shed light on the participants' intercultural development across time. In this unit, students were required to answer the same set of questions concerning the relationship between humans and animals at

different stages of the intervention (see Section 3.7.1). The questions were as follows: *Question 1: How do people perceive the relationship between humans and animals?* (in Weeks 1 and 5); *Question 2: Do you think some countries' treatment of animals are better than other countries?* (in Weeks 2 and 6); and *Question 3: If someone from a different culture where to eat a type of meat that you would not choose to eat, how would you feel?* (in Weeks 2, 5, and 7).

Students' responses to the three questions were analysed with reference to Bennett's (1993) DMIS model, in which intercultural competency consists of three ethnocentric orientation stages (Denial, consisting of ignorance and limited knowledge of intercultural difference; Defence, characterised by recognizing a cultural differences but having a negative evaluation of those differences; and Minimization, which emphasises similarities rather than differences) and three ethnorelative orientation stages (Acceptance, which recognises and appreciates cultural differences; Adaptation, which involves trying to imagine and employ how other people think and behave in problem solving and decision making; and Integration, in which people define themselves as dwellers at the cultural margins and facilitators of cultural transformation).

4.2.1 Comparing Experimental Students Learning Performance in Different Stages

This section reports on the experimental group students' intercultural competence, as reflected in their responses to the three repetitive questions posed throughout the intervention.

Analysis of Question 1: How do people perceive the relationship between humans and animals?

Question One was posed during Week One of the intervention and the students' responses were analysed to determine their understanding of cultural in general and identify any students who had an awareness of cultural differences and beliefs and whether such differences influenced their perceptions of the relationship between humans and animals.

Students' responses at Week 1 of the intervention

It was found that the participants were roughly at the ethnocentric denial stage, which Bennett (2004) defined as not just avoiding the facts, but also failing to notice or having limited knowledge about cultural differences. The responses of most participants indicted they exhibited limited awareness and knowledge of cultural differences in people's perceptions of and behaviours toward animals. Instead, they focused on common human personalities or characteristics and made frequent use of the generic term "people" to explain their understanding of the phenomenon. For example:

> "*Some people love them, some people scared them, and some people hate them." "Some people like pets because they cute, some hate animals because they are scaring."*

Their responses showed that they avoided cultural differences, and stressed that the human-animal relationship was dependant on human's emotional and physical needs; for example:

> "*Some human kill animals, but some animals kill us."*
>
> *"Humans keep caring for the animals and animals look cute for the humans, humans kill animals because human like eating their meat."*
>
> *"Sometimes human use animals as their friends or resources. If they see the animals' feelings, they will take caring to make the animals nicer…"*

Only two participants provided responses that indicated their awareness that some people perceive their relationship with animals differently, as some people have different opinions and thoughts:

"*Lots of people have different opinion of relationship between humans with animals."*

"…it differs between people thoughts."

Theses answers indicate a more positive perception, but do not go as far as attributing such behaviours to being influenced by a specific culture. Thus, it seems that the majority of participants were at the denial stage, as their responses showed a limited awareness of diverse cultures and a lack of consideration of how cultural identity influences people's lives and their perceptions of others.

Students' responses at Week 5 of the intervention

On Week Five, students were asked to answer the question again. An analysis of their responses on Week Five indicated that the majority (15/20) students noticed that different countries, cultures and religions have different beliefs and values about animals, which affect how they perceive the relationship between humans and animals:

"*People have different beliefs, cultures and reasons why they do things the way [to treat animals] they do."*

"How people treat animals depend on which country or culture the people from."

"People perceive their relationship between humans and animals differently because everyone has their own beliefs."

"Some cultures, they believe that killing animals is bad, but other cultures, they do it for good luck or slavery."

"People might treat different animals differently from their culture, religion, legation or not, it is just how people think about different animals."

However, five students' responses showed that, although they recognised there were cultural differences, they emphasised similarities and commonalities more:

"I think that all humans could possibly harm animals and there is no difference depending on their culture."

"Some countries still allow the hunting of animals, I think lots of countries have improved over time, not their cultures difference, as we all are human beings."

Thus, five students attributed similarities to our all being human; as such this small group was defined as being in the minimisation stage. Most participants (15 out of 20) were considered to have progressed to the ethnorelative acceptance stage.

Analysis of Question 2: Do you think some countries' treatment of animals is better than other countries?

Students' responses at Week 2 of the intervention

Bennett (2004) characterised the defence stage as one in which individuals highlight the '*superiority'* of one culture and criticise others, and in which persons show negative stereotyping of other groups and positive exaggerating their own. Question Two was posed during Week Two of the intervention and aimed to inspect students' knowledge of and attitudes towards their and other cultures. Five respondents held strong views about their cultural practices; for example:

"*Yes, I think Australians are way better because they have experiences of how to be kind to animals."*

"Australian have lots of fundraises for animals, I love everything that they do."

Half of the participants (10 participants) perceived their own country as superior in how it treats animals versus other specific cultures and showed strong negative stereotypes towards the latter. Some responses included:

"Australian give cows and pigs' good lives, but Koreans and Chinese throw dogs in cages and treat them very badly before they cook them."

"Some humans eat their animals, like Chinese eat dogs and Aussie's eat cows, Australian never eaten their pets."

"Chinese people don't treat most animals with respect instead they eat them, but Australian people treat animals nicely."

"Chinese eat dogs and snakes and spiders but Australian keep them as pets." "Chinese people are cruel to animals, but Australians are nice to animals."

Two participants expressed religion-based cultural perceptions and judgements:

"*Christians treat animals better than Muslims because god tells them to care for them."*

"Buddhism treat animals is the best, they don't eat meat and never kill animals."

The remaining responses were classified at the minimisation stage, as they emphasised the similarities among humans:

"Lots of people have different opinion of relationship between humans and animals, but we all are humans, not depend on which country they come from."

"I don't think some countries treat animals are better or worse than others, we all are human being, it all depends on people' personality."

The answers indicate that the participants understood that different beliefs, cultures and religions existed across different countries and that these differences influenced people's perception and behaviours towards animals differently. However, the majority of responses (18 out of 20) to Question Two indicated those students were at the defence stage.

Students' responses at Week 6 of the intervention

Participants were asked to revisit Question Two in Week Six of the intervention. The responses in this period began to indicate a shift from defence to minimisation and acceptance. Four participants showed they recognised superficial cultural difference but continued to emphasise the similarities between cultures rather than the differences:

"All countries have their cruelty and their good things, all countries eat some animals and treat some animals nicely, there are no differences between diverse cultures or countries."

"I think that there are some countries still improving their behaviour to animals, protesting cows. We all humans that we have no differences, no matter what cultures or countries people are from."

However, the rest of the participants indicated more of an interest in and appreciation and respect for cultural differences. They recognised that cultures and values influence people's behaviours in their relationship to animals:

"People respects different animals and treats them differently depends on their cultures; an example is Hindu people worship animals."

"Australian eat kangaroo, Chinese eat dogs and there are lots more. I do not think that one culture is better than others, because it is just their culture and religion."

"Some religions treat animals differently to others, some people think they treat animals better than others, but other people think they treat animals better than them."

"I do not think one country treat animals in better or worse ways, because it is their culture, we need to respect each other, we all should treat animals nicely and we can live in a peaceful world."

Thus, after six weeks of intervention, participants' responses indicated they all recognised that diverse cultures exist, although there were four participants who continued to stress the similarities between cultures rather than acknowledge the differences. Based on the DMIS definitions of intercultural stages, these four participants were deemed to be in the ethnocentric minimisation stage after Week Six of the intervention. Hernandez and Marshall (2007) pointed

out that in the minimisation stage "students were interested in over-emphasizing's common humanity at the expense of individual differences."

The remaining sixteen students who provided positive responses were deemed to be in the ethnorelative orientation acceptance stage, indicating a progression from earlier stages in the DMIS model. The knowledge, attitudes and behaviours expressed by this group of participants in Week Five aligns with the acceptance stage.

Analysis of Question 3: If someone from different culture where to eat a type of meat that you would not choose to eat, how would you feel?

Students' responses at Week 2 of the intervention

Question Three elicited participants' attitudes towards cultural differences. At Week Two of the intervention, sixteen participants' responses exhibited strong negative stereotypes towards people who eat different types of meat than they themselves do.

"If I saw other people eat meat that I don't like, I would feel vomit, ignore, and not happy."

"... I would feel disgusted, angry, annoyed and very sad."

"... I feel sort of sad because they may treat them badly."

"... I ignore it, which makes me want to vomit and I would walk away."

"... I hate people eat their pets, like dogs, cats."

Four students' responses show that they were not interested in knowing that the kinds of meat that others eat depends on their different cultures:

"*Fine, it is what they want to eat, we all are humans you can eat whatever you like."*

"I wouldn't mind, because I don't really care about what other people eat, everyone has their favourite food."

The participants' points of view indicate that their worldview was at the ethnocentric defence stage against differences, as they showed strong negative emotions and poor intercultural behaviours. They lacked cognitive knowledge about others, did not accept their behaviours, and used derogatory terms—such as "vomit," "ignore," "hate" and "disgusted"—to describe their feelings in relation to cultural differences. One type of defence behaviour is "*denigration,"* in which people use derogatory terms to describe other groups and apply negative stereotypes to other groups (Bennett 2004).

Students' responses at Week 5 of the intervention

After five weeks of intercultural training, the participants' responses demonstrated an understanding of intercultural differences. Most of the participants (16 of 20) began to show acceptance of other cultures behaviour and to recognize and appreciate cultural differences. The negative responses demonstrated in Week Two were not repeated in Week Five:

"If I saw other people eat a type of meat that I never had before, I wouldn't mind as people like different things."

"Fine, it is what they want to eat. I would understand that they ate different things from me, because they believe different religions with me."

"I would understand their test of food as they may have this type of meat when they were children."

"I wouldn't care at all, because I know people from different countries and cultures eat different food or meat.

"I wouldn't mind, because I don't really care about what other people eat. I will respect what they eat."

However, two people remained at the minimisation stage:

"I don't mind what other people eat as we all have different test, no matter what culture they have."

"We all are human beings, we have freedom to choose whatever we like, no depend on your cultures."

Students' responses at Week 7 of the intervention

Most participants (18 out of 20) progressed to the acceptance level of intercultural competence, as evidenced by their Week Seven responses. Bennett (1998) described that people at the adaptation stage consciously try to imagine how other people are thinking about things and shift their mental perspective to other people's point of view. Hammer and Bennett (1998) pointed out that people in the adaptation stage consciously try to understand other persons' thinking about things, adopt other people's worldview, and are willing to interact with people from other cultures and experience other cultural worldviews.

During Weeks Six and Seven, more imaginary scenarios were created to allow students to practice their cultural adaptation through various formats, including role play and storytelling. At Week Seven of the intervention, Question Three was repeated to identify any further changes in the participants' DMIS. Eleven students remained at the acceptance stage and two students remained at minimisation stage, as their responses were similar to their Week Five responses.

Seven participants provided responses that demonstrated both cognitive and behavioural adaptation to other cultures, displaying a level of respect towards other cultures and indicating their intercultural knowledge, affective and behavioural performance. Accordingly, these students were aligned with the intercultural adaptation stage:

"If I saw other people eat different meat, I would think yummy, healthy, diet, religions."

"Some people don't eat certain meats because of their religions, I am atheist, if I saw other people eat some meat I have never had, I would like to try to test how yummy."

"If I saw many people eat one type of meat, its test must be good, and people couldn't think of eating dog, I don't mind trying it."

"Some meats are tasty and barely anyone keeps them as pets, if I try a new meat, I wouldn't think it was a cute pet."

"People eat certain meat because the taste, religions, Muslim can't eat pork, they may allergies with pork, but if they don't know its pork, they were not feeling bad or guilty."

"I don't mind trying other cultures or religions food, I might like other meat I never had at home."

"If I saw other people eat different meat, I would feel hunger and want to try it."

Table 4.6 summarizes the intercultural changes over the intervention period. Students were asked three questions at regular intervals during the intervention and their responses analysed to determine which of the six DMIS stages each student belonged at each time. For example, in Week 1, all students were asked Q1, with 20 students falling into the Denial stage.

Table 4. 6 The participants' intercultural changes over the intervention

Intercultural Stages	**Week 1**	**Week 2**		**Week 5**		**Week 6**	**Week 7**
	Q1	Q2,	Q3	Q1	Q3	Q2	Q3
Denial	20						
Defence		16	17				
Minimization		4	3	5	4	3	2
Acceptance				15	18	17	11
Adaptation							7

Table (4.6) shows that findings from the question responses indicate that all participants were deemed to be at the denial stage at Week One, as all students failed to acknowledge the influence of culture. All students recognised culture existed at Week Two; however, most participants perceived their own culture to be superior to others' and negatively criticised others' cultures. As such, most were deemed to be at the defence level, while the four participants who emphasised cultural similarities were defined to be at the minimisation stage. At Week Five, the participants' responses indicate that they recognised that culture existed and influenced how people perceived relationships. Five students who responded to Question One and four who responded to Question Three acknowledged cultural differences, yet they still over-emphasised similarities, and were thus classified as being at the minimisation stage. The remaining participants acknowledged that cultural differences influenced people's perceptions and behaviour, and thus could be seen to be at the acceptance stage. At Week Six, the responses from Question Two indicate three respondents remained at the minimisation stage and seventeen

participants move up to the acceptance stage. At the last stage of intervention, the responses demonstrate that seven students moved from the acceptance to the adaptation stage, as these participants showed cognitive, affective, and behavioural adaptation. Eleven students remained at the acceptance stage and two remained at the minimisation stage.

Overall, the development of participant' intercultural competency through the intervention can be seen by comparison and analysis of participants' responses to the three questions in Table 4.6; all participants' intercultural competence grew (to varying degrees) over the period of the intervention. These findings support the hypothesis that inquiry-based learning can increase a student's intercultural competence.

4.2.2 Comparison of Pre-and Post-response to A Set of Questions Between the Two Groups

Analysis of findings before unit intervention

The baseline and experimental groups were asked to answer the following question: "*Are there differences in the ways people treat animals and what are the reasons that cause these differences?"* Table 4.7 shows both groups expressed common opinions about how people treat animals for different purposes at the commencement of the unit topic. Many students (26 out of 37) considered how animals were treated depended on a person's personality and their entertainment and human needs. Sixteen students in the experimental group used positive words (e.g. "kind," "nice," "like," "love," "take care," "have good relationship to animals") as well as negative descriptors (e.g. "hate," "cruel," "kill," "dislike animals") to describe how people treat animals; four students showed the understanding that people's cultures and beliefs were different and that that influenced them to treat animals differently:

"... it varies in religions or nationality." "... things that cause the difference are cultures." "people do treat animals differently in cultures because their beliefs" "there are differences in the way people treat animals, because of some religions..."

The baseline group also used both negative and positive words to describe how people treat animals. Positive statements included "Some are taking care," "treat them like their best friend," and "treat animals well and are kind to them"; negative phrases included: "Some people kill animals and eat their meat," "eat animals and treat cruelly for entertainment," "some are cruel to the animals and sacrificing animals for themselves." Six students in total (from both groups) held the view that people often use animals for human needs:

"Some people use animals for entertainment and some people use animals for money like elephant ivory, bear bile and different types of skin."

"Some people use animals as tools for people making money"

"Some people spend time to play with animals just for entertainment or treat them as slaves"

"Some humans sacrifice animals for medicine. In circuses, people could use them to dance for money."

Within the baseline group, four students showed their empathy towards animals and negative attitudes towards humans:

"These days cruel to all the animals on the planet, I think animals should be treated the same and fairly."

"I know that having a pet is amazing for one and other, but sometimes they don't get enough food."

"Pets need love, but they also need freedom, that's why we should be nice to every animal.,"

"I think humans don't treat animals right, we shouldn't hurt them or kill them."

Table 4.7 summarizes participants' responses from both the experimental and baseline groups, categorized as either non-relevant or relevant to cultural understanding for the start-of-intervention question: "*Are there differences in the ways people treat animals and what are the reasons that cause these differences?*"

Table 4. 7 Lists participating students' responses beginning of the intervention.

Intercultural understanding	Baseline group	Experimental group
Non-relevant to cultural understanding	*Some people are friendly, take care, kind to their animals; Some people are cruel to animals, pet need love, pets need freedom, we shouldn't hurt animals; Some humans sacrifice animals for medicine, for money.*	*Some people are kind, nice, like, love, take care, have good relationship to animals; Some people hate, cruel, kill, dislike animals. Some people use animals for entertainment, use it for money*
Relevant to cultural understanding	*None*	*Diverse cultures have different views of the relationship to animals; How to treat animals depend on their religions and nationality.*

The responses at the beginning of the "Animals" topic indicate that baseline group students recognised differing behaviours in how people treat animals, but no participants appeared to display any knowledge of the factors that might influence people's thoughts and behaviours. These responses are defined as being at the denial stage, as they included naive observations about cultural differences (Bennett 1993). In the experimental group, four students

acknowledged that distinct cultures insist amongst humans, but emphasised the similarities in human personalities, characteristics and needs. These four students were accordingly categorised as being in the minimisation ISS stage.

Analysis of findings after the intervention

After eight weeks of intervention, both the experimental and baseline groups' students were required to do same exercise. Table 4.8 shows that the responses from the two groups show considerable differences, as most participants (18 out of 20) from the experimental group demonstrated their knowledge of how cultures, religions, beliefs and values influence people's thoughts on, behaviours toward, and perceptions of the relationship to animals:

"People treat animals differently because of their beliefs of what is good and bad for them."

"How you should treat animals, it also depends on where your live, what' your religion and cultures."

"People' beliefs influence people' perceptions and behaviour of treating animals for example Buddhism people don't feed them meet, and Indian people don't feed them beef."

"People treat animals differently, because they have different religions and cultures."

However, there were no measurable differences in the baseline group's Week Eight responses, when compared with the responses they provided before the start of the unit. Baseline group students continued to emphasise human personality and needs as factors with no specific culture influences being raised:

"The difference is that some people are really mean to some animals, sometimes use animals for entertainment and medicine."

"some people were very cruel to animals; they capture animals for entertainment and kill them for meat."

"Some people are nice to animals; they love their pets and treat animals like their friends."

Table 4.8 summarizes participants' responses from the experimental and baseline groups, categorized into non-relevant or relevant to cultural understanding for the end-of-intervention question: "*Are there differences in the ways people treat animals and what are the reasons that cause these differences?*"

Table 4. 8 Students perceive how people treat animals differently at the end of the intervention

Intercultural understanding	Baseline group	Experimental group
Non-relevant to cultural understanding	*Some people are really mean, not nice, very bad to animals; some countries are friendly, others are cruel to animals; some people kill animals for food; people use animals for entertainment and medicine.*	*There are lots of differences. The reasons are some humans kill animals for food, some for pleasure, some for money, but most humans are kind towards animals.*
Relevant to cultural understanding	*None*	*People beliefs of what good and bad how you should do things, it also depends on where they live, their religions or their cultures; Diverse cultures, religions have*

		different beliefs that brought up different views that impact people perceive the relationship to animal; *Buddhism people don't feed them meet and Indian people don't feed them beef, not one is better than others, we need to respect other people's beliefs.*

These responses show that the baseline and experimental groups pre- and post-question responses tend to support Bennett's observation that students' cultural understanding needs to be trained; it cannot be obtained through regular language teaching and learning, which may not be sufficient for cultural learning (Bennett, 2008). There were no discernible differences between the two groups' responses before intervention. However, after the intervention, the students in the experimental group changed their individual cognitive appraisals (Chataway & Berry, 1989). Specifically, their responses demonstrated that they had gained the understanding that cognitive aspects of enculturation—such as believes, values, and attitudes—influence people's perception and behaviour, in contrast to the students in the baseline group, who did not show any understanding of cultural differences being an influencing factor. Therefore, these findings support the hypothesis that inquiry-based learning pedagogy enhances students' intercultural learning.

4.2.3 Summary

In order to find whether inquiry-based learning increase students' intercultural competence, this section reported the results of this study's quantitative and qualitative data analyses. Quantitative results obtained through the comparison of both the baseline and experimental groups' pre- and post-survey on intercultural sensitivity (Chen and Starosta, 2000) indicate that the experimental group's students showed significantly different development in their intercultural competence over the term of the intervention. The qualitative data provided details about the learning process and acculturative information about the students' intercultural development through participating in various activities during the cycles of inquiry-based learning over the period of the intervention. The text analysis showed that the experimental group's students improved their intercultural competence in different stages, in accordance with Bennett' six stages (denial, defence, minimisation, acceptance, adaptation and intervention) of intercultural competence.

Both the quantitative and qualitative data reveal that the baseline group students showed a similar pattern in their intercultural understanding before and after the unit learning, while the experimental group students increased their intercultural competence, in terms of their knowledge, skills and attitudes. This indicates that intercultural competence does not come naturally with language learning, and that deliberate instructional efforts need to be taken to develop students' intercultural competence. Additionally, pedagogies, such as inquiry-based learning, that provide systematic planning and effective scaffoldings are needed to help students increase their intercultural competence. These findings echo the hypothesis that inquiry-based learning pedagogy can increase students' intercultural competence. Analysis of this research

also shows students' intercultural competence does not always develop linearly; rather, participants' intercultural competence progression was likely situationally specific, influenced by their personal identity and emotional traits, and oscillated over time.

4.3 The Comparison of Language Proficiency Development Across the Intervention

Whilst the findings of the study indicate that students made significant improvements in their intercultural development when undertaking their Chinese language unit, to check whether the extra instructional time spent on intercultural development came at the cost of the participants' language proficiency development, baseline and experimental group participants' unit test results were compared.

4.3.1 Comparison of Students' Language Proficiency Between the Two Groups Prior to the Intervention

Students' language proficiency prior to the intervention was assessed through two measures: year entry test and test scores of the unit prior to the intervention. Research participants undertook their end-of-year benchmark test at the end of their Year Four studies, the results of which were taken as the indicator of their Year Five entry-level performance. Table 4.9 reports the test scores of the two groups.

Table 4. 9 Benchmark test results of both the experimental and baseline groups before Year Five

Benchmark test results of both the experimental and baseline groups before Year Five						
Tests	Group	Mean	SD	T-test	df	Sig.(2-tailed)
Benchmark	Experimental	57.43	14.36	-.225	35	.823
	Baselines	58.41	11.93			

As Table 4.3.1 shows, there were no discernible difference between the experimental and baseline groups' entry-level benchmark test results (M=57.43, SD=14.36) and the baseline group (M=58.86, SD=11.93) (conditions; t(35)=-0.225, p=0.823. Even though the mean scores of the baseline group were more than one point higher than those of the experimental group, there were still no significant differences between the groups (P>0.05). These results show that the baseline language abilities across the two groups were quite even.

In Term One, the learning topic for both groups were "Daily Activities." Teachers from both groups used similar teaching methods that emphasised vocabulary memorization, sentence construction, and basic passage writing skills. After the completion of Term One in the research period, and prior to the research intervention commencing, both the baseline and experimental groups undertook a common unit test paper, which consisted of four parts; the first part focused on examining students' basic vocabulary recognition; the second emphasised students' sentence constructions skills; the third part tested students' reading comprehension ability; and the final part required the students to write a short essay. Table 4.10. reports students' performance in the unit tests prior to the intervention.

Table 4. 10 Unit test results of both the experimental and baseline groups before intervention

Bother experimental and baseline group unit test results before intervention						
Tests	Group	Mean	SD	T-test	df	Sig.(2-tailed)
Unit 1	Experimental	85.18	9.59	.019	35	.985
	Baselines	85.11	8.27			

As Table 4.10 shows, there were no significant differences between the two groups—experimental group (M=85.18, SD=9.59), baseline group (M=85.11, SD=8.27) (conditions; t(35)=0.019, p=0.985. These results show that the two research groups' target language reading and writing skills maintained a similar level after Unit One, as recorded in their end-of-year benchmark test of the previous year.

Thus, both the year entry test and test scores of the unit prior to the intervention show that students from both groups did not exhibit significant differences in their language proficiency before the intervention. Furthermore, teacher observations of the students' in-class performance showed no salient difference in their motivated efforts in Chinese classes. The teacher of the baseline group reported that most of the students showed positive attitudes towards learning Chinese:

> *There were no behavioural issues so far, all students seemed on task all the time and they can complete the set tasks. Three girls like chatting occasionally, but if they were told to stop, they can still stay focused.*

The teacher of the experimental group class had similar observations, as revealed in her teaching journal:

> *Most students in the class showed positive attitude towards learning Chinese…there was a group of boys were easily distracted when they sat together, they need to be separated, … All students actively participate the discussion section*.

The teacher' journal did not record any negative issues regarding the participants in the experimental group. Thus, there were no negative attitude or special issues in either the experimental or baseline groups before the intervention unit started.

4.3.2 Comparison of Students' Language Proficiency Between the Two Groups After the Intervention

In Term Two, both the experimental and baseline groups were taught the same topic, "*Animals*." The experimental group adopted an inquiry-based learning method that focused on applying the target language to explore cultural differences to investigate whether inquiry-based learning can enhance students' intercultural competence. During the intervention period, structured lesson plans were used the adopted the requirements of the inquiry-based learning design cycle.

After the eight-week intervention (aligning with the end of Term Two), both groups undertook a further unit test using the same structure as the Term One test, modified to focus on the term's learning themes. This set of tests (Table 4.11) showed a significant difference between the two groups—experimental group (M=85.00, SD=9.09), baseline group (M=75.11,

SD=12,55), t(35)=2.77, p=0.009. As the p-value is smaller than 0.05, this indicates a significant difference between students in the experimental group, compared to those in the baseline group.

Table 4. 11 Unit test results of both the experimental and baseline groups after intervention

Bother experimental and baseline group unit tests results after intervention						
Tests	Group	Mean	SD	T-test	df	Sig. (2-tailed)
Unit 2	Experimental	85.00	9.09	2.77	35	.009*
	Baselines	75.11	12.55			

During the intervention period, the experimental group focused on cultural exploration and exploring cultural differences between their culture and the target language culture. They focused on acquiring new skills of intercultural understanding, intercultural awareness, and intercultural communications. The intervention concluded with the final week being dedicated to reviewing the learnt language and preparing for the unit test. As the experimental group had less time to prepare and practice basic language elements (e.g. memorising vocabulary, writing drills) for the unit test, one might hypothesise that they would likely achieve lower scores that the baseline group. However, the language unit test results show no statistically significant differences in the experimental group's test scores, as compared to the control group. The tests results (Table 4.11) show that most of the experimental students achieved higher scores compared to their Unit One results, whilst the baseline group's test scores decreased. The average mean score of experimental group for Unit Two was 85 (SD=9.09), while that of the baseline group was 75.11 (SD=12.55), a 10-point decrease from their Unit One test score. The

independent t-test ($p<0.05$) indicated that there was a significant difference between the mean scores of the two research groups' language tests.

Figure 4.2 shows that 13 of the 20 students in the experimental group scored higher in the Unit Two test, with only seven students recording a lower score. However, the results of the baseline group differ markedly from those of the experimental group. Nine of the 14 students in the baseline group recorded worse scored in Term Two compared to Term One. Furthermore, the results show wildly varying Term One and Two scores for individual students in the group.

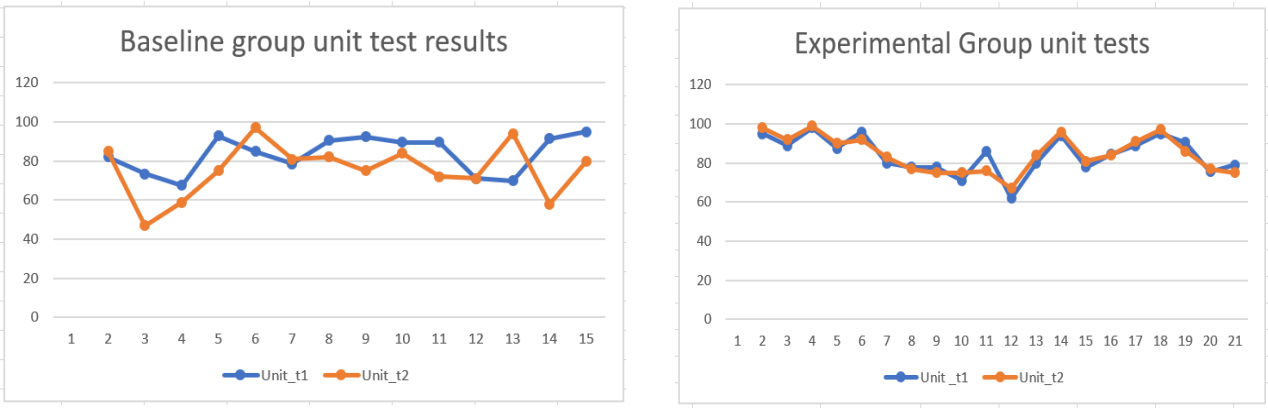

Figure 4. 2 Baseline group and experimental group language test results

Thus, the baseline group showed greater variation in individual scores. The baseline group class teacher was interviewed to understand what, if any, possible factors may have impacted the scores. She stated that, for the Term One test, the students studied very diligently; however, she felt that the repeated practicing of the test elements as the year progressed caused the students to become bored with the constant drilling teaching format, such that they did not "care much about the second test." Comparatively, the experiment group adopted an inquiry-based cultural

learning approach that provided a learning environment in which students could apply the language to express themselves freely through guided questions and in which the teacher scaffolded individuals or small groups to learn the target language. All students constructed their knowledge based on their own learning pace; therefore, even though the experimental group focused on intercultural understanding, everyone retained their language test sores and there was no obvious decrease in their unit performance. The learners attributed their language performance to the interesting learning materials and learning process the pedagogical approach adopted:

T: This term, we were focusing on learning culture, do you think learning culture helps you with your language learning?

A: Yes, we learnt more vocabulary, and how to ask questions in Chinese;

B: we read more interesting texts to talk about the diverse cultures;

C: the readings were more fun.

The intervention helped the learners expand their language exposure, with many students showing a willingness to spend additional time practising characters to maintain the required levels of all components of language acquisition. The students were asked to present their final project by the end of Week Eight; many students took it so seriously, that an email from a parent was received that included the following:

"...my daughter hated learning Chinese before, but she started to love Chinese this term. She practiced Chinese speech every day this week at home and tries to communicate with Chinese people she meets in our community."

4.3.3 Summary

The two classes' test results indicate that the inquiry-based intercultural teaching approach did not sacrifice students' language development, but rather led to better performance as compared to the baseline group. This approach can increase students' interest and curiosity by linking language and culture in the foreign language classroom. Teachers should further create a learning environment of curiosity, one in which students can actively apply the target language and explore their target culture.

4.4 Students' Performance and Reactions at Different Stages of the Inquiry-Based Learning Cycle

This section explores how participants perceived and how they were seen to perceive inquiry-based learning for their intercultural development. Various data were recorded and analysed over the four stages of the inquiry-based learning cycle (asking, investigation, creating, sharing and reflection). For each stage, teaching journals were produced, recording class observations of students' performance and learning attitudes. These data represent a coherent thread of participants' perception responses. Other data recorded and analysed include semi-structured interviews, student dialogues, parents' comments, and unit evaluations. A qualitative analysis of the data was undertaken to identify the participants' perceptions towards the learning environment for their intercultural development. For each stage in the inquiry framework, analysis sought to identify perceptions of students' performances and reactions, and the challenges they faced.

4.4.1 Stage One (Asking)

The first stage of the inquiry-based learning cycle, *Asking*, involved investigating the participants' general knowledge of intercultural understanding to determine their base-level intercultural competence awareness. Four questions were asked to activate students' prior knowledge:

1. *Why do people keep pets?*
2. *Do people differ in their reasons for keeping pets?*
3. *How do people in different countries (China, Australia…) perceive their relationship to animals differently?*
4. *Do people living in the countryside and those living in big cities differ in their relationship with animals? Why?*

The students seemed very interested in discussing these questions with their peers and actively expressed their opinions. The participants demonstrated great eagerness to ask questions, which supports Perry and Richardson's (2001) view that inquiry-based learning can be defined, in part, as the process of learners' creating meaningful and useful knowledge from knowledge at-hand by asking questions. However, Paige (1993) pointed out that intercultural training could incur psychological risk, as most learners have few experiences with highly personalised behavioural and affective learning. The teaching journal shows that the participants lacked the patience needed to wait for their turn during the questioning section, and that some students became involved in physical conflicts when questions were raised that impacted their personal feelings, for example:

"… when the sample questions were posed, students were given five minutes to discuss with a partner and then share their opinions with the whole class. Only two minutes had passed, but many students raised their hands and couldn't wait and started to pop up their view about these questions, some students seemed to have lots of things to say and kept talking, others couldn't wait and keep disrupting, some students were frustrated. They were reminded a few times to stay calm and wait for their turn… this lesson, the students seemed out of control, but I never have seen such a vibrant class before." (Week 1)

After discussing the initial questions, students were then asked to list questions they might be interested in investigating further concerning the relationship between humans and animals. The students were eager to write out their own questions, having explored the initial questions. The teaching journal reported that:

> "*… during the discussion period, they all desperately sought to express their ideas and seemed to have lots of things to say…students were required to write three questions, but many students asked, 'can I write more questions?' …at the end, four people wrote four questions, the remaining students wrote more than five questions." (Week 1)*

The teaching journal indicated that during the asking stage of the inquiry-based learning cycle, the participants demonstrated eagerness, engagement, and enthusiasm at the beginning of this learning topic.

At the asking stage, some students felt some of the questions raised by other participants were insensitive, which led to class conflict, arguments and other emotional responses. For example, one student wept when their peer asked, "*Why do Chinese people eat dogs?"*; another student

punched a Chinese student and asked, "*Do you eat dogs?"* After the class, some students were observed projecting negative stereotypes towards Chinese when interacting with their school mates. One student was observed saying "*Do you know Chinese people eat dogs? How disgusting!"* In this first stage, conflicts and emotional reactions of this nature were a concern for the teachers, as their students were displaying strong emotional reactions to questions raised during the asking stage. Concerns were also noted, in the teaching journal, regarding whether these students' parents may also express similar emotional reactions and confusion.

Even though doing so brought about some negative reactions, the participants enjoyed raising a multitude of questions. However, many of the questions they raised were not relevant to the research target questions. For example:

- *How can some animals fly, and some can swim?*
- *Why do animals get sorted in different groups?*
- *I want to explore book animals such as Harry Potter and Percy Jackson?*
- *How do animals from babies in their stomach, or in their eggs?*

The asking stage introduced class management challenges for the teacher, as some of the more active participants were eager to say something, while other students lacked patience and became disengaged, as the teacher journal notes:

> *"Some students seemed have lots of things to say and kept talking, others couldn't wait or want to interfere people's talk, this brought disruptive behaviour in the class, in one stage, the class seemed in total chaos and out of control…" (Week 1)*

4.4.2 Stage Two (Investigating)

The activities during the investigating stage

In the investigating stage, students were asked to form groups of three or four participants and select a guided question to investigate. The participants showed great enjoyment and strong engagement when searching information in this stage. as the teaching journal records:

> *"…students were so excited as they could work in groups to search the information for their investigating question. It was observed that a group of boys who had chatted for a long period. I noticed that all of them were on task and I walked close to them and asked them, 'have your decided to choose which question for your group?' 'yes, we have discussed all these questions, but finally we decided to investigate the question three about 'how people in different countries perceive the relationship to animals?' …one boy answered confidently." (Week 3)*

> *"The students were so excited to work on this project. S and T always show a negative attitude towards learning Chinese as their basic skills of Chinese are very weak, they always feel bored and show disruptive behaviour at times. However, these two boys were very excited and fully engaged in exploring and discussing for their group project." (Week 4)*

> *"… normally, when students work on computer, some students always off task and play games or watch sports if the teacher is not around them. Today, a group of boys were concentrated on searching online resources for a long time. I walked to them very quietly to see whether they were on task, when I approached them, one boy was very*

excited to show me what he fond and explained to me why he liked this resource…" (Week4)

"… when I entered the class, all groups had already started their work very quietly, …normally, students were waiting for the teacher to give them work to do…" (Week 4)

Students' attitudes towards the activities during this stage

The participants showed enthusiasm towards the activities in the investigating stage. One day, at the end of the class, it was observed that two groups kept working. The following conversation was noted:

Teacher: "Time is over, boys, girls. Please pack up and go to your next lesson."

Student A: "I want to finish this first."

Student B: "Don't worry, it is our recess time, we want to stay here to do more work, it is fun."

Other participants remarked during this stage:

Student A: I like project, it is fun and creative. You can do what you want on your way. Unlike worksheets, everyone got a same answer.

Student B: Yes, I learnt more Chinese words and sentences, even I learnt some new sentences from interview.

The journal and class dialogue reflect that students were engaged with searching resources from various media. The investigating stage of inquiry-based learning provided a learning environment to enhance learner's autonomy and self-direction.

Participants used various resources during the investigating stage

The inquiry framework design provided an opportunity for teachers to facilitate the students' "learning to learn" during this investigating process. The students enjoyed the various activities, as demonstrated by their self-motivation to work on the set tasks even outside the classroom and after class hours. In addition, it was observed that students also applied their learnings when undertaking other activities, as a teacher journal notes:

> *"… I noticed some students from my class during the lunch break, one girl was taking a video for her group member who was interviewing other classes' students. I was wondering what were they doing and talked to them, one girl told me that they were interview their friends about '你家有什么宠物？你为什么喜欢狗，不喜欢猫...' (translation: what pets do you have at home? Why you like dogs, not cats?) Which is the topic we are currently learning…I am very happy to hear students use these sentences to interview their friends…" (Week4)*

The participants' intercultural competence development through this stage

The participants' critical thinking skills gradually developed throughout the intervention. At the first (asking) stage, when students were prompted to discuss guided questions, they were too eager to contribute to the discussions and failed to critically assess their opinions before making comments concerning how people perceived their relationship with animals. The teaching journal records the students' responses, which indicate the participants lacked critical thinking skills, and held negative stereotypes and self-centred thoughts:

> "… *when students were asked to discuss with their peers about the question of 'how people treat animals?' although the participants actively responded with their opinion, they did*

not think and just simply blurted out their answers such as: 'some people like it, some people hate it, some people kill it…' When the question of 'Do you think some countries treat animals better than others?', the participants raised their hands immediately to say such things as 'of course, Australians treat animals far better than other countries.'" (Week1)

"…students were asked to discuss diverse cultures that eat different meat. When someone said that Chinese eat dog meat, they all students showed strong emotional reactions, one student was crying and very sad. When I asked him what happed, he replied: 'I feel so sad as Chinese people eat the cutest animals.' After then, one student asked me with an angered facial expression 'do you eat dog meat? '...this lesson made me think about 'if a student who does not understand, accept and appreciate the target culture, how can we expect this person to learn the target language?'" (Week2)

The teaching journal records that the participants improved their ability to analyse a situation from different people's perspectives, including defensive and acceptance behavioural perspectives, over the course of the intervention. The participants' class attitude and tone of voice showed a lack of critical thinking skills and strong negative attitudes against other cultures' behaviours and "norms."

The participant's critical thinking skills were developed through analysis of and comparing various online resources, such as documentaries and opinion pieces. A teaching journal records: *"... as students showed negative stereotypes to Chinese people eating dogs, they were required to watch two YouTube videos; 'Do Chinese really eat dogs?'; and 'Why you should not eat beef?' After watching the videos, the students had five minutes to discuss with their peers and then share their understandings with the whole class. Students changed their point of view about negative stereotypical thinking such as 'I used to think all Chinese eat cute dogs, but now I understand not many Chinese eat dog meat, the dogs were killed for meat are farm dogs not their pets, it is no different with Australia that kill cows, like India people perceive their well-being is decided by the cow, the cow is not just an animal, it is part of their families'..." (Week 4)*
This gave learners an opportunity to compare different resources and analyse what behaviours people perceived as right and wrong across various cultures, and to increase their cognitive of critical thinking skills.

The inquiry-based learning pedagogy provided an opportunity for developing students' awareness (self-awareness and awareness of others) throughout all stages of the inquiry-based learning process (Bruce and Davidson, 1996). The intervention unit emphasised creating a student-centred learning atmosphere to provide various activities and resources (e.g., group discussion, role-paly, online resources) designed to enforce students' development of their awareness and empathy through comparing and analysing difference resources. Developing learners' awareness and empathy was accomplished not just through online resources, but through the authentic group learning community.

Developing the participants' adaptability and flexibility skills was essentials in this stage and required learners to respect others' opinions and consider other member's feelings. Group members were encouraged to adopt appropriates communication styles and behaviours and attempt to resolve problems within their group first, before seeking assistance from their peers or their teachers, as was noted in the teaching journal:

"… today, the students were told to select a question for their group project. Some groups took a long time to decide to select the question for their group, when I talked to one group:

Teacher: Have you selected a question for your group?

Student A: Yes, we spent a long time to discuss, we need to combine everyone's opinions. Finally, we just made the decision to work on question 2 about 'how people in different religions perceive their relationship to animals?'

Teacher: Why did you choose this question?

Student B: Because our group discussed this topic, it would be interesting for our group members, we can find different information as one is Christian, one is Hindu and I am an Atheist.

Student C: Yes, we can compare the three religions to find the differences… the students seemed well collaborated and good communicated to work in the group project" (Week 4)

Students defended their understanding of cultural differences by applying the information in a mimic role-play. Once the learners had searched out some interesting information, they wanted to make a play out of it that made them aware of the cultural differences influencing people's thinking and behaviour. The teaching journal reports:

"*…today, students did a role play, each group was required to create a scenario about their research question and write a dialogue and act it out…, one group acted as the audience to watch the Bullfighting in Spain, their dialogue:*

Student A: Wow, this is my first time to watch the bullfight, it's so exciting.

Student B: I don't like it, they are so cruel to the bull, I want to leave now.

Student C: This is their culture, it's their traditional game. No matter whether we like it or not, we need to respect it, don't judge it now…" (Week 5)

Challenges accounted during this investigating stage

During the investigation stage, students were required to search and retrieve relevant information from various resources (e.g., multi-media; stories, authentic cases) to answer their research questions. However, several challenges arose, including the lack of target language skills to comprehend and synthesise information, increased teacher workloads due to the need to facilitate each group's needs, a lack of ability to retrieve relevant resources, limited experience in assessing positive and negative information found online, and online distractions. Moreover, students were required to use simple Chinese sentences to explain their key points, yet many had difficulty in summarizing key ideas in Chinese. Instead, many participants relied heavily relied on online translation tools to translate content into Chinese, which often led to poorly constructed prose that was at times incoherent.

Given the above, learners relied on their teachers to provide relevant resources and individual support, which significantly increased the teachers' workloads. For example, one group that was comparing country and city people's perceptions of the relationship between humans and animals failed to locate any pertinent information and overly relied upon their teacher's assistance for their work. The Internet resources the students had located included some positive but mainly negative perceptions on how Chinese people treated animals. Some students gravitated towards this negative information, which caused difficulties for the teacher, who was trying to develop the students' positive attitude toward cultural differences and avoid stereotypes; as Perry and Southwell (2011) stated that "technology facilitated intercultural interaction can also lead to unintended negative outcomes such as reinforcing cultural stereotypes" (p. 458). For example, at the beginning of intervention, some students included negative stereotypical pictures and words about how Chinese people treated animals in their project drafts. To reduce learners' stereotypes towards the target culture, the teacher introduced content that expressed negative views of their own culture, to encourage students to analyse and understand that sources of information may not always be accurate.

Some students were easily distracted in their investigations when using online resources, even though relevant hyperlinks were provided via WebQuest and Google classroom. Students often complained to the teacher about their peers' online disruptive behaviour: "… *he is sending me a message which is disrupting me*." *"... is not working on our group work, he is looking at online pictures."* The teaching journal records:

"the group of boys normally showed very active behaviour when they were working on their project by asking questions and talking, but today, I noticed they were very quiet for five minutes, I quietly walked near them and noticed they were all watching a football game."

It was observed that regardless of how interesting the classwork was and how strict the rules governing the use of school computers, students lacked self-discipline and could be easily seduced by unrelated online activities. Ensuring all students remained on task whilst using online teachers was a challenge for the teachers.

4.4.3 Stage Three (Creating)

Participants sought various assistance during the creating stage

Students sought assistance and guidance from a wider group of people beyond their subject teacher, including the information technology teacher, tutors, parents, and friends from different classes. The teaching journal reports:

"In the creating stage, students were required to select any presentation media they were familiar with and interested in. Some groups did not want to use the same media that others had chosen and expressed a desire to showcase their special skills and work in a unique manner that differed to their peers." (Week 6)

"… all the groups have been working diligently with their investigating project this week. They have tried very hard to make a nice presentation. (Week 7)

The students' dialogues in the class amplify this:

Student A: How did you make such a nice video?

Student B: I asked my class teacher to show me the technique.

Student C: Your mind-map is very nice. How did you make it?

Student D: I can show you, my friends taught me.

The data from the teaching journal and class dialogue showed that the students were motivated to learn the target language through intercultural learning. The analysis indicates that the participants were motivated to complete the set task and were not just learning with the subject teacher but were also motivated to seek other help as needed. Students' learning can be intrinsically or extrinsically motivated. Intrinsic motivation occurs where set tasks are recognised as fun and useful to the learner. The data shows that the research participants perceived inquiry-based learning as a motivational process for developing their intercultural competences, one that allows them to choose what they want to learn and how (Feletti, 1993).

Additionally, teachers at the participants' school noted that the students were hesitant to use the second language outside of the classroom and only learnt the target language as a result of external pressures, such as academic exams, reward and punishment, or family pressure. However, over the intervention period, the participants were motivated and engaged with the inquiry-based learning activities; as Clever (2003) pointed out, the inquiry-based learning facilitator avoids strongly negative motivation, such as the fear of punishment and fear of failure common in traditional teaching.

Products the students created in this stage

In the creating stage, the students were required to create their final project and present their work to the whole class; they could use different presentation formats (e.g., story,

presentation slides, poster or video…) to do so. The participants were not just showing their critical thinking skills; their adaptability and flexibility were likely increased over the process of creating their final product. The teaching journal notes:

> *"… the students were quite creative in this stage. all groups spent lots of to think and plan for their final project, they didn't want to use the same technique with other groups used. It was noticed that they respect their team members' views, they were trying to combine their member's unique skills and they showed respective communication styles and behaviour. I talked to one group:*
>
> *Teacher: How would you like to present your group work?*
>
> *Student A: Our group had discussions and planned to make a movie; I am very good at using the Movie maker.*
>
> *Student B: I will interviewer my friends and his family, they all are Muslim and record our conversation to add our dialogue to our movie.*
>
> *Students C: I found lots of interesting YouTube videos which is relevant to our research question. We'll put it to our movie, it would be very fun…" (Week 5)*

Another group showed flexibility and empathy through the conversation during this stage, as revealed in an unstructured interview:

> *Teacher: What format is your group using for your work?*
>
> *Student A: We are using google slides.*
>
> *Student B: Because we can work at the same time.*
>
> *Student C: We have a better idea when we work together, look at the beautiful slides we have done (showed me all their work).*

Students A: everyone can add their ideas and information they searched, but at the final one, we will discuss and find why we chosen this information.

The quality of the products created

The participants' critical thinking skills increased through the creating stage, and they showed growing awareness and expressed ethnorelative views when answering the guiding questions. These skills can be seen by their comparing the differences between their own and others' culture to find evidence to support their arguments. The teaching journal reports:

… I was glad to see all groups working on their final projects with passion by group debating, role-playing, discussing and peer evaluation…, I saw SA invite her friend S1 from a different group to be their audience to see the group presenting, and asked S1 to give comments about their rehearsal presentation. S1 was very serious and taking notes when the group did rehearsal presentation. Their conversation:

Student A: Hi, [S1] can you be our group evaluator?

Friend: Okay, let me get a pen and a paper, I need to write something down.

Student B: Our group is presenting 'how religions influence people perceive the relationship to animals?'

Student C: We selected three popular religions and compared their beliefs, food, worship to find how different religions perceive the relationship to animals.

…… I understand why some religions don't eat some types of meat; Buddhists don't eat any meat… (when they finished their rehearsal presentation)

Students A: we also learnt diverse cultures have different beliefs and they show different behaviour. We need to respect others' beliefs and don't show stereotype to any cultures.

S1: Your group did a very good job, you added an important point about different religions and beliefs that influence how people perceive animals…, I would suggest you use a Table to compare the different religions for example…"

The analysis of this data shows the participants not only learned to apply their critical thinking skill to the class task, they also demonstrated more open-minded attitudes towards other cultures and espoused ethnorelative views of the cultural differences. At the same time, the learners were more respectful and used appropriate communication styles and behaviours in response to their peers' suggestions and feedbacks. The participants were obtaining their knowledge not just from the learning content but also from the learning process. Savery and Duffy (1996) argued that inquiry helps learners to grow their personal and social understanding of the world by taking into consideration multiple perspectives and a wide range of knowledge. In the creating stage, the learners constructed their knowledge through using appropriate communication styles in the collaborative working environment, which likely enhanced both student' adaptability and their flexibility skills in developing their intercultural competence.

Challenges encountered in the creating stage

Throughout the creating stage, most members showed a respectful and collaborative manner, but some members within the groups did not contribute equal effort to the task. It was observed that each group had a dominant member who was "thought of as being smarter than their peers and thus, they were allowed to dominate group discussions and ideas." For example, in one work group, student VS had high self-esteem, generally performed well in all subjects, and was viewed as being a clever student by his peers. The other members in his group tended to not express any independent ideas and had an over reliance on VS's contributions and input. A class dialogue recorded the following:

Teacher: How will your group present your work?

Student A (VS): all good, we are going to make video for our group presentation.

Student B: Yes, VS assigned the roles for us.

Teacher: Do you know how to make video?

Student C: No, VS knows how to do it.

Has this excerpt shows, students' creativity may not only be influenced by their ability but may also be affected by their personality traits and level of self-esteem. Further, Dewey (1993) stated that "learning process begins with a state of perplexity and doubt instigated by a problematic situation that is not fully understood." A combination of such factors may impact a students' willingness or ability to contribute creatively in group work and may, therefore, lead to their overreliance on the so-called "smart" member(s) of the group. This makes challenging for teachers to encourage every participant to contribute to their project equally.

4.4.4 Stage Four (Sharing and Reflection)

The presentation

During the sharing stage, students were required to present their final project, which was assessed by following the rubric (Appendix C); teachers and peers also provided feedback for each group. The participants listened attentively as the rubric was explained again and appeared to reflect upon their own work to determine if it meets the criteria outlined. The teaching journal notes:

> *This is the last week of the intervention, the students were asked to listen to the rubric again for the success criteria of their final project. Everyone was sitting on the floor to listen to my explanation very attentively and seemed have new ideas for their project.*

After the class reviewed the rubric, all groups worked diligently and took all available opportunities to ask questions and prepare for their presentation as the teaching journal notes:

> *since the students started to do the group project, not many students asked questions as they seemed they knew what to do, but today, many students asked questions after reviewing the rubric. I even needed the teacher's assistant to help the students*

During the sharing week, students practised the speech diligently, as the teacher noted:

> *"… students were required to practice their speech to present their work next week, two groups were practicing outside their classroom. They stayed outside the class for a long time, I observed them, they all tried very hard and try to remember their scripts…" (Week 6)*

The students' final project showed their growth in both their cognitive knowledge of intercultural understanding and greater flexibility when communicating with their peers throughout the inquiry-based learning process. As the teaching journal records,

Group A worked on 'How do people in different religions perceive the relationship of animals and humans?' This group selected four religions to investigate, they collected various information from multiple resources such as online, interviewing people from different religions and watched critical debates (via YouTube) of those religions. They analysed the data through Table comparisons of the similarities and differences. Their conclusions demonstrated their improvement of their knowledge of intercultural understanding and the intercultural awareness (e.g. 'Throughout comparing the four religions, we understand the cultural differences that affected people's behaviour and beliefs to animals. What we have learnt is that the way other religions see animals we cannot judge them for it. People allowed to perceive things that they believe, we need to respect each other, we still need to respect animals…').

Peer feedback

During the presentation sharing lesson, all students were required to listen to other groups' presentations and complete peer feedback sheets (see Appendix C). Students were asked to score each groups' presentation out of 10 using the criteria from the rubric and provide feedback on what they liked in each group's presentation, as well as offering suggestions for improvement. Student's feedback included:

"I like this group they provided the details about how each religion perceives animals; I also like their conclusions. My suggestion is that they should put more Chinese words and use more Chinese we have learnt in the class."

"I really like this group's project; I have learnt lots of things about the cultures and religions I didn't know before. My suggestions would be too much words in each slide…"

Group B worked on the topic, "What are the differences between how Chinese and Australians treat pets?" This group selected a topic that was culture-specific, and which required the exploration and comparison of their own culture and the target culture. This group collected information from different social groups (city and countryside) and analysed the data by comparing the differences between those from Australian cities and Chinese cities, and between those from the Chinese countryside and the Australian countryside. They concluded:

"Australian city and countryside pets are very different compared to China's. China and Australians both eat animals. Australians and China kill their pets in different ways. When animals or their pets are about to die, they chop their head off. China also is nice to pets too though. Chinese care as much about pets as Australians. Australians will not kill their pets for food, and they are very nice to their pets before they die. We can't judge which country is better than others, people from different places have different beliefs, different eating habit, this influence how they treat animals differently."

Feedback from peers on this group's presentation included:

"Things I like is this group are: The rich resources they searched; they interviewed different people from both cities and countryside of Australia and China; this group's members respected each other; they collected many evidences from different culture, religion, and region; deeper understanding of cultural difference……

Some suggestions are: their poster is too small, some members used too much English; someone use too much Chinese that we don't understand; their speaking was not loud enough……

The data from students' final project presentation and peer feedback showed that the participants improved their cognitive knowledge of intercultural understanding, demonstrated growing awareness, and took on ethnorelative views through the inquiry-based learning process.

Individual reflection

After the group presentation, students were required to complete the three self-reflection questions about the intervention:

1. What do you like about this term's learning activities (inquiry-based learning) and why?

2. Do you think this terms' activities (inquiry-based learning) can enhance your cultural learning? Give some examples.

3. What are the challenges you face when you explore cultural differences?

Overall, the responses to the self-reflection questions show most students provided positive feedback on inquiry-based learning activities. Students' comments from Question 1 include:

" I like this term's activities than normal Chinese class activities, because we have more time to discuss with our partners and search something we are interested; I like some activities like we are allowed to interview people from outside of the class and we can bring this interviews to share in the class; this term's activities are more freedom, we can learn lots of extra staff like more vocabulary, cultures…"

Students' responses to reflection Question 2 show that the inquiry-based learning process enhanced their intercultural understanding; for example:

> *"… for normal Chinese class, we didn't have time to explore culture difference. This term, we have lots of time to learn diverse cultures through search, class discussion, and stories, we can learn language at the same time."*
>
> *"I think this term's activities are very good for us to learn cultures while we are learning Chinese, for example we have learnt the animals and we also learnt how people from different countries and different religions treat animals differently"*
>
> *"…through this terms' activities, I have learnt not showing stereotype to one culture, I used to think Australians treat animals better than any other countries, through comparing diverse cultures and different countries. I understand we are not better than others, we have different beliefs, we need to respect others and help each other."*

The participants' responses to Question 3, regarding the challenges they faced, showed that many students struggled to choose the right information to answer their investigating question; for example:

> "*…the challenge for me is hard to find the right information, for example, our group did the people's perception to animals through this historical timeline, we couldn't find much information about how people treat their pets long time age"*
>
> *"... for the creating stage, we were required to reflect what we have learnt from the information we searched, it was hard for me to understand why these people treat animals differently related to their cultural differences…"*

Challenges for the sharing stage

During the sharing period, many students' final projects were predominately written and presented in English, with little use of the target language. This was despite instructions asking students to use the target language as much as possible to supplement their project work. Thus, students ignored the importance of applying the target language. Only two students presented their work predominately and accurately in the target language. Even though other groups used the target language in some parts of their sharing, they presented such parts by simply reading verbatim text obtained from web-based translation tools, which was often grammatically incorrect. Some students' feedback comments included:

"I like everything they presented except they read the Chinese sentences, the Chinese sentences were too long, I don't understand what they read."

"In this group only one member spoke Chinese, the other two didn't say any Chinese words."

"I gave the group very lowed marks event they spoke lots of Chinese, but I don't understand what they mean."

A further challenge during this stage was the need to avoid conflict concerning intercultural competence development. When students were discussing cultural differences, they would often express opinions concerning other cultures that would raise conflicts among class peers. For example, one student admitted that some Australians treated animals poorly, which caused other group members to argue against this position. As young learners lack self-discipline skills, some easily lost their temper and caused conflict, ranging from derogatory remarks to physical violence (punching). Additionally, whilst synchronic communicative tools provided an easy way for the group to exchange information and remain updated, students who lacked

interactive communication skills often engaged in disruptive behaviour towards their colleagues, as they had difficulty in conveying information using appropriate words.

4.4.5 Summary

The inquiry-based learning intervention in this research was designed to you is guided questions to develop the learners' intercultural competence. These questions provided various activities and opportunities for learners to investigate their interests in the topic, including group collaboration work, role-play, and the use of various media. Inquiry-based learning, as constructivist approach, assumes that learning is an active process, creating a meaningful environment for learners to apply their knowledge through purposeful interaction with the culture and other people in the surrounding environment (Correiro et al., 2008). The participants showed enthusiasm for and enjoyment when participating in all the activities within the unit. Students were observed to be motivated learners, both inside and outside the classroom, and constructed new knowledge through collaboration and communication. Inquiry-based learning was also shown to have developed participants' intercultural competence through developing their critical thinking skills as evidenced by a demonstrated evolution of their perceptions of the intercultural differences that influence peoples' thinking and behavioural patterns; the participants improved their adaptability and flexibility, as shown through their using appropriate communication styles with their peers and when explaining cultural differences; the participants demonstrated growing empathy and expressed ethnorelative views on other cultures, and most perceived the inquiry-based learning method to be an enjoyable and motivative learning process through which they developed their intercultural competence.

The data also addressed the challenges and negative aspects of each stage of the inquiry-based learning: student conflicts arose at the asking stage as a result of initial cultural misunderstanding; use of online tools with younger students at the investigation stage can be disruptive, as students who lack self-discipline can drift "off-task" and disrupt their peers; participants at the creative stage can be overly reliant on project direction and contribution from a dominant "smart" member of the group; and during the sharing period it was challenging for the students to effectively incorporate the target language in their presentations.

Overall, these findings suggest that the research participants perceived inquiry-based learning to be a creative and enjoyable learning method that aroused their desire to learn. As Dewey (1956) noted, "inquiry is the natural desire to learn." However, several challenges and negative aspects were observed over the course of the intervention.

Chapter Five: Discussions

In this chapter, the findings of this study will be further discussed to address the research questions regarding whether inquiry-based learning pedagogy can increase students' intercultural competence, and how the primary school participants perceived the intervention shaped their intercultural competence development. The major findings of this study are:

- The intervention, which was based on inquiry-based learning pedagogy, increased the participants' intercultural competence without sacrificing their language development;
- Intercultural competence development was not a linear process.
- The efficacy of the intervention was shaped by the learning context; i.e., second-language learning involving young learners.

5.1 The Inquiry-Based Learning Intervention Increased Intercultural Competence Without Sacrificing the Learner's Language Development

Data from this study show that students in the intervention group exhibited greater intercultural competence development, as compared to the baseline group. These participants also showed greater language development in the process. This finding suggests that the inquiry-based learning pedagogy intervention appeared to effectively enhance students' intercultural competence development, without sacrificing their language acquisition.

5.1.1 The Inquiry-Based Learning Intervention Enhanced Student's Intercultural Competence

The findings demonstrate that the participants increased their intercultural sensitivity over the course of the intervention. At the beginning of the intervention, the participants demonstrated negative attitudes to cultural differences, and especially towards Chinese culture, during their class discussions. Their survey responses also indicated that the participants showed a lack of respect towards other culture's values, beliefs and behaviours; lacked confidence in interacting with people from diverse cultures; and perceived their own culture as superior to other cultures. The participants' initial negative attitudes towards cultural differences may be a result of a lack of formal cultural training during their previous language lessons. Deardroff (2006) argued that "intercultural competence doesn't just naturally occur in most people; rather, intercultural competence must be intentionally addressed through education" (p. 259). These findings suggest that language teaching without deliberate intercultural competence intervention is not sufficient to achieve the goal of developing students' intercultural competences.

Upon completing the intervention, the participants' responses in the post-survey, the teaching journal entries' recording participants' classroom performance, and the student interview data show students displayed consistent development in the three components of intercultural competence. Many participants showed renewed understanding of their own and others' cultures, became more interested in discovering cultural differences, and gained awareness of the differences between their own and other cultures. The participants showed more tolerance for and respect towards others' values, beliefs, and views regarding cultural differences. The participants showed some shift in worldviews with regards to cultural

differences, as a result of the intervention. The findings suggest that intercultural intervention based on inquiry-based learning pedagogy could enhance students' intercultural competence.

The participants exhibited enhancement in their analytic and critical thinking abilities over the course of the intervention. Analytic ability and critical thinking are essential to intercultural development. Matthews and Gaul (1979) argued that "critical thinking [involves] the cognitive skills of comprehension, application, analysis, synthesis, and evaluation." (Shin, 1998, p. 415), which are also the key elements of inquiry-based learning pedagogy. This finding supports Spronken-Smith's (2012) view that inquiry-based learning is "generally more effective than traditional teaching for achieving a variety of student learning outcomes such as academic achievement, student perceptions, process skills, analytic abilities, critical thinking and creativity." (p. 12).

This study also found that the participants showed greater empathy for and expressed ethnorelative views regarding intercultural differences—which were the desired internal outcomes of intercultural competence development identified by Deardorff (2006)—as the intervention went on. Thus, this inquiry-based learning intervention boosted students' sophisticated understanding of intercultural awareness and understanding. One possible reason for the positive development of intercultural competence found among the inquiry-based learning group is that inquiry-based learning lends itself to constructive learning, wherein learners construct their own understanding of the world through interacting with human and physical artefacts (Bruner, 1990; Dewy, 1933; Vygotsky, 1978). Short and Harste's (1996) stated that inquiry "helps learners to develop their personal and social understandings of the world by

utilizing multiple perspectives and various forms of knowledge" (P.2). Byram (1997) stated that intercultural competence development should focus on learners' attitudes, knowledge, critical cultural awareness, skills of interpreting/relating, and skills of interaction, while Bennett (2017) defined the intercultural competence development process as the ability to move along the continuum from ethnocentrism stages (denial, defence and minimisation) to ethnorelativism stages (acceptance, adaptation and integration). In this study, the participants were actively engaged in question-driven group discussions, self-reflection and motivated exploration inside and outside of the classroom over the learning research intervention, which enabled them to engage in conscious learning, build on their prior knowledge, and support each other's. Thus, the findings suggest that inquiry-based learning might a viable approach to enhancing students' intercultural competence development.

5.1.2 Inquiry-Based Learning Could Enhance Student's Language Proficiency Development

At the same time, this study also found that students in the experimental group performed significantly better than their peers in the baseline group on the unit language development tests. As this study focussed on developing learners' intercultural competence, it was questioned whether the experimental group could achieve the same test results as the baseline group, based on previous research findings. However, the end of term unit test results shows that the experimental group students performed significantly better than their peers in the baseline group. This finding, while positive, was somewhat unexpected, as the previous literature has argued that the advantages of inquiry-based learning might not be apparent on language tests. For instance, Bruder and Prescott (2013) stated inquiry-based learning projects "do not target the basic skills

tapped by standardised achievement tests, at least not directly, … inquiry-based learning does not always give positive results in testing" (p. 818). However, in this study, we found this inquiry-based learning intervention, despite taking away a great deal of time from the drill-and-practice of basic language skills, did lead to greater language development among the students. One possible explanation for this is that the inquiry-based learning process contextualised learning around issues and learning resources that were of interest to the students (e.g., students could work with their group members to select from the research questions provided), which might have boosted learners' learning motivation, as the participants showed great enthusiasm for working with their peers. The enjoyable learning environment and experience might have increased both the development of the participants' cultural understanding and their language proficiency.

Another possible explanation might have to do with the instructional design adopted in this study. In this study, during the intervention period, some language elements were taught using more traditional learning methods (e.g., instructive learning, students were required to memorise the learnt vocabulary and practice character writing at home) to prepare students for the standard language tests that students would have to set at the end of the research period. Whilst the amount of time spent in teaching these elements was far less than in the baseline group, the intervention participants' standard language test results were better. During the intervention, not only did students meet the language standards prescribed in the curriculum objectives, as measured by the standard language tests, but also displayed an increased interest in and motivation for learning after the exposed to inquiry-based learning methods. Accordingly, this research suggests that, to implement inquiry-based learning in intercultural learning with second

language learners, a teacher should flexibly blend inquiry-based learning constructive knowledge building and instructive language training strategies to meet organizational and/or standardised language objectives, while developing their learners' intercultural competence.

These finding raise the question of whether the students' increased standard test results could depend on how the students were facilitated through language instruction during the intervention of inquiry-based learning in the classroom. The findings align with Spronken-Smith's (2012) finding that inquiry-based learning is "generally more effective than traditional teaching for achieving a variety of student learning outcomes" (p. 12).

5.2 Intercultural Development is Not Linear Process.

This study found that students' intercultural development did not progress in a linear pattern following Bennet's (1997) six stages (denial, defence, minimisation, acceptance, adaptation and integration) of intercultural development. Rather, the findings from this study indicate that intercultural development is not always a linear progression, which differs from some previous research findings（e.g., Bennett, 1998; Hanvey, 1979; Truong and Tran, 2014）. Participants' movement between intercultural sensitivity stages was less susceptible to change when they were asked to respond to culture-general questions and situations. However, when they were asked to consider culture-specific questions that closely intertwined with their own personal identity, the participants showed great flux in exhibiting intercultural sensitivity. Students' responses to such questions were often deemed to reflect a lower stage of intercultural sensitivity than their responses to culture-general questions. For example, when students were

asked general cultural questions (e.g., *Why do people treat animals differently? What factors influence people's behaviour and beliefs? Do you think one culture is better than others*?) they demonstrated a deeper understanding of cultural differences and higher levels of intercultural sensitivity. Yet, when situation specific learning content was varied and related to their own identities (e.g., *Do you think your culture is better than Chinese culture? Do you think eating beef is better than eating dog?*) their responses demonstrated that their intercultural sensitivity dropped back to defence levels, as they proclaimed the superiority of their own culture over other cultures. Thus, the findings corroborate Bennett's (2016) thesis that specific situations and contexts influence intercultural development. Similarly, Landis et al., (2003) mentioned that many factors contribute to the success of intercultural development, such as interpersonal patterns, cognitive style, motivational state, family status, values and learning content. The findings in this study argue that intercultural development is situation specific and can be influenced by students' personal identity and emotional traits. These issues bring challenges for intercultural trainers; J. Bennett (1993) suggested that, "for each learner, depending on his/her development stage, educators need to examine what aspects of learning context can provide needed supports and what aspects present challenges…. The educator needs to assess the needs of the participants and carefully balance challenges and support to maximise learning" (P. 122).

5.3 The Efficacies of the Inquiry-Based Learning Intervention were Shaped by the Particular Learning Context

This research involved young second-language learners. The age and the language proficiency of the participants were found to pose challenges to the inquiry-based learning

intervention. The challenges demand the provision of supportive mechanisms to support the smooth implementation of the inquiry-based learning intervention in particular contexts.

5.3.1 Language Proficiency Affects Intercultural Competence Development

Kennedy and Navey-Davis (2004) described the key components of inquiry-guided learning for foreign language learning as communication, cultures, connections to other disciplines, language and cultural comparisons, and participation in communities (p. 72). In this study, the participants had limited target language skills, which constrained their comprehension and communication skills at various stages of their intercultural competence development. Despite their enthusiasm to participate, some students were found to avoid using the target language in their presentations, possibly because they lacked the skills and confidence to apply their learning in their verbal presentations. Bach and Hayton (2012) also presented similar findings; i.e., that lacking the skills and confidence to express themselves in the target language is the biggest challenge facing many learners in the sharing (discussion) stage of inquiry-based learning pedagogy. The findings of this research further highlight the challenges teachers face in identifying effective mechanisms to equip their students with the skills and confidence needed to confidently apply the learned target language in their sharing, when adopting inquiry-based learning procedures. Although teachers were careful to introduce diversified multiple bilingual (Chinese and English) resources to guide their students' intercultural understanding and to design tasks that were well scaffolded and encouraged students to take ownership of their learning journey over the course of the intervention, students were still found to use their first language more often than the target language and were over-reliant on Internet translation tools, without comprehending the texts.

Hinkel (1999) summarised that "language can be seen as a way to describe and represent human experience and understanding of the world" (p. 3). Thus, in a second-language learning classroom, cultural training activities should include language preparations and support mechanisms that focus on facilitating learners' use of the target language with engaged in questioning, exploring and seeking answering, and that enable students to discuss cultural diversity using the language elements during the intercultural development period. Therefore, providing a variety of activities to enforce language usability is one of the ultimate goals for teaching a second language learner; at the same time, language activities also need to focus on enhancing learners' cultural understanding.

5.3.2 Cognitive Abilities Influence Intercultural Competence Development

The findings show that the primary school learners did show strong enthusiasm during the intervention. At the asking stage of inquiry-based learning, the participants demonstrated an eagerness to ask questions, which supports Perry and Richardson's (2001) view that inquiry-based learning can be defined, in part, as the process of learners' creating meaningful and useful knowledge from the knowledge at-hand by asking questions. At the same time, however, they were found to lack competence in coming up with quality questions; for example, before the intervention, when students were asked to raise questions about their relationship to animals, most of their questions were narrow and closed. The participants also, at times, exhibited inappropriate behaviours towards positions that conflicted with their own. Considering the developing cognitive level of the students and their limited experience with the inquiry-based learning process, this study adopted a guided-inquiry approach. In order to encourage students to

ask some explorable questions, picture prompts were used to stimulate and guide the questions the participants may raise. It was found that the students could provide a high-quality product by following specific guidance and inspirations. The findings suggest that guided inquiry (i.e., a teacher presenting a question, with learners designing the procedure for investigating that question) was an effective method for the young learners participating. Considering the participants were young learners in this research, striking a balance between child-centred learning, meaningful content interaction, and teacher-guided instruction was a major concern throughout the intervention. Paige (1993) pointed out that intercultural training could incur psychological risk, as learners had few experiences with highly personalised behavioural and affective learning. This risk resists challenges for the trainer in terms of how to elicit quality questions from participants based on their prior knowledge, yet reduce any ethically-challenging emotional arguments that may follow.

5.3.3 The Role of Technology to Support Intercultural Learning

Technology plays a crucial role in facilitating learners' intercultural learning for intercultural competence development. Such technologies as films, videos, Internet resources, and synchronic media tools provide crucial learning activities that introduce cultural events to the intercultural training classroom, regardless of distance. Intercultural competence development is an ongoing process learnt through observation, experience, and interacting with people from different cultures; however, it is often not possible for learners to physically experience various culture events and activities in a classroom setting. Technological products may also assist learners to better understand other cultures and provide imaginary, audio, and other contexts for developing their intercultural competence.

As primary school students need concrete learning experiences, multimedia resources such as life video recordings and documentary reports could reduce students' subjective, affective, and emotional reactions over the training process. Cutshall (2012) argued that technology brings a long-distance cultural situation closer to learners, and that the use of authentic materials—such as other people's analysing texts and visual material of contrasting views—could help students appreciate other cultural perspectives. In this study, YouTube videos were selected to provide recordings of bullfighting scenes and other people's opinions about this practice. Through these videos, learners not only gained insights on cultural differences, but also viewed other people's opinions thereon. This online material made the learners reflect on their original thoughts and negative stereotypes and gain a deeper understanding of cultural differences that shaped their attitude towards other cultures. Another example was that the learners had often heard that Chinese people treat animals very badly, which facilitated their showing strong negative attitudes towards the target culture. To provide more evidence to help participants change their exaggerated stereotypical perceptions about the target culture, documentary interviews (recorded from online resources) were shown; these interviews helped students clarify their stereotype of their generalised impressions of how Chinese people treat animals, which reduced students' subjective, affective and emotional reactions, enhanced their cultural knowledge, helped them to draw new conclusions about other cultures and minimised their subject and affective responses.

However, while technology allows distant voices to be heard, "facilitated intercultural interaction can also lead to unintended negative outcomes such as reinforcing cultural stereotypes" (Perry and Southwell 2011, p. 458). This study also noted that, when the learners

searched online resources, they showed interest in exploring many negative websites and pictures. Their limited critical thinking about the information they received from such searches may have reinforced their negative stereotypes. Thus, it is important to build critical thinking and information literacy components into the intervention to strengthen its effectiveness.

5.3.4 The Procedure of Intercultural Training Design

The training procedure comprised varying activities over the intervention, as intercultural training activities are the key elements in helping learners to develop their intercultural understanding. Byram et al. (2002) pointed out that, during intercultural training, "activities involve understanding, discussing and writing in the target language" (p. 24). Even though the target language plays a major role in intercultural training, activities should avoid influencing learner's emotional reaction and behavioural issues when developing learners' intercultural competence. As Landis and Bhagat (1996) noted, "Cultural learning poses various risks [that], if ignored, can inhibit rather than promote learning. …some learners are more responsive to some types of learning activities than others" (p. 52). Activity selection should be based on learners' characteristics, cognitive language abilities, and age. Landis and Bhagat further claimed that "it is important for the learner to have the content of training firmly established so that the appropriate activities can be selected" (p. 53).

In this study, the intercultural education procedure was designed by following inquiry-based learning methodology; as Byram et al. (2002) reported, "procedural ground rules need to be established and adopted for discussion and debate in class" (p. 26). At the beginning of the training session, during the first phase of questioning, the rules were poorly established and the

researcher did not predict the conflicts that ensued, as the students had been expected to respect each other and following the school's rules. Some learners showed strong emotional reactions, such as not waiting for their turn to speak, disrespecting others (even close friends), using impolite language, and displaying unacceptable behaviours over the questioning session. These patterns made a challenging for the teacher to manage the classroom atmosphere. However, such conflict can be viewed positively, as they show the learners were keenly interested in the cultural discussions; as Byram et al. (2002) stated, "this is an essential part of developing intercultural competence (p. 26)."

Second, participants should make personal responses to the materials and activities provided during the second phase of the inquiry-based learning investigation cycle. In this study, the tasks were designed to elicit the learners' opinions and, as they often did not agree with other people's opinions, a variety of views were brought to the discussions. The learners could apply the language elements of sentence structure and vocabulary to share their opinions with students and to have students compare and reflect their own views to others, which could facilitate them to draw new conclusions about their understanding of cultural differences. Leaners can learn intercultural understanding from their peers as much as from teachers and textbooks (Byram, et al., 2002).

Lastly, learners should have the flexibility to choose media they are interested in and the language they are more confident with to present their final project at the end of the intercultural training. The findings in this study show that the participants were deeply interested in the last stage of sharing, as they were required to use the media they were proficient with and, while they

were encouraged to use as many Chinese characters as they could, were allowed use English or Chinese Pinyin to present their work and give their peers feedback. This requirement gave learners more flexibility to show their intercultural understanding. As noted elsewhere, many students practiced their presentations diligently and enthusiastically provided comments to their peer groups. However, some students avoided using the target language in their presentations, perhaps because they lacked the skills and confidence to apply their learning to their verbal presentations. Bach and Hayton (2012) also presented similar findings; i.e., that the lack of skills and confidence to express themselves in the target language is the biggest challenge facing many learners in the sharing (discussion) stage of inquiry-based learning pedagogy. The findings of this research further highlight the challenge teachers face in identifying effective mechanisms with which to equip students with the skills and confidence needed to confidently apply the learned target language in their sharing, when adopting inquiry-based learning procedures. This research also suggests that it is important to flexibly blend constructive and instructive methods to guide second-language learners to increase their language usability, when applying inquiry-based learning pedagogy to develop students' intercultural competence.

5.4 Summary of Findings

This research was conducted to explore the development of young learner's intercultural competence when learning Chinese as a second language with the pedagogy of inquiry-based learning. It was carried out at an international school located in an heterogenous environment in Hong Kong. Both learners' intercultural sensitivity and language proficiency were investigated through comparing pre- and post-intervention survey and language test results between the experimental and baseline groups. The changes in the experimental group participants'

intercultural development over the process of the intervention were explored, based on Bennett's "six stage orientation of intercultural sensitivity" model; the experimental participants' perceptions about the efficacy of inquiry-based learning in developing their intercultural competence were also analysed.

Quantitative data analysis indicated that students in the experimental group made significant improvement in their intercultural sensitivity compared to those in the baseline group, and that their average language unit test results were higher than the baseline group's after the intervention. Qualitative analysis found that, over the intervention process, most experimental group students' intercultural competence moved from the denial stage to the acceptance stage, albeit to varying degrees.

5.4.1 Theoretical Implications

The theoretical contributions of this research were identified including:

a) Deliberate intervention needs to be designed to develop intercultural competence.

Learners' intercultural competence will not naturally develop through the process of language learning and demands deliberate training that targets the desired changes in intercultural attitudes and development of intercultural knowledge and skills. The common attributes of intercultural abilities (e.g., respect, empathy, flexibility, curiosity, and tolerance) are not naturally obtained through traditional language teaching. The data in this study showed that, before the intervention, the participants' showed strong negative stereotypical attitudes towards other cultures, especially the target Chinese culture, viewed their own cultures as superior, and lacked confidence and enjoyment when interacting with people from difference cultures; after

the intervention, the participants from the experimental group displayed significant advancement in intercultural sensitivity and their responses showed more respect for, empathy towards, and tolerance of other cultures. At the same time, the data from the baseline group showed that their intercultural competence remained constant with respect to their knowledge of cultural differences. These findings suggest that traditional language teaching methods are not sufficient to achieve the goal of developing students' intercultural competences. Deardroff (2006) agreed that intercultural competence does not occur naturally but must be intentionally addressed through education. Learners' intercultural competence development must be built through systematic planning and deliberate intervention, based on the "six stages from Ethnocentrism to Ethnorelativism" theoretical framework for intercultural developmental (Bennett 1993, P.29).

b) Intercultural competence intervention based on inquiry-based learning is effective for primary school students' intercultural competence development.

The study found that most participants increased their intercultural competence over the inquiry-based learning pedagogy intervention, without sacrificing their language proficiency test scores. This can be explained by inquiry-based learning being an effective method for primary students' intercultural competence development, as young learners tend to be more spontaneous in their inquiry and more curious about the world.

An inquiry-based learning intervention provides a balance of child-centred learning, meaningful content interaction, and teacher-guided instruction to engage learners through the process of developing intercultural competence. The participants expressed positive perceptions of their learning experiences through the intervention process, noting that it made their learning more interesting and helped them to become autonomous learners. The findings show that the primary school learners showed significant enthusiasm during each stage the inquiry-based learning intervention. The findings also suggest that inquiry-based learning pedagogy is effective in developing students' intercultural competence for primary school second-language learning.

The young learners however, had insufficient experiences and insufficient target language abilities to raise suitable questions at the asking stage and lacked critical thinking skills at the investigating stage. This poses challenges for intercultural competence development and demands the provision of mechanisms to support the smooth implementation of the inquiry-based learning intervention. These challenges require the trainer to provide prompts, such as pictures, stories, or videos, to guide the participants to raise explorable questions and facilitate learners to analyse online information and critically select relevant information for their given research task. The findings suggest that guided inquiry was a more appropriate method for the participating learners and maintain the balance between child-centred learning, meaningful content interaction, and teacher-guided instruction, which was a major concern throughout the intervention.

c) The effectiveness of inquiry-based learning intervention on intercultural competence is influenced by the particularities of the teaching context.

This study found that all learners demonstrated increased interest in autonomous learning over the intervention, but also highlighted challenges with the training material and content selection that could influence students' intercultural development. It is essential that teachers select a topic and training materials that are suitable and relevant to the trainee's experiences, so that they could comprehend the value of cultural differences. The participants in this study were elementary-level students who were sensitive to the material taught and, given the training topic in this study was fixed within the curriculum, brought challenges the teacher had to overcome concerning students' emotions and sensitivities. Further research is needed to understand how to project and respond to emotional reactions when designing activities and selecting materials for intercultural development, to avoid conflicts among learners from different backgrounds.

d) The development of intercultural competence is situation specific

This study found that the development of intercultural sensitivity is situation specific and does not follow a linear path. The qualitative data analysis indicates that not all students developed their intercultural competence at the same speed and or to the same level, with the data showing some students' intercultural competence level reached the acceptance stage in some responses, yet reverted to the minimisation or defence stages when responding to later questions. The findings suggest that intercultural development is a complex, situation specific process. Future investigation into intercultural competence needs to pay more attention to the situational specificity of intercultural competence development.

5.4.2 Practical Implications

The practical implications of this study focus on the following points:

a) Scaffolds need to be built for second-language learners at different stages of inquiry-based learning during the intervention

Scaffolds need to be built at different stages of the inquiry-based learning to facilitate learners to acquire knowledge of intercultural understanding through second-language learning. Guided inquiry was introduced in this research has a process that requires students to investigate a teacher-presented question through following a prescribed procedure. The scaffoldings used by the teacher were built according to the requirements of each stage of the intervention. In guided inquiry, when the topic is decided the trainer needs to consider the questions needed to address the objectives of the research questions. Next, per the cycle of inquiry-based learning, comes the questioning stage, where the trainer elicits the learners to raise questions that are relevant to the research questions, after which, in the investigative stage, the trainer prescribes the procedure that will lead the learners to the central question of the research, and provides a rubric of the final task-marking criteria to guide learners to meet the task objectives. Over the intervention process, the trainer also needs to provide relevant online resources that require the learners to focus on their task, and at the same time closely monitor young learners' online behaviour to prevent them from becoming distracted. At the sharing and reflection stages, learners should be able to present and share their final project in a manner that meets the objectives of the learning topic. At this stage, the trainer should avoid interference and allow the presenters to freely express their understanding. The learners' presentation provides rich resources for teachers to reflect not just upon the inquiry-based learning method, but also the process of student development through inquiry-based learning.

Throughout the intervention process, it was important that the researcher specify the different types of cognitive and language scaffolds that needed to be built at each stage. Although this study focused on learner's intercultural competence development and constructive achievements were the main methods used to guide learners to build their intercultural knowledge over the course of the intervention, language acquisition is still an essential element in the second-language classroom. In order to meet schools' language curriculum objectives while developing learners' competence, trainers need to adopt instructive strategies that facilitate learners' language acquisition, whilst still scaffolded their intercultural understanding. In this study, learners were required to learn both specific sentence structure and vocabulary (which helped them with their cognitive intercultural understanding), but also required additional time to learn and practice characters that were included in the mandated curriculum to succeed in the school's standard language benchmark test. As the findings of this study show, the experimental group significantly increased its intercultural sensitivity, but also achieved higher unit test results than the baseline group. One possible explanation for these results is that participants showed more interest in discovering cultural differences over the course of the intervention and more willing to spend extra time to practice character writing outside of the classroom, as evidenced by students completing their assigned homework early and practising their presentation with their peers. Thus, flexibly implementing constructive and instructive methods in second-language classrooms can benefit both language acquisition and intercultural development.

b) Inquiry-based Learning Intervention Involves Access of Varied Information Sources.

Inquiry-based learning is a student-centred approach that aims to train students to be autonomous learners. However, primary learners may still lack sufficient information retrieval skills and critical analysis skills to effectively utilise on-line resources. With learners highly reliant on on-line information, a lack of such skills may reinforce stereotypes through the presentation of negative information found on-line. Therefore, it is essential that trainers consistently monitor learners' online activity and provide necessary scaffoldings to guide and ensure that learners' stay on task when retrieving online information and synchronic communication. It is also essential to provide additional relevant resources to support learners with their tasks and help the critical retrieval of online information over the intervention period.

c). Non-linear Intercultural Competence Development Trend for Teaching and Learning

The findings of this study indicate that intercultural competence can develop in a non-linear path and is situation specific. This non-linear development differs from Bennett's (1986) DMIS stage development model, which argues a linear development through six stages. This research offers two practical suggestions for developing learners' intercultural competence, regarding the expectations of the intercultural trainer and the activities design for IBL implementation.

Intercultural trainers should set appropriate expectations for their pupils and expect non-linear orientation progression throughout their intercultural competence training. It has been shown that learner's IC may simultaneously rate high in certain situations but lower in others;

this is acceptable, as intercultural competence development should follow a spiral growth pattern and is often influenced by interlocutors' identity, stereotypes, or prejudices (Byram, 1997).

Designing a variety of activities to balance cultural-general and cultural-specific situations is essential to reduce biases and measure learners' overall intercultural competence development during a training program. In this study, participants' IC was developed to a higher level with cultural-general questions than with cultural-specific questions. The findings suggest that, when implementing IBL in the development of intercultural competence, it is necessary to incorporate both cultural-general and cultural-specific questions and to avoid sensitive activities that touch on participants' identity.

It is hoped that this study will provide practical guidelines for designing training programs—including materials selection, activities design, and resources retrieval—while assisting academic administrators and intercultural trainers construct theoretical and pedagogical frameworks for implementing inquiry-based learning to develop learners' intercultural competence in a primary school context.

5.5 Limitations of the Study

While this study provides a valid case of developing students' intercultural competence in elementary-level class learning Chinese as a second language at an international school in Hong Kong, it does have some limitations, including its sampling methods and the length of the study.

5.5.1 Sampling

The sample size in this study was restricted to a one-class experimental group (N=20) and a one-class baseline group (N=17). As Gorard (2001) suggested, a sample size must be large enough to provide the desired results. A larger sample would have provided more statistical power and confidence to the findings, particularly regarding the five factors of intercultural sensitivity. The restricted sample size may limit the generalizability of the research findings.

5.5.2 Length of the Study

The intervention was not long enough to determine the long-term effect of inquiry-based learning on intercultural competence. The observed effect could be novelty effect, as intercultural development is a long-term process that involves much trial and error (Byram et al., 2001) and intercultural competence requires "a longitudinal and ongoing developmental process" (Deardorff, 2009, p. 459).

This study involved an eight-week intensive intervention period focused on one topic. While some may argue the limited duration of the training program may have limited its ability to uncover complex intercultural development over time, the data gathered show participants' ethnocentric to enthorelative orientation intercultural development trended towards the desired internal outcome. Future research could consider a longitudinal design to explore both internal and external desired outcomes of intercultural competence development under an inquiry-based learning intervention across different topics.

5.5.3 Design of the Study

The study was carried out in an international school and involved Year Five students learning Chinese in a second-language classroom. The experimental group and base line group were taught by different instructors. Although the instructors have similar teaching backgrounds and experience and consistently discussed teaching content and teaching methods over the course of the intervention, the interpersonal relationships between the instructors and students might affect their learning outcomes. Future studies may adopt a more rigorous design to control for the teacher factor when examining the efficacy of the pedagogical approach for intercultural competence development.

This use of IBL pedagogy in this intervention was restricted to the design of a single topic (animals), to explore and potentially influence learners' perceptions about cultural differences. Restricting the intervention to a single topic was necessary, as the intervention needed to be managed within the school's broader four-term calendar, which, for the Chinese curriculum, mandated that only a single topic be covered in a given term. The specific topic (animals) was chosen because students had earlier shown a positive interest in it. While the data show students perceived the intervention to be enjoyable and motivating, it is recognized that intercultural competence development results may differ if exploring other topics. Thus, future studies may explore the intervention based on varied topics.

5.6 Further Research Recommendations

This study has shown that learners' contextual backgrounds likely influenced their intercultural competence development. Most participants in this study considered themselves Australian, tended to align with perceived Australian cultural norms, and expressed views and opinions that suggested they perceived their own culture to be superior to that of Hong Kong at the start of the intervention. The self-perceived superiority of one's culture over the target culture might have biased the research findings. Whether the same research findings would be repeated in contexts where the target culture was perceived to carry more symbolic capitals is still an open question. Therefore, the findings from this study may not be shared when conducting the same intervention with different contextual background learners. Future researchers are recommended to replicate this research in various contextual background participants in different schools whose education value systems differ from those of the school used in this research—for example, a "local" school based in its own homogenous society and following its own countries' second-language curriculum, or an international school in a heterogeneous environment that follows a different country's education system. Such research would assess the theoretical validity and reliability of inquiry-based learning to enhance students' intercultural competence, and should ascertain the effectiveness of using inquiry-based learning methodologies in developing students' intercultural competence in schools that apply different education value systems and curricula.

Future researchers are also recommended to replicate this study with the same inquiry topic, using a larger sample size of experimental and baseline groups of the same age and with similar language proficiency levels to examine the effectiveness of inquiry-based learning in an

expanded population, and to examine the applicability and reliability of implementing inquiry-based learning to develop students' intercultural competencies in a second-language classroom. Such research would contribute to the current knowledge on intercultural training content and on pedagogical designs for inquiry-based learning and teaching.

The findings may also be influenced by the teacher's knowledge of the implementation of IBL pedagogy and by the participants' familiarity with IBL pedagogy in other subjects. In this study, the insider-researcher undertook many IBL professional development courses and observed experienced teachers' use of IBL in their classroom practice before the study. The participants were also familiar with IBL pedagogy, having experienced it in other subjects. Further research is recommended to use IBL pedagogy in developing a learner's intercultural competence among participants who have no previous knowledge of and skills in IBL methods.

This study has compared intercultural competence development of a group of learners who experienced inquiry-based learning intercultural intervention with that of a group that had no cultural intervention. The study could speak to the effectiveness of the intervention as a whole, but could not provide a convincing argument regarding the efficacy of inquiry-based learning for intercultural competence development. Future research may conduct comparative studies to compare the effectiveness of inquiry-based learning with other approaches to developing intercultural competence, so as to examine the efficacy of the former.

5.7 Conclusion

The study, though of a small scale, has yielded finding that could provide practical guidelines for designing training programs—including materials selection, activities design, and resources retrieval and—while assisting academic administrators and intercultural trainers game and designing theoretical and pedagogical frameworks for implementing inquiry-based learning to develop learner's intercultural competence in primary school contexts.

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Appendix A: Pictures of human and animals

Look at these pictures.

1) Draw a mind-map of what these pictures made you think of the relationship of animals and humans.

2) Are there differences in the ways people treat animals and what are the reasons that cause these differences.

			
wǒ hé chǒngwù yì qǐ chīwǔcān 我和 宠 物一起吃午餐 Having lunch with my pet	jiù wǒ de chǒngwù 救我的 宠 物 Saving my pet	wǒ ài xióngmāo 我爱 熊 猫 I love pandas	wǒ ài bào zi 我爱豹子 I love cheetahs

			
wèi le rén lèi 为了人类 Sacrificing bears for humans	shuígāo 谁 高 Who is taller?	shì yú lè háishìcánrěn 是娱乐还是残忍? Is it entertainment or cruelty?	tā menzhēn de shìpéngyouma 他们 真 的是 朋 友吗? Are they friends?

Appendix B: Intercultural sensitivity questionnaires

Name_____ Date _____( ))

Please read the following statements and give **1-7** point that you think it is very much like you ***(1= strongly disagree** to **7= strongly agree.)***

Items	*Your rating*
Factor1- Interaction Engagement	
1. "I am open-minded to people from different cultures" (item 13)	
2. "I often show my culturally-distinct counterpart my understanding through verbal or nonverbal cues" (item 23)	
3. "I have a feeling of enjoyment towards differences between my culturally-distinct counterpart and me" (item 24)	
4. "I enjoy interacting with people from different cultures" (item 1)	
5. "I avoid those situations where I will have to deal with culturally-distinct persons" (item 22)	
6. "I tend to wait before forming an impression of culturally distinct counterparts" (item 11)	
7. I often give positive responses to my culturally-different counterpart during our interaction. (item 21)	
Factor 2 – respect of cultural difference	
8. "I don't like to be with people from different cultures" (item 7 Reversed-code)	
9. "I think my culture is better than other cultures" (item 20 -Reversed-code)	
10. "I think people from other cultures are narrow-minded" (item 2 Reversed-code)	
11. "I respect the values of people from different cultures" (item 8)	
12. "I respect the ways people from different cultures behave" (item 16)	
13. "I would not accept the opinions of people from different cultures" (item 18- Reversed-code)	

Factor3 – interaction confidence	
14. "I am pretty sure of myself in interacting with people from different cultures" (item 3)	
15. "I find it very hard to talk in front of people from different cultures" (item 4_ Reversed-code)	
16. "I always know what to say when interacting with people from different cultures" (item 5)	
17. "I can be as sociable as I want to be when interacting with people from different cultures" (item 6)	
18. I feel confident when interacting with people from different cultures.(item10)	
Factor 4 - Interaction Enjoyment	
19. "I get upset easily when interacting with people from different cultures" (item 9 Reversed-code)	
20. "I often get discouraged when I am with people from different cultures" (item 12- Reversed-code)	
21. "I often feel useless when interacting with people from different cultures" (item 15 Reversed-code)	
Factor 5- interaction attentiveness	
22. "I try to obtain as much information as I can when interacting with people from different cultures" (item 17)	
23. "I am sensitive to my culturally-distinct counterpart's subtle meanings during our interaction" (item 19)	
24. "I am very observant when interacting with people from different cultures" (item 14)	

Appendix C: Final project rubric

#	Excellent	Very Good	Satisfactory	Developing	Score
language	Learnt grammar and vocabulary is used accurately with few errors. Complete sentence structures are used. A fluent speech running for two minutes.	Learnt grammar and vocabulary is used with some errors. Some complete sentences are used. Fluent speech running for more than one minutes.	Learnt grammar and vocabulary is used but there are frequent errors. Basic sentence structures are used. A broken speech for about one minute.	Basic grammar and vocabulary is used, with many errors. Basic sentence structures are not clear. A broken speech for less than one minute.	4
Cultural understanding	Fully understand of cultural difference. Willing to accept and respect cultural differences. Carefully avoid cultural stereotype and prejudice.	Understand some of the concept of cultural differences Accept and respect some cultural differences Try to avoid cultural stereotype and prejudice.	Fairly understand of cultural differences Try to accept and respect some cultural Consider all cultures as fundamentally similar.	Not understand of cultural difference. Not consider accepting and respect other cultural behaviour and values. Individual reacts against of other cultures.	4
Message and format	The ideas and format are relevant and stimulating. The development of ideas is thorough supporting details. The organization of ideas is clear and flows well.	The ideas and format are relevant. The development of ideas is supporting details are appropriate. The organization of ideas is clear.	The ideas and format are generally relevant. The development of ideas is fairly supporting details. The organization of ideas is apparent but not clear.	The ideas and format are generally relevant but sometimes repetitive. The development of ideas is sometimes supporting details. The organization of ideas is sometimes apparent.	4
Presentation	The Putonghua pronunciation is accurate with few errors. The tones of the words are accurate with few errors. The speech flows very smoothly. Eye contact is natural.	The Putonghua pronunciation is generally accurate. The tones of the words are generally accurate. The speech flows generally smooth with few broken points. Eye contact is quite frequent.	The Putonghua pronunciation is fairly accurate. The tones of the words are fairly accurate. The speech flows with unnecessary broken points. Eye contact is made from time to time.	The Putonghua pronunciation shows obvious influence of the mother tongue. The tones of the words are unclear. The speech is broken and short. Some eye contact is made.	4
					Total Score: 16

Appendix D: Peer feedback

	Language	Cultural understanding	Message and format
Marking criteria	• How well did the presenter use Chinese to highlight the main points? • How well did the presenter use English to express the details? (both writing and presentation)	• Did the presenter show a good understanding of various cultural differences? • Did the presenter avoid unnecessary cultural stereotypes and prejudices? • Do you think the presenter demonstrated respect for cultural differences?	• Did the presentation answer the inquiry questions? • Did the presenter provide evidence to support their arguments or ideas? • Was the presentation clear and did the presentation flow in a logical order?
Groups	Peer Feedback		
Group members	Language:  Culture understanding  message and format 	• Things I like are: • Questions I have:	

Appendix E: Sample tasks

Name _____Date _____.

When you see the words "动物 animals" and "人 humans," what do you think of?
Now discuss with a partner on some possible questions about animals and humans that you might be interested in exploring throughout this unit. The questions need to be deep questions that do not have simple answers, such as

1. Why do people keep pets?
2. Do people differ in their reasons for keeping pets?
3. How do people in different countries (China, Australia…) perceive the relationship of animals and humans?
4. Do people living in the countryside and those living in big cities differ in their relationship with animals, Why?

Your questions:

_____

_____

_____

Name _____Date _____.

Read the following questions carefully and elect the questions you are interested in exploring.

Q1. Why do people keep pets? Do people differ in their reasons for keeping pets?
Is keeping animals as pets a good example of human-animal relationship, why? (宠物 pets)

Q2. How do people in different countries (China, Australia) perceive the relationship of animals and humans? What might have led to the differences? (国家 countries)

Q3. How do people in different religions (Buddhism; Christian; Hinduism, etc.) perceive the relationship of animals and humans? What might have led to the differences? (宗 教 religion)

Q4. Do people living in the countryside and those living in big cities differ in their relationship with animals, Why? (城 乡 city and country)

Q5. Do human's relationships with animals change over time and what caused the changes? (变化 change)

- I would like to explore: _____.

.

Name _____Date _____ .

Compare how do Chinese and Australian people treat animals differently?

Chinese 中国人	Australian 澳大利亚人
List a few things that you don't like Chinese treat animals (我 不喜欢 中国人 对待 动物 的 方式 有:	
List a few things that you don't like Australians treat animals (我 不喜欢 澳洲人 对待 动物 的 方式 有):	

Appendix F: Teaching journal sample

Time	7/9/2017 (2:05 – 2:50)
Activities	• Discussion_ How do Chinese and Australian people treat animals differently and why? • Writing_ work on the task 4
Class Observed	During the discussion period, many people put up their hands and want to speak, and they were told to be patient, everyone will have time to speak but they need to wait until someone finished their comments. Normally, the discussion and conversation in the class were recorded; when I wrote the journal, I checked the video to find some sentences. If I heard some peer conversation which is relevant to the research question, I noted done soon after. The following sample dialogue was recorded. I was standing to observe one group, and asked them: How is your group going? S1: I want to know why Chinese people eat dogs? Seb was crying when he hears Chinese kill dogs, eat dogs. A few students looked very sad when they saw Seb was crying. S2: Do you eat dog meat, Mao Laoshi? I didn't answer yes or no, but I asked them "what type of meat do you guys like to eat?" Many noises: beef, chicken, lam, fish… I continue asked: do you think eating cows is better than eating dogs? S3: Yes, because dogs are our pets. S4: Yes, cows are farm animals, we can eat them. S5: They all are animals. S6: Humans are so mean to animals S7: I think some people treat animals badly and some treat nicely, not all humans. ……

Reflection and Summary	Although, this lesson seemed too noisy and some kids were frustrated and unhappy, but all of them were engaged with this topic. At first half of the discussion, many students showed negative attitude of stereotype to Chinese people eat dogs, treat dogs badly. They think Australian people treat animals nicely, and some students showed their innocent to think "at least Australian treat cows nicer before killing them." However, through this discussion, learners seemed understand more about cultural differences that may influence people 's thinking and behaviour of treating animals in different way. It was the last lesson of the day. Normally, the students get too tired and hard to stay focused on task at the last lessons, but today, everyone was so excited and seemed have lots of things to say. They were very interested with the content which was related to students' daily life. As they spend too much time for the discussion, we didn't have enough time to complete the task 4. Let them work on it tomorrow.