Translation Competence Development among Learners:

A Problem-Solving Perspective

A thesis submitted to The University of Manchester

for the degree of Doctor of Philosophy

in the Faculty of Humanities

2017

Si Cheng

School of Arts, Languages and Cultures
# Table of Contents

List of figures and tables ...................................................................................................................... 5

Abstract .................................................................................................................................................. 6

Declaration and copyright statement ........................................................................................................ 7

Acknowledgements ...................................................................................................................................... 8

Chapter 1 Introduction ................................................................................................................................. 9

1.1 Research rationale and objectives .................................................................................................... 10

1.2 Structure of the thesis ......................................................................................................................... 13

Chapter 2 Reconceptualising translation competence ................................................................................. 15

2.1 Conceptualising translation competence: profusion and confusion .................................................. 15

2.1.1 From and beyond bi-lingual competence ...................................................................................... 16

2.1.2 The prevalence of multi-componential models ............................................................................ 18

2.1.3 The emergence of process-focused conceptualisation .................................................................. 27

2.1.4 The need for a re-conceptualisation of translation competence .................................................. 30

2.2 Re-defining translation competence ................................................................................................... 32

2.2.1 The notion of competence: debates across contexts ..................................................................... 32

2.2.2 The nature and scope of translation competence .......................................................................... 37

2.2.3 Constructing a definition of translation competence .................................................................... 43

2.3 Re-modelling translation competence ............................................................................................... 44

2.3.1 Translation as a problem-solving process .................................................................................... 44

2.3.2 The translation problem-solving ability ....................................................................................... 53

2.3.3 Towards an integrated model of translation competence ............................................................... 55

2.4 Re-conceptualising translation competence development ............................................................... 57

2.4.1 Current understanding of translation competence development ................................................. 57

2.4.2 Translation competence development: a problem-solving perspective ....................................... 61

Chapter 3 Conducting a longitudinal study: methodology and data ......................................................... 74

3.1 Developing the research design .......................................................................................................... 74

3.1.1 First pilot study .............................................................................................................................. 75

3.1.2 Second pilot study ......................................................................................................................... 77

3.2 Research design ................................................................................................................................... 78

3.2.1 Main research instrument: translation task-based interview ....................................................... 79

3.2.2 Supporting research instruments ................................................................................................. 84

3.3 Research implementation ..................................................................................................................... 85

3.3.1 Research participants .................................................................................................................... 85
### 3.3.2 Schedule and participation .................................................. 89
### 3.3.3 Translation tasks ............................................................... 90
### 3.4 Analytical Method .............................................................. 113
#### 3.4.1 Data sources ............................................................... 113
#### 3.4.2 Analytical strategies ....................................................... 113

Chapter 4 Mapping individual competence development paths ................. 119

#### 4.1 Wang: from linguistics-oriented to translation-oriented ................. 119
##### 4.1.1 Regained confidence in Chinese writing .................................. 120
##### 4.1.2 Towards a personal philosophy of translation .......................... 122

#### 4.2 Tang: checked progress ...................................................... 124
##### 4.2.1 Sharpened awareness of the translation situation ....................... 125
##### 4.2.2 Motivation and confidence ............................................... 127

#### 4.3 Shan: practice plus reflection equals progress ............................... 130
##### 4.3.1 Towards a more defined translation strategy ............................ 131
##### 4.3.2 Curiosity and self-reflection .............................................. 133

#### 4.4 Gong: the plateau period ...................................................... 136
##### 4.4.1 Practice, experience and accumulation ................................... 137
##### 4.4.2 The stagnation of competence development ............................ 139

#### 4.5 Wu: the (waning) influence of interpreting .................................. 141
##### 4.5.1 From prior knowledge to online resources ............................... 142
##### 4.5.2 Reduced speed and increased potential ................................... 146

#### 4.6 Liu: moderate progress ....................................................... 147
##### 4.6.1 Increased attention to the translation situation .......................... 147
##### 4.6.2 Strengthened confidence in translation decisions ........................ 149

#### 4.7 Individual differences in competence development: summary ............ 150
##### 4.7.1 Describing individual differences ........................................... 151
##### 4.7.2 Possible reasons for individual differences ............................... 152

Chapter 5 Identifying shared patterns in translation competence development ...... 156

#### 5.1 Towards an expanded perception of translation problems ................. 156
#### 5.2 Analogical problem solving: emerging awareness ........................... 159
#### 5.3 Cultivating information literacy and creative independence ................ 163
##### 5.3.1 Enhanced information literacy: the need for further information ...... 163
##### 5.3.2 Enhanced information literacy: the credibility of online resources .... 166
##### 5.3.3 From reference to inspiration ............................................... 169
#### 5.4 Evaluating solutions: considerations beyond the language level .......... 172
##### 5.4.1 Increased attention to extra-linguistic factors ............................ 172
5.4.2 Evaluating the peer translation: from compliments to criticism  
5.5 Justified decisions and emerging strategies  
5.5.1 More justified translation decisions  
5.5.2 Emerging translation strategies  
5.6 Shared patterns in competence development: summary  
5.6.1 Describing the shared patterns  
5.6.2 Possible contributing factors  

Chapter 6 Conclusion: reviews, revisions and reflections  
6.1 Revisiting the theoretical framework  
6.1.1 Relevance and strengths of the theoretical framework  
6.1.2 Possible revisions to the theoretical framework  
6.2 Reflecting upon the empirical research  
6.2.1 The research design: review and future suggestions  
6.2.2 The participants: cooperation and unpredictability  
6.3 Implications for translation research and pedagogy  
6.3.1 Implications for translation competence research  
6.3.2 Implications for translation pedagogy  
6.4 Conclusion  

References  
Appendix 1 Questionnaires  
Appendix 2 Focus group questions  
Appendix 3 Example of interview transcript (Participant Shan, 3rd session)  
Appendix 4 Example of translation problem-solving process description (Participant Shan, 3rd session)  
Appendix 5 Example of translation and revision products (Participant Shan, 3rd session)  
Appendix 6 Back translations of the peer translations  
Appendix 7 Screenshots of Youdao Dictionary  

(Word count: 72652 words)
List of figures and tables

Figure 2.1 PACTE translation competence model (PACTE 2003: 60; 2017b: 41) .................21
Figure 2.2 Göpferich’s translation competence model (Göpferich, 2009: 20)..................22
Figure 2.3 EMT competence framework for professional translators (EMT, 2009: 4) ..24
Figure 2.4 Kiraly’s three-dimensional model of incipient translator proficiency: the
interplay of sub-competences (Kiraly, 2013: 208)..............................................30
Figure 2.5 Instantiated competence in an expert translator’s translatory moment (Kiraly,
2013: 209)........................................................................................................30
Figure 2.6 An illustration of the proposed model of translation competence.................55
Figure 2.7 PACTE’s model of translation acquisition (PACTE, 2000: 104; 2017c: 304)
..........................................................................................................................59
Figure 2.8 Kiraly and Piotrowska’s model of emergent translator competence (Kiraly
and Piotrowska, 2014: 3) ......................................................................................61

Table 2.1 ATA Translator KSAs (cited in Koby and Melby, 2013: 184-185)..................25
Table 2.2 NAATI Translator KSAs (NAATI, 2015: 7).......................................................26
Table 3.1 The participants’ choices of specialist course units ..................................88
Abstract

In recent decades, the conceptualisation of translation competence and its development has attracted significant attention from translation researchers. Existing literature on translation competence is characterised by the prevalence of multi-componential models of translation competence, with inadequate attention paid to the interplay between competence components in the translation process. Therefore, this doctoral research sets out to re-conceptualise translation competence from a problem-solving perspective so as to understand translation competence and its development in the translation process.

By re-defining and re-modelling translation competence with inspiration from problem-solving studies, this research proposes a conceptualisation of translation competence and its development that accommodates the translation process and the learning process. In order to validate the relevance of the proposed theoretical framework, a longitudinal study was conducted among a small group of Chinese students from an MA translation programme, using the translation task-based interview as the main research instrument. Findings from the empirical study have demonstrated the relevance and strength of the theoretical framework as well as revealing individual and shared paths of translation competence development among the learners.

This research enriches the current understanding of translation competence and its development. It introduces a fresh perspective for conceptualising translation competence, proposes an effective instrument for empirical competence research, and identifies possible directions for further research. It also has practical implications for translation pedagogy, offering theoretical and empirical support for some recent approaches and trends in translator education and training.
Declaration and copyright statement

Declaration

I declare that no portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

Copyright Statement

I. The author of this thesis (including any appendices and/or schedules to this thesis) owns certain copyright or related rights in it (the “Copyright”) and s/he has given The University of Manchester certain rights to use such Copyright, including for administrative purposes.

II. Copies of this thesis, either in full or in extracts and whether in hard or electronic copy, may be made only in accordance with the Copyright, Designs and Patents Act 1988 (as amended) and regulations issued under it or, where appropriate, in accordance Presentation of Theses Policy You are required to submit your thesis electronically Page 11 of 25 with licensing agreements which the University has from time to time. This page must form part of any such copies made.

III. The ownership of certain Copyright, patents, designs, trademarks and other intellectual property (the “Intellectual Property”) and any reproductions of copyright works in the thesis, for example graphs and tables (“Reproductions”), which may be described in this thesis, may not be owned by the author and may be owned by third parties. Such Intellectual Property and Reproductions cannot and must not be made available for use without the prior written permission of the owner(s) of the relevant Intellectual Property and/or Reproductions.

IV. Further information on the conditions under which disclosure, publication and commercialisation of this thesis, the Copyright and any Intellectual Property and/or Reproductions described in it may take place is available in the University IP Policy (see http://documents.manchester.ac.uk/DcuInfo.aspx?DocID=24420), in any relevant Thesis restriction declarations deposited in the University Library, The University’s regulations (see http://www.library.manchester.ac.uk/about/regulations/) and in The University’s policy on Presentation of Theses.
Acknowledgements

I would like to express my deepest gratitude to my supervisor Dr. Maeve Olohan, for her constant help and guidance throughout my doctoral programme. Without her continuous support, inspiration and encouragement this thesis would not have been possible. My sincere thanks also go to my co-supervisor, Dr. Rebecca Tipton, and the other members of my supervisory team, Dr. Anna Strowe and Prof. Richard Fay, whose incisive feedback was invaluable in shaping this thesis.

I wish to extend my thanks to Dr. Wu Qing and Dr. Qin Lili, who helped and encouraged me to embark on this journey. I must also thank the China Scholarship Council for the award of the funding which enabled me to undertake this research.

I would also like to take this opportunity to thank my family and friends. I am indebted to my parents for their unparalleled love, help and support. I am grateful to my partner for freeing me from daily chores and being my sunshine on rainy days. I am also thankful to my friends, who gave me the necessary distractions from my research and made this journey joyful and memorable.

Finally, special thanks to each of the participants in this study for their enthusiasm and cooperation. This research could not have been completed without their participation.
Chapter 1 Introduction

The last few decades have witnessed substantial growth in the number of translation and interpreting programmes at university level around the world. The American Translators Association’s 2017 List of Approved Translation and Interpreting Schools lists over 550 T&I programmes around the world (ATA, 2017), but hundreds of other T&I programmes also exist. In China alone, there were 152 BA programmes and 206 MA programmes in 2014 (Zhong, 2014), despite the fact that the first translation MA and BA programmes appeared only in 2004 and 2006 respectively. A major reason for this growth is the ever-increasing demand for translation and interpreting services around the world, which makes it more urgent than ever for many countries and regions to train future translators and interpreters.

With the proliferation of translation programmes, great efforts have also been made to improve the quality of these programmes. At the macro level, education policy makers have attempted to regulate the translation programmes by establishing relevant certification and networks. In the EU, a network of MA translation programmes has been established, which draws up a translator competence profile to guide the design of these translation programmes (EMT, 2009). In China, the Master of Translation and Interpreting (MTI) network has also been established with designated teaching materials and specified teaching objectives (Zhong, 2014). In translation research, translation scholars have proposed various translation competence models (e.g. Wilss, 1976; Neubert, 1994; Kiraly, 1995; Hansen, 1997; PACTE, 2003; Kelly, 2007; Göpferich, 2009) and have investigated translation competence development in empirical studies (e.g. the PACTE project and the TransComp project), aiming at enriching the current understanding of translation competence and its development. In translation classrooms, translation teachers have also been actively seeking new approaches to developing translation learners’ translation competence, advocating more learner-centred, process-oriented and situated approaches to translation teaching and learning (e.g. Vienne, 1994; Fox, 2000; González Davies, 2005; Kiraly, 2005, 2012; Massey, 2005).

It is within this context that this research is carried out. This study aims to explore translation competence and its development from a fresh perspective, so that a deeper understanding of translation competence development can be achieved. It is hoped that
the findings from this study will shed some light on translation competence development for both translation research and translation pedagogy.

1.1 Research rationale and objectives

Although translation competence development is an area of common concern for both translation research and pedagogy, current findings from translation competence research seem to have limited practical implications for translation pedagogy. The theoretical discussions on the various components of translation competence do provide some reference for translation teachers in designing translation courses and setting teaching objectives (e.g. Beeby, 2000; Schäffner, 2000; Kelly, 2007), but apart from this, they do not seem to provide much support for the actual teaching and learning activities. Some empirical research projects on translation competence and its development conducted in recent years (e.g. PACTE, 2003, 2017c; Göpferich, 2009) also contribute to the understanding of translation competence development. However, the complex research design and sophisticated research equipment mean that it is not practical for translation teachers to use the same research instruments in the translation classrooms to find out about their learners’ translation competence development.

In translation education and training, the increasingly popular learner-centred and process-oriented approaches also bring new challenges to translation teachers. As conventional product-oriented teaching and assessment approaches tend to be prescriptive and pay little attention to the translation process, translation teachers have started to adopt a more formative approach to developing and assessing translation learners’ competence development, with the use of translation diaries, decision reports, reflective journals and other process-oriented pedagogical tools (e.g. Fox, 2000; Gile, 2004; Shei, 2005; Shih, 2011; Orlando, 2012). This requires them to gather and analyse developmental evidence from the learners’ translation processes and to adjust the focal points in their teaching activities accordingly, to foster translation competence development. It becomes more necessary than ever, therefore, for translation teachers to be able to observe, analyse and assess translation learners’ competence development in their translation processes. However, current translation competence research offers limited practical reference for the observation and analysis of translation competence development in the translation process, let alone in the education and training settings. This research project therefore aims not only to contribute to the theoretical
understanding of translation competence and its development, but also to facilitate the development and assessment of translation competence in education and training settings.

My interest in this research project emerged a few years ago while I was analysing learner journals from a specialised translation course unit as research assistant. The intended aim of the journal analysis was to demonstrate the feasibility, effectiveness and necessity of the pedagogical tool in the undergraduate translation programme that was newly set up in my university. As I read through the pages, I found that, although no specific requirements were set for the writing of the journals, they were primarily focused on translation problem solving – what problems were identified, what strategies were applied, what resources were used, what options were found, what evaluations were carried out and what decisions were made. When I recalled the journals I had written in various specialised translation course units, I realised that I was also reporting on the translation problem solving activities in my translation process and was hoping that the journals would make up for possible translation mistakes in my translation product. In other words, I was hoping that the progress I made in my translation process would also be recognised. It was on the basis of this journal analysis that I started to contemplate the link between translation process, problem solving and translation competence, which also became the focus of this research project.

In order to address the research focus, a link needs to be established first between translation competence and the translation process. In my MA dissertation, I made a tentative attempt to introduce a procedural dimension to translation competence (Cheng, 2014). In this thesis, I will continue to explore and discuss the conceptualisation of translation competence in relevance to the translation process and problem solving. The review of existing translation competence research (e.g. PACTE, 2003; EMT, 2009; Göpferich, 2009; NAATI, 2015) in Section 2.1 finds that inadequate attention is paid to the interplay between the components of translation competence in the translation process. This research therefore proposes to adopt a problem-solving perspective to conceptualise translation competence and its development in the translation process, which leads to the first research question formulated in this study:

RQ 1: How can problem solving be used to conceptualise translation competence and its development?
To answer this question, this thesis first reviews existing conceptualisations of competence in translation studies and other relevant research contexts, based on which a definition of translation competence in consideration of the translation process is constructed. It then introduces the problem-solving perspective to conceptualise the translation process and develop a model of translation competence. Based on the proposed conceptualisation of translation competence, the development of translation competence is also explained with reference to findings from problem-solving studies and relevant disciplines.

In order to test the relevance of the proposed theoretical framework, a longitudinal study is conducted among a small group of translation students from a MA translation programmes to gather data on their translation processes. Data collected from this empirical study is analysed to address the second research question:

RQ 2: What changes in translation processes are observed from a group of translation students over the course of their MA programme?

Data analyses are carried out to identify changes in students’ translation processes. Attention is paid to the similarities and differences, both individual and collective, in the identified changes, which leads to the following two sub-questions:

(a) What individual differences can be observed from the participants’ translation processes?

(b) What shared patterns can be observed from the participants’ translation processes?

The identified changes in translation processes are then analysed within the proposed theoretical framework, which aims to answer the final research question:

RQ 3: How can the observed changes in the participants’ translation processes be described and analysed in relation to their translation competence development, using the conceptualisation of translation competence previously developed?

To address this question, the identified individual difference and shared patterns are described and interpreted from the translation problem-solving perspective. The analysis maps individual development paths and identifies shared development patterns in their
translation processes, thus enriching our understanding of learners’ translation competence development.

To sum up, by answering these research questions, this thesis proposes a theoretical framework that adopts a problem-solving perspective to link translation competence with the translation process, and presents findings from an empirical study in which the competence development of a group of translation learners is described and analysed based on the observation of their translation processes. The proposed theoretical framework provides a fresh perspective into the understanding of translation competence and its development in the translation process, and the empirical findings also offer valuable insights into translation learners’ competence development paths in the learning process, with practical implications for both translation competence research and translation pedagogy.

1.2 Structure of the thesis

This thesis consists of six chapters. Chapter 2, “Re-conceptualising translation competence and its development”, proposes to conceptualise translation competence and its development from a problem-solving perspective based on a review of existing literature on translation competence and the notion of competence in other research contexts. Current discussions on translation competence mostly take a multi-componential form, focusing on specifying the constituents of translation competence without paying adequate attention to the interaction between the components in the translation process. The translation problem-solving perspective provides a procedural dimension to the conceptualisation of translation competence, which effectively explains the interplay between translation components and links translation competence with the translation process. Drawing from problem-solving studies, the proposed theoretical framework offers a fresh understanding of translation competence and its development.

Chapter 3, “Conducting a longitudinal study: methodology and data”, introduces the design, implementation and data gathering of the longitudinal study conducted with six Chinese students from an MA translation programme. The translation task-based interview (TTBI) is proposed as the main research instrument for the empirical study. It flexibly integrates translation tasks with semi-structured interviews, which can elicit data on all translation problem-solving sub-activities. In the longitudinal study, four interview sessions are conducted with six participants over one academic year. The translation tasks
used in the sessions are carefully selected news translation tasks with similar, pre-identified translation problems. Together with two background questionnaires and a concluding focus group, the translation task-based interview proves to be effective in gathering information on the participants’ translation problem-solving processes. The gathered data are then transcribed and coded with translation problem-solving analytical categories for in-depth analysis.

The following two chapters, Chapter 4 and Chapter 5, present detailed analyses of the data gathered in the longitudinal study. The individual-focused analysis of **Chapter 4**, “Mapping individual competence development paths”, presents a picture of each participant’s translation competence development path. The six participants show prominent differences in their translation problem-solving sub-activities through the four TTBI sessions, demonstrating rather different competence development paths. Such differences are not only found in different translation problem-solving sub-activities, but also manifest themselves in the different development curves, speeds and directions.

**Chapter 5**, “Identifying shared patterns in competence development”, analyses some common development tendencies that transcend individual differences. Despite their many differences, the participants demonstrate similar development tendencies in some translation problem-solving sub-activities. Although they take different individual paths, the paths seem to lead in similar directions and to similar destinations.

The final **Chapter 6**, “Conclusion: reviews, revisions and reflections”, revisits the proposed theoretical framework and the empirical study as well as envisaging the implications for translation research and pedagogy. It starts with a review on the strengths of the theoretical framework as demonstrated by the data analysis, with possible revisions suggested. It goes on to reflect upon the research design and implementation of the empirical study, summarising the advantages of the research design and proposing practical suggestions for future research implementation. This is followed by a discussion of the implications of the current research for translation competence research and pedagogy, which gives an outlook on further competence research and potential application of the theoretical framework and research instrument in translation education and training.
Chapter 2 Reconceptualising translation competence

In recent years, there is increasing research, both theoretical and empirical, into translation competence and its development. Despite the various findings and results thus generated, translation competence remains an ambiguous and disputed concept. It is interpreted and used in many different ways by translation scholars, often without an explicit definition of the nature or scope of the concept. The models of translation competence also have methodological deficiencies, with inadequate attention paid to the link between translation competence and the translation process, and consequently, limited explanatory power in understanding translation competence and its development in the translation process. Therefore, this chapter sets out to reconceptualise translation competence, with an aim to define the nature and scope of translation competence more clearly as well as to understand translation competence and its development more thoroughly in consideration of the translation process and the learning process.

In this chapter, Section 2.1 reviews the conceptualisation of translation competence in translation studies and identifies the need for a re-conceptualisation of translation competence. Section 2.2 constructs a definition of translation competence based on a review of competence definitions in other research contexts and a discussion on the context, nature and scope of translation competence. On the basis of the proposed definition, Section 2.3 goes on to formulate a model of translation competence with inspirations from problem-solving studies. In Section 2.4, a detailed discussion is presented on an enriched understanding of translation competence development from the translation problem-solving perspective.

2.1 Conceptualising translation competence: profusion and confusion

Since the first proposals for conceptualising translation competence emerged in the 1980s, there has been a surge in the amount of literature on translation competence. In the past four decades, numerous studies have contributed to the conceptualisation of translation competence (see also Plaza Lara, 2016; Hurtado Albir, 2017 for recent overviews on existing models of translation competence). In the profusion of discussions, however, confusions also arise in several aspects, which point to the needs for future research. In this section, existing literature on the conceptualisation of translation competence will be
reviewed and discussed in a roughly chronological order and in consideration of the different approaches and contexts, with research gaps and needs identified.

2.1.1 From and beyond bi-lingual competence

As the communicative nature of translation becomes recognised by translation scholars, the conceptualisation of translation competence also begins to be expanded. Proposing that translation should be regarded as a specialised sort of communication, Bell (1991) believes that the translator must possess “communicative competence in both cultures” in addition to linguistic competence in both languages (Bell, 1991: 42). Contemplating on what makes translation a special sort of communication, Neubert (1994) argues that among the three kinds of competence – language competence, subject competence and transfer competence – that comprise translational competence, transfer competence is the distinguishing domain of the translators. In Neubert’s view, transfer competence “integrates language and subject knowledge with the sole aim of satisfying transfer needs” (Neubert, 1994: 412) and therefore should be regarded as the dominating competence in translational competence.

Since translation is regarded as a communicative act, the context of situation also begins to enter the conceptualisation of translation competence. Following Bachman’s 1991 model for communicative language use, Cao (1996) describes three sets of variables in translation proficiency: translational language competence, translational knowledge structures, and translational strategic competence, which are closely related and interact with each other within the context of the translation act. In Cao’s view, it is necessary to consider the external variables that affect the translation process in the translation proficiency framework, as translation proficiency is manifested “only when a translation task is carried out in a real-life situation” (Cao, 1996: 335).

With a growing focus on the translator in translation studies, the personal attributes of the translator also come to be taken into account. Analysing the test papers of 38 candidates for a public examination in English-Arabic translation, Campbell (1991) summarises three factors of translation proficiency: lexical coding of meaning, global target language competence and lexical transfer competence. In addition to these three factors of translation proficiency, however, he adds the element of disposition, which has to do with “attitudes and psychological qualities that the translator brings to the task” (Campbell, 1991: 339). In a revised model of translation competence, Campbell (1998)
retains the component of disposition, reduces the three factors of translation proficiency to target language textual competence and adds another component: monitoring competence, which monitors the whole translation process. In his view, these three components are relatively independent, with the optimum combination being “high textual competence and a risk-taking but persistent disposition” (Campbell, 1998: 156).

Considering the psycholinguistic processes involved in the translation activities, which depend on the translator’s awareness of communicative factors and translation-relevant knowledge and skills, Kiraly (1995) also proposes an integrated model of translator competence. The model consists of three components: the translator’s awareness of the situational factors, the translator’s translation-relevant knowledge (including linguistic knowledge, cultural knowledge and specialised subject knowledge) and the translator’s ability to initiate appropriate psycholinguistic processes to formulate the target text and monitor its adequacy.

The conceptualisation of translation competence is further expanded as the functional approach to translation gains popularity in translation studies. Advocating text analysis as a pedagogical tool, Nord (1992) points out that, apart from linguistic and cultural competences in both languages, text production competence and transfer competence, translation teaching should also aim to develop the translation students’ competence of text reception and analysis, research competence and competence of translation quality assessment. Similarly, from a functional viewpoint, Hansen (1997) believes that the relation between the demands of target text recipients and individual translational competence is highly important. In his opinion, translational competence should also include “the ability to extract the relevant information from the source text bearing in mind the commissioner’s intention, and to produce the target text in such a way that the intended function is fulfilled” (Hansen, 1997: 205).

It is evident that within only a short span of years, the conceptualisation of translation competence has gone far beyond the initial starting point. As the perception of the nature and context of the translation act changes, the conceptualisation of translation competence also expands to include more factors and variables that affect the translation act. Consequently, translation competence is increasingly conceptualised as a combination of several components, with its scope constantly expanded. Hurtado Albir (2017) highlights some emerging trends in the initial proposals on translation competence:
it requires additional competences – in the form of different components – beyond linguistic competences; the different components cover various areas, including knowledge, skills, abilities and attitudes; the notion of transfer competence is also widely used.

Early in 1994, Neubert argues that the concept of translational competence is “a hierarchical configuration of clearly distinguishable component competences⁴ – largely related to language, encyclopedic, and transfer knowledge and skills” (Neubert, 1994: 419). In the decades that follow, the conceptualisation of translation competence follows this componential approach, manifested in the profusion of multi-componential models of translation competence in recent literature. However, Neubert also points out that a crucial question for translation research is how these component competences “interrelate efficiently, effectively, and adequately” to form translation competence (Neubert, 1994: 412). This is the question that we will constantly ask when we review the various multi-componential models of translation competence in the following section.

2.1.2 The prevalence of multi-componential models

In recent decades, translation competence research has witnessed the prevalence of multi-componential models of translation competence. Various competence models have been proposed in different contexts for different purposes. In translator education, these models are intended as teaching and learning objectives to facilitate translation course and curricular design. In the translation academia, these models are developed as the conceptual basis for research projects on the acquisition and development of translation competence. In the translation profession, these models are formulated for the qualification and accreditation of professional translators or training programmes. In this section, the respective multi-componential models proposed in these three different contexts will be reviewed. However, it should be noted that the three contexts are often interrelated, as, for instance, the models for research purposes may also have pedagogical

¹ Note that in existing literature on translation competence, (sub-)competences and competencies are often used interchangeably to refer to competence components. In other contexts, for example, the education research context, however, competence and competency are more often regarded as two different terms with different scopes, which will be discussed in detail in Section 2.2.1. The terms used in the original literature will be retained in the review and discussions prior to that section.
intentions. The differentiation of the three contexts should thus be regarded as only a temporary method of sorting out the numerous competence models rather than a strict or systematic categorisation.

**Models proposed for education and training purposes**

To some extent, the prevalence of multi-componential translation competence models can be attributed to the proliferation of translator training programmes. As Pym points out, the purpose for the expansion of multi-componential models is “to bring new skills and proficiencies into the field of translator training” (Pym, 2003: 481). It is true that many models of translation competence are proposed by translation teachers with a primary focus on the translation classroom, either to accompany the course design of specific translation modules or to guide the curricular design of translation programmes.

In translation course design, the sub-competencies in multi-componential models often appear as learning objectives for translation students. In order to better develop students’ translation competence, Fox (2000) conducts a needs analysis among students at the beginning of the Catalan-English translation course so as to reveal the shortcomings in their translation performance. Accordingly, she specifies five abilities as the learning goals for the course, which reflect the following five translation competencies: communicative competence, socio-cultural competence, language and cultural awareness, learning-how-to-learn, and problem-solving goals. Similarly, Beeby (2000) also outlines four objectives as sub-competencies necessary for Spanish students training to do professional translation from Spanish to English: transfer competence, contrastive linguistic competence, contrastive discourse competence, and extra-linguistic competence. These translation sub-competencies proposed in the form of learning objectives are usually narrowly limited to a certain course module or subject field.

As a comparison, the multi-componential models proposed for translation curricular and programme design are usually (intended to be) more comprehensive. Designing a four-year undergraduate programme in Modern Languages with Translation Studies, Schäffner (2000) and her colleagues need to decide which translation-specific modules to offer in the first two years. Contemplating what is required for a competence to produce a target text that appropriately fulfils its specified function for its target recipients, they find that such a competence requires not only a sound knowledge of the linguistic systems of the two languages but also knowledge of communicative and text-
typological conventions in the two cultures, subject and culture-specific knowledge, and (re)search skills. Therefore, six translation sub-competences are listed that need to be developed from the start of the programme: linguistic competence, cultural competence, textual competence, domain/subject specific competence, (re)search competence, and transfer competence. For the purpose of translation curricular design, Kelly (2007) also attempts to identify from previous literature some major areas in which translation graduates are intended to demonstrate knowledge, skills and attitudes. This leads to the identification of seven areas of competence: communicative and textual competence, cultural and intercultural competence, subject area competence, professional and instrumental competence, attitudinal or psycho-physiological competence, interpersonal or social competence, and organisational or strategic competence.

According to Kelly, the compartmentalisation of translation competence into different areas provides a basis for the translation curriculum to be flexibly developed, as the overall competence is divided into manageable and easily assessable units. This modularised approach to translation competence and translation curriculum, however, is also accompanied by the risk that “from the students’ point of view it can be difficult to establish relations between the different component parts” (Kelly, 2007: 137). Despite the embedded risk, the multi-componential models continue to inform the formulation of learning objectives in translation courses and facilitate the design of curricula in translation programmes.

Models proposed for competence research purposes

In some cases, multi-componential translation competence models are also proposed for research purposes. The translation researchers who propose these models are often also translation teachers. However, these competence models are not intended for course or curricular design (at least not for an immediate use) but to serve as the conceptual basis for further research into the acquisition and development of translation competence.

The PACTE model of translation competence is probably the most widely-known competence model in translation competence research. The PACTE research Group (Process in the Acquisition of Translation Competence and Evaluation) was formed in 1997 by several translators and translation teachers from the Universitat Autonoma de Barcelona to investigate the acquisition of translation competence in inverse and direct written translation (PACTE, 2003). In the revised and final version of the model,
translation competence comprises “five sub-competences (Bilingual, Extralinguistic, Knowledge of translation, Instrumental and Strategic)” and activates “a series of psycho-physiological components” (PACTE, 2017b: 39). See Figure 2.1 for an illustration of the model.

For each sub-competence, the PACTE group offers a brief description of their nature and scope:

- **Bilingual sub-competence** is predominantly procedural knowledge made up of “pragmatic, socio-linguistic, textual, grammatical and lexical knowledge in the two languages”;
- **Extra-linguistic sub-competence** is predominantly declarative knowledge made up of bicultural knowledge, encyclopaedic and subject knowledge;
- **Knowledge of translation sub-competence** is predominantly declarative knowledge “about what translation is and aspects of the profession”;
- **Instrumental sub-competence** is predominantly procedural knowledge “related to the use of documentation sources and information and communication technologies applied to translation”;
- **Strategic sub-competence** is procedural knowledge to “guarantee the efficiency of the translation process and solve the problems encountered”;
- **Psycho-physiological components** refer to “different types of cognitive and attitudinal components and psycho-motor mechanisms” (PACTE, 2017b: 39-40).

![Figure 2.1 PACTE translation competence model (PACTE 2003: 60; 2017b: 41)](image-url)
According to the PACTE group, strategic sub-competence is the most important sub-competence in their model, as:

\[ \text{It is responsible for solving problems and the efficiency of the process. It intervenes by planning the process in relation to the translation project, evaluating the process and partial results obtained, activating the different sub-competencies and compensating for deficiencies, identifying translation problems and applying procedures to solve them.} \]

(PACTE, 2005: 610)

This description suggests that strategic sub-competence is an essential component that governs many aspects of the translation process. However, it is unspecified how it intervenes and activates the different sub-competencies in the translation process. In other words, the interplay of the sub-competencies remains unclear in the PACTE model of translation competence.

On the basis of the PACTE (2003) model and with reference to Hönig (1991)’s model of an ideal translation process and Kiraly (1995)’s psycholinguistic model of the translation processes, Göpferich (2009) proposes her own translation competence model (see Figure 2.2) for a longitudinal research project TransComp, which aims to investigate the development of translation competence.

![Figure 2.2 Göpferich’s translation competence model (Göpferich, 2009: 20)](image)

Göpferich’s translation competence model is in many ways similar to the PACTE model, though with altered terminology in some cases. In Göpferich’s model, counterparts of
PACTE’s bilingual competence, extra-linguistic sub-competence, instrumental sub-competence, strategic competence and psycho-physiological components can all be found. The only missing counterpart is the knowledge about translation sub-competence, which in Göpferich’s model is divided into the translation routine activation competence and the translator’s self-concept (one of the three factors that influence the employment of the sub-competences). The translation routine activation competence, according to Göpferich, comprises “the knowledge and the abilities to recall and apply certain – mostly language-pair-specific – (standard) transfer operations (or shifts) which frequently lead to acceptable target language equivalents” (Göpferich, 2009: 21).

Using Hönig’s terminology, Göpferich describes the translation routine activation competence as productive micro-strategies to differentiate it with the strategic competence that refers to meta-cognitive macro strategies. However, it is arguable whether the translation routine activation competence should become a separate sub-competence, as the description indicates it is mostly related to language equivalents, which can be part of the bilingual or extra-linguistic sub-competence. As with the strategic competence, Göpferich explains that as a meta-cognitive competence, it “sets priorities and defines hierarchies between the individual sub-competences” (Göpferich, 2009: 22). Compared with the description of strategic competence in the PACTE model, Göpferich’s explanation of strategic competence is more clear-cut. However, it also fails to give a detailed account of the interrelation and interplay between strategic competence and other sub-competences in the translation process.

Models proposed for qualification and accreditation purposes

With the proliferation of translator training programmes and the increase of demand for competent professional translators, some multi-componential models of translation competence are also proposed for qualification and accreditation purposes. These models are proposed by translator associations, accreditation authorities as well as education administrators who aim to link translator education more closely with the profession. The following paragraphs will give a review on three multi-componential models proposed by the European Master’s in Translation (EMT) expert group, the American Translators Association (ATA) and the Australian National Accreditation Authority for Translators and Interpreters (NAATI). Note that the model proposed by the EMT expert group is intended for educational purposes, as well. However, compared with those models
developed for specific education and training purposes, it is more closely linked with the qualification of translation programmes with a focus on the competence of professional translators. Therefore, it is discussed in this section together with the ATA and NAATI models.

![Diagram of EMT competence framework](image)

**Figure 2.3 EMT competence framework for professional translators (EMT, 2009: 4)**

The EMT competence framework is developed by an expert group as a reference for member institutions of the EMT network. In the EMT framework, six competence areas are defined: translation service provision competence, language competence, intercultural competence, information mining competence, technological competence, and thematic competence; a list of nearly four dozen knowledge and skills within the six competence areas are also provided (EMT, 2009: 4-7). See Figure 2.3 for an illustration of the competence framework. The mastery of the six areas of competence, according to the expert group, would lead to the “mastery of a transversal ‘supercompetence’ which can be termed competence in translation” (EMT, 2010: 3).

The advantage of the EMT competence framework lies in its inclusion of mainly “practical and market-oriented skills”, thus being more concrete without abstract concepts such as transfer competence (Chodkiewicz, 2012: 41). It is innovative in introducing and emphasising the concept of translation service provision competence, which truly touches upon important aspects of the professional translation practice. A detailed list of components for each competence area is also suggested by the EMT expert group (see EMT, 2009), which adds to its practicability in serving as a useful reference in translation programmes. However, the components listed under some competence areas are inhomogeneous with overlapping and fuzzy boundaries, which reduces the
clarity of the scope of the competence areas. There is also the lack of a clear account of how the competence areas interact with each other in the translation process to form the so-called transversal super-competence. Torres-Simón and Pym (2017) criticises the EMT model for failing to define the weight of each competence area in translation programmes, and points out that in actual use, the percentages vary according to different programmes or different nations.

With reference to the ISO 17024 General requirements for bodies operating certification of persons, the ATA conducts focus groups and a survey of a large number of translation professionals to develop professional KSAs, i.e. knowledge, skills and abilities. This results in the identification of 36 KSAs, including 13 knowledge areas, 13 skills, and 10 abilities (cited in Koby and Melby, 2013). Among these KSAs, some are given more priority based on the number of respondents and identified as top KSA areas (ATA, 2012). See Table 2.1 for a list of ATA translator KSAs, with top KSA areas in bold.

### Table 2.1 ATA Translator KSAs (cited in Koby and Melby, 2013: 184-185)

<table>
<thead>
<tr>
<th>Knowledge areas</th>
<th>Skill areas</th>
<th>Ability areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>- vocabulary</td>
<td>- textual analysis</td>
<td>- read source language; write in target language</td>
</tr>
<tr>
<td>- grammar</td>
<td>- terminology research</td>
<td>- understand nuances and registers</td>
</tr>
<tr>
<td>- idiomatic usage</td>
<td>- general writing</td>
<td>- perform language transfer</td>
</tr>
<tr>
<td>- slang usage</td>
<td>- technical writing</td>
<td></td>
</tr>
<tr>
<td>- usage trends</td>
<td>- editing and proofreading</td>
<td>- verify correspondence</td>
</tr>
<tr>
<td>- general</td>
<td>- computer</td>
<td>- use a corpus</td>
</tr>
<tr>
<td>- current events</td>
<td>- computer (CAT)</td>
<td>- create and maintain a term base</td>
</tr>
<tr>
<td>- cultural, historical and political</td>
<td>- organisational</td>
<td>- common sense</td>
</tr>
<tr>
<td>- subject-matter specific</td>
<td>- interpersonal</td>
<td>- follow specifications</td>
</tr>
<tr>
<td>- translation theory</td>
<td>- oral communication</td>
<td>- think analytically</td>
</tr>
<tr>
<td>- translation methods</td>
<td>- personal time management</td>
<td>- think intuitively</td>
</tr>
<tr>
<td>- translation standards</td>
<td>- business</td>
<td></td>
</tr>
<tr>
<td>- ethical obligations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A quick look at these KSAs reveals that they mostly fall within the competence areas defined by the EMT expert group and are very similar to the competence components listed under each competence area in the EMT competence framework. In fact, comparing the PACTE model, the EMT competence framework and the ATA translator KSAs, Koby and Melby (2013) conclude that remarkable congruity is found among the
core competencies described. By breaking translation competence down into the KSAs, the ATA is able to identify some most important knowledge, skills and abilities agreed by the majority of professional translators. However, as for the question of the interplay between these KSAs, there is clearly no answer yet.

Table 2.2 NAATI Translator KSAs (NAATI, 2015:7)

<table>
<thead>
<tr>
<th>Competency</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Attributes</th>
</tr>
</thead>
</table>
| Language Competency (in two languages) | • Vocabulary knowledge  
• Grammar knowledge  
• Idiomatic knowledge  
• Language trends knowledge | • Language proficiency enabling meaning transfer |  |
| Intercultural Competency          | • Cultural, historical and political knowledge |  | • Socialinguistic skill |
| Research Competency               | • Research tools and methods knowledge         | • Terminology and information research skills  
• Create and maintain a knowledge bank |  
• Attentive-to-detail  
• Desire-to-excel  
• Reliable  
• Willing-to-learn  
• Objective  
• Accepting-of-criticism  
• Respectful  
• Collaborative  
• Self-reflective  
• Problem-solving |
| Technological Competency          | • Translation technology knowledge             | • Computer skills: Text production and management  
• Computer skills: Internet  
• Computer skills: Computer-Assisted Translation |  |
| Thematic Competency               | • General knowledge  
• Current events knowledge  
• Subject-matter specific knowledge | • Textual analysis skills  
• Meaning transfer skills  
• Writing skills |  |
| Transfer Competency               | • Translation methods knowledge                | • Follow specifications  
• Revision, proofreading and post-editing skills |  |
| Service Provision Competency      | • Knowledge of the business of translation     | • Translation business skills  
• Translation business system skills  
• Communication skills  
• Interpersonal skills |  |
| Ethical Competency                | • Ethics knowledge                             | • Professional Ethics |  |
Mapping the individual skills and knowledge areas from the Australian government’s Public Sector Training Package and matching them against the ATA’s KSAs and the EMT competence framework, NAATI (2015) identifies eight common aspects: language competency, intercultural competency, research competency, technological competency, thematic competency, transfer competency, service provision competency, and ethical competency. See Table 2.2 for a detailed presentation of the NAATI’s professional translator KSAs.

NAATI notes that the competencies do not exist in isolation and that in completing any translation task, “a translator will integrate many or all of these areas of competency in order to accurately translate a source text into a target text” (NAATI 2015: 8). Therefore, the certification test and re-certification requirements need to consider “how the competencies are integrated or interrelated” (ibid: 8). The attributes listed in the KSA\(^2\)s are clearly related to the integration and interrelation of the competence areas in the translation process. However, NAATI has not really gone into details about how the competencies integrate and interrelate with each other in the translation process. Therefore, even though NAATI’s KSAs seem to provide a rather comprehensive list of translation competence breakdowns, how these breakdowns form translation competence remains unclear.

2.1.3 The emergence of process-focused conceptualisation

Along with the expansion from linguistic competence towards multi-componential models of competence, other approaches to conceptualising translation competence have also emerged. These approaches often have a primary focus on the translation process, aiming to articulate the mechanism of translation competence in the translation process. This section will review two approaches that seem to be somewhat opposite: one defines translation competence based on a simplified minimalist view of the translation process

\(^2\)Note that in existing literature, A in the abbreviation KSA may refer to abilities, attributes or both. From Table 2.1 and 2.2, it is clear that ATA uses it to refer to abilities while NAATI uses it to refer to attributes. There is no single answer to which it should refer to. It depends on the specific research context and the definition of competence in that context. In the following literature review, A in the abbreviation KSA may still refer to abilities or attributes or both. In the proposed conceptualisation of translation competence and relevant discussions, however, A in the KSA will be used to refer to attributes only.
while the other conceptualises translation competence in consideration of the complexity of translation process and competence acquisition.

In order to dissociate translation competence from linguistic competence, Pym (1992) proposes a minimalist definition of translation competence as the union of two skills: the ability to generate a target text series of more than one viable term for a source text, and the ability to select only one target text from this series quickly and with justified confidence. In his opinion, translation is a process of generation and selection between alternative texts, and translation competence should thus consist of the ability to generate and the ability to select. In this way, the conceptualisation of translation competence is able to completely break away from linguistic competence and to assume its own independence.

In a later article, Pym reiterates his views on translation competence and further advocates his minimalist definition of translation competence. In his opinion, the multi-componential models often operate as “a political defence of a certain model of translator training”, and they are being so overtly expanded that almost “any number of neighbouring disciplines can be drawn on, any number of things can be included under the label of translation competence” (Pym, 2003: 487). Acknowledging that translators need to have a fair amount of knowledge, skills and abilities in linguistic, commercial and other areas, Pym stresses that “the specifically translational part of their practice is strictly neither linguistic nor solely commercial” but “generation and selection” (Pym, 2003: 487). Therefore, a minimalist view of translation competence can help keep us aware of the translational core competence without getting lost in the various competence components.

However, Way (2008) criticises Pym’s definition by pointing out that translation students are not necessarily certain about what a viable target text is and translation teachers will also have difficulty in teaching their students to do just what Pym suggests. Kelly (2007) also remarks that although Pym’s minimalist definition has eliminated most explicit elements of the part of practice that is not purely translational, the fact is that it implicitly requires the translator to possess the components in the multi-componential models in order to be viable. Commenting on Pym’s definition of translation competence, Kelly asks:
How, for instance, does one generate a target-text series for a source text if one does not have some knowledge of the two languages and their textual conventions? Or without the ability to use the research resources available? Or without the cultural, thematic or purely commercial knowledge required to make an informed choice of target text?

(Kelly, 2007: 135)

In other words, in Pym’s minimalist definition of translation competence, the multi-componential models still exist, but in a different form – as the implicit prerequisite. Nevertheless, the approach to defining translation competence with respect to a simplified translation process should be regarded as a meaningful attempt in conceptualising translation competence.

Also critical of the multi-componential competence models, Kiraly (2013) takes a different approach to conceptualising translation competence. Instead of adopting Pym’s simplified minimalist view of translation competence, he proposes to take into account the complexity involved in translation processes, translation competence and translation competence acquisition when conceptualising translation competence. In his view, a striking feature of the multi-componential competence models is that “none of them suggests or reveals anything at all about the learning process” (Kiraly, 2013: 201). He points out that findings from expertise studies demonstrate that competence tends to be relatively conscious and rule-based at lower levels of proficiency, but becomes more intuitive and less rule-based at higher levels of proficiency. In other words, the networks between the sub-competences changes over time. Perceiving the multi-componential models as two-dimensional, Kiraly proposes to introduce time as a third dimension to demonstrate the changing networks between the sub-competences. See Figure 2.4 and 2.5 for two different illustrations of the interplay of sub-competences in incipient translator’s and expert translator’s translation processes. Figure 2.4 shows that the networks between the sub-competences during translation novices’ translation processes are rigid and simple, and Figure 2.5 demonstrates that the networks between the sub-competences during translation experts’ translation processes have become more flexible and complicated.
Compared with the two-dimensional multi-componential models of translation competence, a major advantage of Kiraly’s three-dimensional model is that it gives a vivid presentation of the interplay of sub-competences in the translation process. However, this third dimension is merely proposed as a basis for understanding the emergence of translator competence in translator education, and there is not much discussion on the details of the interplay of sub-competences. It remains to be clarified how the sub-competences interact and interrelate with each other in the translation process and how translation competence is formed in this process.

2.1.4 The need for a re-conceptualisation of translation competence

The review of existing literature in translation competence research finds that the conceptualisation of translation competence has experienced a huge expansion from simply bilingual competence to prevalent multi-componential competence models.
Through the years, the sub-competences and competence areas in multi-componential models have been constantly expanded and updated in terms of category and scope. The interrelation between the various sub-competences have also attracted increasing attention from translation scholars, yet how they interact with each other in the translation process remains to be explored and discussed. Even though the concept of strategic/methodological competence has been pointed out by some scholars to be the one that activates or governs the interaction between the sub-competences (for example, PACTE, 2003; Kelly, 2007; Göpferich, 2009; Prieto Ramos, 2011), more detailed explanations of how it works in the translation process are required. The minimalist view of translation competence is a good attempt in defining the purely translational competence, but this translational competence relies on prerequisite knowledge, skills and abilities, and how these are combined to form the translational competence is unknown. The three-dimensional model of translator proficiency is able to depict the interplay of the sub-competences, but the depiction remains at a rather vague and general level, lacking more detailed discussions and explanations.

Another common problem in existing literature on translation competence is the confusion over terminologies and definitions. From the review in the preceding sections, it is evident that many different terminologies are used (interchangeably) in the literature, including translation competence, translation competency, translational competence, translator competence, translation proficiency and so on. In order to avoid unnecessary misunderstanding, the clarification of terminologies is clearly needed. In many studies, translation competence components are proposed and discussed without an explicit definition of translation competence. Among the available definitions of translation competence, there is also great discrepancy. For example, the PACTE group defines translation competence as “the underlying system of knowledge needed to translate” (PACTE, 2003: 58); the EMT expert group defines it as “the combination of aptitudes, knowledge, behaviour and know-how necessary to carry out a given [translation] task under given conditions” (EMT, 2009: 3); the NAATI defines it as “the ability to apply [translation] knowledge and skills to achieve intended result” (NAATI, 2015: 4). In some sense, the vagueness and deficiency of the definitions of translation competence may also have contributed to the shortcoming of the competence models. As the cornerstone of the conceptualisation of translation competence, the definition of translation competence needs to be clarified.
To sum up, a review of the existing literature on translation competence has identified a need to re-conceptualise translation competence so that the nature of translation competence will be defined, the scope of translation competence will be clarified and the link between translation competence and the translation process will be articulated. This research aims to propose such a conceptualisation of translation competence with the intention of addressing the concerns outlined above. In the following Sections 2.2 and 2.3, a definition of translation competence will be proposed, and a model of translation competence will also be formulated drawing on problem-solving studies.

2.2 Re-defining translation competence

The preceding section has identified the need for a re-conceptualisation of translation competence, which requires both an explicit definition of translation competence and an elaborated model of translation competence. This section therefore aims to propose an appropriate definition of translation competence that will lay the conceptual basis for the formulation of a translation competence model. Before such a definition is proposed, however, it is necessary to first review the definitions and usage of competence in relevant research contexts to establish some key focus points and debates in the conceptualisation of competence. It is then possible to discuss and clarify the nature and scope of translation competence within the context of translator education, which prepares for the construction of a competence definition for the current research.

2.2.1 The notion of competence: debates across contexts

The notion of competence has long been discussed and analysed in other disciplines. Mulder et al. point out that from the latter half of the last century, the use of the concept is constantly expanding: from behavioural sciences in the 1950s to systems science in the 1970s, and then to management sciences in the 1980s and corporate strategy in the 1990s before it becomes “institutionalised in education” in the 2000s (Mulder et al., 2009: 756). Nowadays, it is widely used in many contexts, some of which are also related to translator education – linguistics, training and development, and higher education. In this section, some major debates on competence and competence-related terms in these contexts will be introduced and examined, with the aim of clarifying some terminological confusions over the notion of competence that have long bothered translation competence research.
**Competence, performance and proficiency: debates in linguistics**

The well-known distinction between competence and performance is proposed by Chomsky (1965) in his theory of linguistics. According to Chomsky, competence refers to “the speaker-hearer’s knowledge of his language” while performance means “the actual use of language in concrete situations” (Chomsky, 1965: 4). In this case, performance is directly observable and competence is not directly observable but can only be inferred from performance. However, Chomsky (1968) believes that linguistic performance shows imperfections and that it is a direct reflection of competence only under idealised situations. In his view, linguistic competence is the mental reality responsible for all those aspects of language use, and is a purer concept that must be isolated and studied with priority.

Hymes (1972) does not agree with Chomsky’s belief that linguistic competence is a pure and isolated abstract concept. He criticises Chomsky’s view for being a “Garden of Eden view” that omits everything of sociocultural significance and links performance to imperfection (Hymes, 1972: 272). He proposes a concept of communicative competence in its place, taking competence as “the most general term for the capabilities of a person” which is “dependent upon both (tacit) knowledge and (ability for) use” (Hymes, 1972: 282). In his opinion, the competence underlying a person’s behaviour is also a kind of performance, which he terms Performance A, as differentiated from Performance B, the actual behaviour. Hyme argues for the specification of ability for use as part of competence, as it allows for the “noncognitive factors, such as motivation” to be a determining element of competence (Hymes, 1972: 283). However, this argument is refuted by Chomsky (1980), who comments that it is misleading to conceptualise competence as suggesting ability and reiterates that competence is essentially independent of performance.

Taylor (1988) points out that the exclusion and inclusion of ability for use is in fact an early example of “the confusion that has bedeviled nearly all discussion of competence” (Taylor, 1988: 151). In a review of the meaning and use of competence in linguistics and applied linguistics, Taylor summarises that the conflicting perspectives on competence can boil down to the confusion between state and process. He proposes to adopt the term of proficiency to refer to “the ability to make use of competence”, and to understand performance as proficiency “put to use” (Taylor, 1988: 166). According to him,
competence is “a static concept, having to do with structure, state, or form” while proficiency is “a dynamic concept, having to do with process and function”; competence is a squarely absolute notion while proficiency is a relative notion that “admits of degrees and of comparison” (Taylor, 1988: 166). In this way, Chomsky’s perception of competence as an independent and pure concept continues to be valid, and the notions of competence and performance are also bridged by the concept of proficiency. It is no longer necessary to debate whether competence should include the ability to use, as it is now replaced by proficiency as a separate concept.

Taylor’s solution to the competence-performance dispute is seconded by Llurda (2000) in his review of discussions on competence, proficiency and communicative language ability. In his opinion, it is useful to adopt proficiency as “a middle term” between competence and performance, so that competence can be accepted in its Chomskyan formulation as “a static and permanent state present in all human being” (Llurda, 2000: 93). The dispute over linguistic competence and linguistic performance, according to Malmkjær (2009), seems to have come to an end at least temporarily, and tacit agreement is reached on what the term competence means within the discipline of linguistics: linguistic competence is identical in each individual; it is acquired, not learnt; it is opposed to performance; and it is purely knowledge.

Competence and KSA: debates in human resource development

Exploring the definitions and usage of competence in the context of training and development initiatives in several countries, Delamare Le Deist and Winterton (2005) summarise the traditions and development trends in the approaches to conceptualising competence in different regions. According to them, in the US, the primary focus is on the behavioural competence underlying superior performance (McClelland, 1973), but later widens its scope to include knowledge, skills and job-related competences. In the UK, the initial emphasis is on the functional competence associated with specific occupations but later broadens the conceptualisation to also include the underlying knowledge and behaviours. In mainland Europe, competence is perceived as a holistic concept that includes underlying knowledge, functional skills as well as behaviours and attitudes.

Delamare Le Deist and Winterton (2005) also believe that signs of convergence can be observed in the approaches to competence in different nations, not only within Europe.
but also between the European and American contexts. This observation also indicates that a multi-dimensional approach will be valuable in developing a more global understanding of competence. However, looking at the politics involved in the conceptualisation of competence, Jeris and Johnson (2004) remark that the power relations and purposes reflected in the definitions of competence should be noted. According to them, dividing competence into certifiable competencies privileges the Euro-American KSA worldview and turns the concept into a rigid sorting mechanism, which is detrimental to marginalised groups.

Nevertheless, the KSA model of competence continues to prevail in various countries across multiple contexts. For example, in the ISO 17024, an international standard providing general requirements for bodies operating certification of persons that is widely recognised in the United States and Europe, competence is defined as “demonstrated ability to apply knowledge and/or skills and, where relevant, demonstrated personal attributes, as defined in the certification scheme” (cited in Koby and Melby, 2013: 177). This definition clearly demonstrates the KSA worldview of competence.

**Competence and Competency: debates in education contexts**

According to Ashworth and Saxton (1990), the interest in competence-based learning originated in the US in the 1970s, when a number of colleges and universities were encouraged by the US Department of Health, Education and Welfare to develop competence-based curriculums. In the UK, with the advocacy of Education for Capability by the Royal Society of Arts in 1980, competence-based learning also began to take place in secondary school and further education. Nowadays, building competencies has already become the main objective of education at various levels (Klieme et al., 2008).

Mulder et al. (2009) propose to see the competence movement in the US in the 1970s as the “old” practice of competence-based education, which “was dominated by improving behavior-oriented skills”, and to see the current concept of competence in the EU in vocational and higher education as the “new” use of the concept, which adopts “a more integrated approach of developing interrelated clusters of knowledge, skills and attitudes” (Mulder et al., 2009: 755-756). The difference between the old and the new, according to them, is one between competency and competence:
Competence is seen as a series of integrated capabilities consisting of clusters of knowledge, skills and attitudes necessarily conditional for task performance and problem solving and for being able to function effectively in a certain profession, organisation, job, role and situation. A competency is an element of competence which is embedded in a certain (professional, occupational, task) situation and can either be behaviour-oriented ... or task-oriented...

(Mulder et al., 2009: 757)

It is evident that the old practice is competency-based. With a focus on improving behaviour-oriented skills, it adopts a reductionist and behaviouristic approach, which is criticised by both researchers and educators (see Ashworth and Saxton, 1990; Mulder et al., 2007; Jolly, 2012 for critiques from different contexts). The more recent competence-based developments, however, are more holistic. In fact, most universities studied by Mulder et al. (2009) in their study are introducing and implementing a competence-oriented education philosophy.

According to Sadler (2013), conceptualising competence as the sum of underlying competencies adopts a decomposition approach, in which complex outcomes are broken into smaller competencies to be taught, practised and tested. For teachers and students, the competency descriptors may provide highly visible targets, but this gain is “accompanied by loss of a different kind: it becomes more difficult to see the whole as a unified competence” (Sadler, 2013: 16). In other words, the sum of the competencies does not necessarily equate to competence. Therefore, Sadler proposes the organisation approach as an alternative to the decomposition approach, which emphasises the organisation of competencies and conceptualises competence as “selecting and orchestrating a set of acquired competencies to serve a particular purpose or goal” (Sadler, 2013: 21). This ability to orchestrate competencies, in Sadler’s view, “lies outside (and at a higher level than) the given or specified set of basic competencies” (Sadler, 2013: 21). This decomposition-organisation distinction proposed by Sadler is in some way similar to the competency-competence distinction put forward by Mulder et al. (2009). Both proposals point to a demand for more attention to the interplay and interrelation between the competencies towards a more holistic view of competence.

A constructivist approach to competence

The preceding paragraphs have discussed some definitions of competence in multiple contexts. It should be noted that those reviewed here only take up a limited proportion of
the abundant literature on competence. However, the brief review on the definitions and usage of competence in different contexts already suffice to clarify terminological confusions and inform our conceptualisation of translation competence. How should we conceptualise translation competence, then? Indeed, there are so many different competence definitions that it seems impossible to decide on one definition. In cognitive psychology alone, Weinert (2001) identifies as many as seven different ways in which the term competence is used. It seems unlikely to have a universal definition of competence that is generally applicable to all research contexts. Stoof et al. also points out that “the one and only true competence definition does not exist, nor will [it] ever be found” (Stoof et al., 2002: 347).

Weinert (2001) argues that there is not and should not be a single common conceptual framework for conceptualising competence, as it is largely dependent on the specific research context how competence should be defined. With similar views, Stoof et al. (2002) also proposes that a constructivist approach will “release the quest for the absolute truth about competence by allowing a variety of competence definitions” (Stoof et al., 2002: 347). From a constructivist perspective, it is normal to have this vast variety of competence definitions, as they are all constructed by different researchers with a view to specific research contexts and research needs. The criterion for a competence definition, consequently, should be “the extent to which the constructed definition has proved to be adequate in the context in which it is used” (Stoof et al., 2002: 347). In order to define competence properly in a constructivist way, Stoof et al. suggest a two-process approach of competence: an inside-out approach, which focuses on the dimensions of competence to expand the boundary of the concept, and an outside-in approach, which differentiates competence from related terms to reduce the boundary of the concept. This two-process approach will help clarify the nature and scope of translation competence before a definition is constructed for the current research.

2.2.2 The nature and scope of translation competence

In the preceding section, it is pointed out that the constructed definition of translation competence needs to be appropriate in the specific context in which it is used. This section sets out to define the context in which the notion of translation competence will be redefined. Within a specified context, the nature and scope of translation competence
is then clarified, with reference to existing definitions within and beyond translation competence research.

**Translation competence in translator education: defining the context**

For a rather long period in the past, translation was used as a language teaching method and translation teaching was regarded as part of language teaching. Early conceptualisations of translation competence were therefore influenced by discussions on linguistic competence. Inter-linguistic competence plays a dominant role in initial models of translation competence, and the competence-performance debate in linguistic studies also influences some discussions on translation competence. For example, following Taylor (1988)’s distinction between competence and proficiency, Cao (1996) also argues for a distinction between translation competence and translation proficiency, pointing out that translation competence refers to “the many kinds of knowledge that is essential to the translation act”, while translation proficiency is “the ability to mobilise translation competence to perform translation tasks in context for purposes of intercultural and interlingual communication” (Cao, 1996: 326-327). However, this pure and isolated view of competence that is agreed upon in linguistic studies is not adopted in translation studies. Instead, the expansion in the conceptualisation of translation competence indicates that translation comes to be increasingly regarded as something more than a language teaching method.

As Pym (2011) points out, since the 1990s, translation teaching has gradually moved away from general modern-language programmes. Translation teaching becomes no longer a branch of language teaching. Many independent translation programmes have been set up exclusively for the training of translators and interpreters. The surging demand from the translation industry further leads to the proliferation of translator training programmes around the world. The ideal product of these training programmes is “a professional [translator] with a very rich skill set” (Pym, 2011: 480). Correspondingly, the conceptualisation of translation competence also focuses on identifying a set of knowledge, skills and attributes necessary for training professional translators. The EMT competence framework is a good example, in which competence is defined as “the combination of aptitudes, knowledge, behaviour and knowhow necessary to carry out a given task under given conditions” (EMT, 2009: 3). This
definition is very similar to the KSA view of competence that dominates the vocational training and development context.

The close link between translator education and vocational training, however, worries some translation scholars. Bernardini (2004) argues for a distinction between training and educating. She points out that training is relatively easy and fast but hardly a generative process; educating in comparison takes more time and effort but enables learners to go out and learn the rest for themselves. In other words, the product of training is a bearer of industrial skills, but the aim for educating is to develop life-long learning abilities. Given the fact that nowadays most translation programmes are run at university levels for undergraduate or postgraduate students, it becomes more important than ever to think about the position of translator education in relation to vocational training and higher education.

The current research intends to explore translation competence and its development in translation programmes at university levels. As the use of the term translator education in the subhead may have already revealed, the context of this research is understood to be more aligned with the context of higher education. More specifically, in this research, translator education is perceived as a form of higher education, in which translation learners not only learn about translation skills but also develop learning abilities to constantly update and enrich their skill set. Consequently, the conceptualisation of translation competence in this research context will also be more in line with the conceptualisation of competence in the education context.

The nature of translation competence

Having specified the context within which translation competence will be defined, we will now proceed to discuss the nature of translation competence. From the review of the debates on competence definitions in existing literature, two major concerns over the nature of competence can be identified: whether it is an underlying system of performance or a demonstrated ability to perform, and whether it is a combination of multiple competencies or requires something else beyond the sum of competencies. The following clarification on the nature of translation competence will also attempt to address these two issues.

An underlying system or a demonstrated ability? In current translation competence research, the prevailing view is to see translation competence as an underlying KSA
system that is needed in order to translate. The PACTE group defines translation competence as “the underlying system of knowledge needed to translate” (PACTE, 2003: 58), the EMT expert group also sees competence as “the combination of aptitudes, knowledge, behaviour and know-how necessary to carry out a given task under given conditions” (EMT, 2009: 3). In both definitions, translation competence is viewed as something that enables translation performance.

In some definitions of translation competence, however, competence is perceived not as underlying performance but as demonstrated from performance. Hansen sees competence as “the combination of abilities, skills and knowledge which are manifested in specific actions in situations” (Hansen, 1997: 205). In Hansen’s definition, competence is manifested in performance. In the ISO 17024 definition of competence that is adopted by NAATI in its KSA analysis, competence also refers to “demonstrated ability to apply knowledge and/or skills and, where relevant, demonstrated personal attributes, as defined in the certification scheme” (cited in Koby and Melby, 2013: 177). In this definition, competence is conceptualised as mainly an ability to apply that is demonstrated through performance. However, this approach to conceptualising competence remains marginal, at least at the moment, in translation competence research.

Reviewing the existing conceptualisations of translation competence, Rothe-Neves (2007) remarks that defining competence as some sort of underlying knowledge is imprecise and useless. In his opinion, competence is “the result of performance in the translator’s history, not its cause” (Rothe-Neves, 2007: 128). In other words, competence is not the source of performance but the product of performance. Considering that in most translation competence research, translation competence is indeed studied through observing, analysing and discussing the actual performance of translation learners, it is probably useful to see translation competence as the product rather than the source of performance. In fact, the PACTE group has also been conducting a research project recently with an aim to establish different performance levels for direct and inverse translation in the acquisition of translation competence in the European context (PACTE, 2017d). After all, a major part of the knowledge we have about translation competence does come from the observation and judgment of translation performance at various levels.
A sum of competencies or beyond? In the current literature on translation competence, the KSA view of competencies seems to have been agreed upon by the majority. Translation competence is conceptualised as a system or combination of knowledge, skills, abilities and attributes. In the Hansen (1997) definition, abilities, skills and knowledge constitute the competence. In the PACTE (2003) definition, knowledge is used as a broad term to refer to both declarative knowledge and procedural knowledge, which can also be regarded as including skills and abilities. And in the EMT (2009) definition, aptitudes, knowledge, behaviour and know-how are also defined as the constituents of competence.

However, when the conceptualisation of translation competence is further developed and expanded into competence models with specified sub-competences or components, the definitions seem inadequate. In some influential models, there is the concept of strategic competence, which is regarded as the one that activates, integrates and governs the interplay of other competence components (see, for example, PACTE, 2003; Göpferich, 2009). Great importance is attached to the component of strategic competence, yet it is often missing in current definitions of translation competence. If the remarks made by Sadler (2013) on the decomposition approach are recalled, then it becomes evident that the missing element in existing definitions of translation competence is the ability to organise, i.e. to select and orchestrate the competencies to achieve a goal. In other words, translation competence does not equate with a simple combination of competencies; it also requires the ability to select and orchestrate the multiple competencies strategically. Such a perspective has in fact been adopted by many scholars (see, for example, Prieto Ramos, 2011; Way, 2014), but has not yet been explicitly reflected in the definitions of translation competence.

To sum up, in this research, translation competence will be perceived as a demonstrated ability rather than an underlying knowledge system. It stresses the ability to select and orchestrate multiple competencies in the translation performance. It is also through translation performance that translation competence is demonstrated, observed and conceptualised.

The scope of translation competence

As is already pointed out in Section 2.1.1 and 2.1.2, in recent literature, the scope of translation competence is in a state of constant expansion, with new knowledge, skills,
abilities and attributes – ethical knowledge, post-editing skills, correspondence verifying abilities and collaborative attributes, to name a few – being added to the list of KSAs (see EMT, 2009; ATA, 2012; NAATI, 2015: for their respective list of KSAs). Many of these newly added KSAs are in response to the ever-changing demand from the translation profession.

The inclusion of translation profession-related KSAs into translation competence is accompanied by the preference for the term translator competence over translation competence in some literature. Kiraly (2000) proposes that the focus of translator education should be extended beyond translation competence to also include translator competence, which entails “being able to use tools and information to create communicatively successful texts that are accepted as good translations within the community concerned” (Kiraly, 2000: 13-14). In a review on translator training, Pym (2011) summarises translator competence as including “a wide range of interpersonal skills and attitudes … in addition to the purely technical skills” and translation competence as referring to “the (mostly linguistic) skills needed to produce an acceptable translation” (Pym, 2011: 482). In other words, translator competence is perceived as a broader term than translation competence. It is also more in line with relevant terminologies in the translation profession, where terms such as professional translator competence and translator KSAs are used (see EMT, 2009; ATA, 2012; NAATI, 2015).

This research, however, proposes to retain the term translation competence, due to the following considerations. First of all, translation studies has long suffered from terminological confusion. There are a great many slightly different terms referring to the same concept, which is not conducive to the development of this discipline. Rather than propose new terms to replace the long-existing ones for the purpose of advocating new perspectives, it is more sustainable to enrich the definition and expand the scope of the existing terms. Second, the term translator competence implies a close link with the translation profession, but the context for this research is defined as translator education, with emphasis on education rather than professional training. The over-emphasis on professional aspects and training risks losing sight of the more fundamental knowledge, skills and attributes required of translation competence. Moreover, in many existing discussions in translation competence research, the term translation competence is already being used with an expanded scope to include competencies relevant to the translation profession, which renders it meaningless to distinguish between the two terms.
Therefore, this research will continue to adopt the term translation competence, which will be a broad term with an expanded scope to include the up-to-date KSAs identified and stressed in relevant literature.

2.2.3 Constructing a definition of translation competence

On the basis of previous literature on the conceptualisation of competence within and beyond translation competence research as well as in consideration of the nature and scope of translation competence in the current research context, the present author proposes to define translation competence as follows:

Translation competence refers to a demonstrated ability to translate resulting from orchestrating a combination of knowledge, skills and attributes in carrying out a given translation task under given conditions.

In this proposed definition, translation competence consists of the following four dimensions:

Knowledge refers to a wide range of knowledge – both declarative and procedural – that is needed in the translation act. It may include vocabulary knowledge, cultural knowledge, translation technology knowledge, subject-matter specific knowledge, ethics knowledge, and other theoretical or factual knowledge that is related to the translation act. There is no definite boundary for the set of knowledge, but the various types of knowledge identified in existing literature, especially in the translator KSAs reviewed in Section 2.1.2 (see EMT, 2009; ATA, 2012; NAATI, 2015), provide a useful reference for the commonly required knowledge sets in translation competence.

Skills refer to the set of skills needed in the translation act. It has a wide scope, ranging from language-related skills such as sociolinguistic skills to technology-related skills such as Internet skills and to service provision-related skills such as translation business skills. There is also no clear boundary for the set of skills, but the translator KSAs listed by EMT (2009), ATA (2012) and NAATI (2015) offer good insights into possible constituents of these skills.

Attributes refer to the set of personal attributes that are relevant to the translation act. In the list of translator KSAs provided by ATA (2012) and NAATI (2015), these personal attributes are often success and efficiency-related, including, for instance, being attentive
to detail, being self-reflective, being collaborative and so on. In recent studies, attention is also paid to other attributes related to emotion, motivation or self-efficacy (see, for example, Rojo and Ramos Cano, 2016; Haro-Soler, 2017; Way, 2017).

**The ability to orchestrate** refers to the ability to select and organise a combination of knowledge, skills and attributes to carry out the given translation task under given conditions. It is a core element in translation competence, which distinguishes translation competence from a mere summation of knowledge, skills and attributes. Although this element is missing in most explicit definitions of translation competence, a somewhat similar concept – strategic competence – is often mentioned and discussed in relevant literature (see, for example, PACTE, 2003; Göpferich, 2009, Prieto Ramos, 2011; Way, 2014). The similarities and differences between these two concepts will be discussed in detail later in Section 2.3.2.

### 2.3 Re-modelling translation competence

On the basis of the competence definition constructed in the preceding section, this section will set out to develop a model of translation competence with an underlying conception of the translation process from a problem-solving perspective. The proposition of translation as a problem-solving process is introduced first, followed by a detailed discussion on the translation problem-solving ability as representing the *ability to orchestrate* as well as a description of the categorisation of the KSAs into several competence areas. Afterwards, an integrated model of translation competence is formulated, in which the translation problem-solving ability orchestrates knowledge, skills and attributes in the translation process.

#### 2.3.1 Translation as a problem-solving process

In translation studies, the translation process has long been associated with problem solving, although it remains disputed whether translation is entirely a problem-solving process. In this section, previous discussions related to translation problem solving will be briefly reviewed and summarised, based on which the current research will propose to conceive of translation as entirely a problem-solving process. Detailed discussions on the translation problem-solving process will also be presented, drawing from problem-solving studies and translation process research.
**Previous discussions on translation and problem solving**

In translation studies, the association of translation process with problem solving is probably most evident in translation process research. Early process research pays much attention to translation strategies, which, in Krings’ definition, are “potentially conscious plans for solving a translation problem” (Krings, 1986: 268). According to Krings, “strategies emerge as soon as the translation cannot be carried out automatically” (Krings, 1986: 268). Similarly, Lörscher also describes translation strategies as “procedures which the subjects employ in order to solve translation problems” (Lörscher, 1996: 27).

Investigating uncertainty management in translation strategies, Tirkkonen-Condit (2000) proposes to describe translation as a goal-oriented problem-solving action. This perspective is maintained by Angelone (2010), who more explicitly draws inspirations from problem-solving studies to look into uncertainty management in the translation process, viewing translation as “a (more or less) linear progression of problem solving task sequences interspersed with unproblematic translation sequences where comprehension, transfer, and production occur unimpeded by any difficulties” (Angelone, 2010: 18). Focusing on expert translation process, Sirén and Hakkarainen (2002) also conceptualise translation as a problem-solving activity and translation tasks as ill-defined problems, and propose that translation problems should be defined as entire translation tasks instead of single textual elements or contextual issues.

In previous literature on translation competence, problem solving is also often linked with the translation process. Pym conceives of translation as “a process of generation and selection, a problem-solving process that often occurs with apparent automatism” (Pym, 2003: 489). The PACTE group believes that “translation problems can be located in the various phases of the translation process” and solving translation problems “involves different cognitive operations within the translation process, and requires constant decision-making on the part of the translator” (Hurtado Albin, 2017: 10). In the EMT competence framework, “knowing how to define and evaluate translation problems and find appropriate solutions” is a component under the translation service provision competence area (EMT, 2009: 4). In NAATI’s translator KSAs, there is also a problem-solving attribute, which is described as being “able to identify and find effective solutions for issues in order to achieve a goal” (NAATI, 2015: 14). In many other conceptualisations of or discussions on translation competence, there are also...
components or elements that are related to translation problem solving (see Kiraly, 1995; Kelly, 2007; Göpferich, 2009; ATA, 2012; Prieto Ramos, 2014; Way, 2014).

It seems that, at least in translation process and competence research, problem solving is widely believed to be an indispensable part of the translation process. As is pointed out by Shreve, the problem-oriented view of translation allows researchers to “discern several kinds of knowing about translation: knowing what, knowing what to do, and knowing how to do it” (Shreve, 2002: 162). However, the review of existing literature also reveals divergence over the extent to which the translation process can be regarded as a problem-solving process. Some propose to see the translation process as entirely a problem-solving process (e.g. Tirkkonen-Condit, 2000; Sirén and Hakkarainen, 2002; Pym, 2003). Others believe that only when automatised solutions are not found and non-automatised processes are carried out will the translation process become a problem-solving process (e.g. Krings, 1986; Kiraly, 1995; Bell, 1998; Angelone, 2010; Hurtado Albir, 2017). As the conception of the translation process is essential to establishing the link between translation process and translation competence, it is thus necessary to clarify the understanding of the translation process drawn on in this research.

**Translation as entirely a problem-solving process**

A major reason for the divergence over the extent to which translation is regarded as a problem-solving process lies in the different conceptions of translation problems. For those who see translation as partly a problem-solving process, a translation problem exists only when there is an apparent barrier to or difficulty in translating, and there is no problem-solving process if the translation process seems automatised. For those who regard translation as entirely a problem-solving process, however, the translation task itself is a translation problem at a macro level, which is reflected in micro-level translation problem-solving processes in the translation process.

From the perspective of problem solving, a translation task does constitute a problem. In problem solving studies, a problem is defined as a gap between the current state and the desired state with no immediate way to cross the gap. Hayes points out that “whenever there is a gap between where you are now and where you want to be, and you don’t know how to find a way to cross that gap, you have a problem” (Hayes, 1989: xii). Robertson also describes that “when a goal is blocked, you have a problem” (Robertson, 2001: 227). In a translation task, the goal state is the target text, the current state is the source text,
and how to get from the source text to the target text is not immediately known. In this
sense, a translation task is a translation problem, and the process of completing the
translation task, i.e. the entire translation process, is a problem-solving process.

At the micro level, the process of completing the translation task is also a process of
constantly solving translation problems. From the comprehension of the source text to
the formulation of the target text, a translator needs to identify and solve numerous
problems. In the translation process, the gap between the current state and the goal state
keeps changing as the translator carries out the translation task, which requires the
translator to constantly identify and solve further problems. These problems are not
necessarily translation difficulties but may be solved rather easily. They are not
necessarily prone to cause translation errors, either, but are only identified by the
translators in consideration of certain aspects. In other words, the translation problems
identified and solved by different translators in completing the same translation task may
vary a lot in amount and type. Some translation problems may be related to the translation
situation, the commissioner and the target reader. Some translation problems may be
more closely related to the linguistic and cultural aspects of the translation task. Other
translation problems may be more relevant to project management, time management
and teamwork. It is based on this expanded conception of translation problems that the
translation process is regarded as an entire problem-solving process.

In the translation process, the seemingly automatised translation processes are also
problem-solving processes. When a translation process is described as automatised, it
usually means that spontaneous and immediate solutions for translation problems are
generated (Hurtado Albin, 2017), but these solutions still require conscious – and
therefore unautomatised – evaluating and decision making from the translator. As
translation is a highly contextualised activity, the target text needs to be adjusted to suit
the specific translation situation, which requires the translator to carefully evaluate
possible solutions and make appropriate decisions. Göpferich proposes to see the
automaticity as the application of “recurrent routine skills in the sense of automatized or
proceduralised skills” (Göpferich, 2013: 62). In other words, it still requires an
orchestration of skills (and possibly also of knowledge and attributes) to solve the
translation problems. Therefore, the entire translation process should be seen as a
problem-solving process.
From a different angle, conceiving of translation as a problem-solving process is also conducive to developing an inter-disciplinary approach to translation competence research. As is already demonstrated in translation process research, findings from problem-solving studies can inform our understanding of the translation process, on the basis of which the link between translation competence and the translation process will be established. Moreover, problem solving is a key concept in learning, development and expertise studies, which means that the translation problem-solving perspective will also be able to draw from these relevant research fields to enrich the current understanding of translation competence development. Therefore, in this research, translation will be conceived of as entirely a problem-solving process.

**Translation as a complex, specialised problem-solving activity**

Although translation is a problem-solving activity, it needs to be pointed out that it is different from general or structured problem-solving activities. It is a complex problem-solving activity, often with ill-defined, unstructured problems and complicated decision-making situations. It is also a specialised problem-solving activity, which requires a set of translation-related knowledge and skills.

In problem-solving activities, there are both well-defined and ill-defined problems. Well-defined problems, according to Pretz *et al.*, refer to problems “whose goals, paths to solution, and obstacles to solution are clear based on the information given” (Pretz *et al.*, 2003: 4). These are usually text-book physics or maths problems, which can be represented unambiguously with clear solution paths and often with only one correct solution. Ill-defined problems, however, are more ambiguous to understand, often with vague goals and unclear paths and obstacles to solution. This is the case with translation problem solving; there is not a definitive target text for a source text, and how to get from the source text into the target text is not entirely clear to the translator, as more obstacles to translating will often emerge in the translation process. Therefore, just as Sirén and Hakkarainen (2002) have pointed out, the translation task is an ill-defined problem.

The decision situations in translation problem-solving activities are also different from those in structured problem-solving activities, which add to the complexity of translation problem solving. In structured problem solving, the final decisions are often definitive and can be made in consideration of certain criteria. In translation problem solving, however, translation decision making is often faced with a wide range of constraints,
including linguistic, cultural, contextual and other constraints. It is also difficult to have a definitive translation decision, as the appropriateness of translation decisions depends on specific translation situations. When the constraints change, the final decisions also change accordingly. Unlike in structured problem solving where there is often only one decision to be made, in translation problem solving the decision is open and uncertain.

Translation is also a specialised problem-solving activity, as it requires prerequisite knowledge, skills and attributes that are specially related to translation. This means that merely possessing general knowledge, skills and problem-solving abilities does not enable one to solve translation problems. Some sets of knowledge and skills are unique to translation, such as knowledge about translation standards and methods and computer-assisted translation skills. It is with a good combination of the translation-relevant knowledge, skills and attributes that the translator is able to carry out translation problem-solving activities.

**The process of translation problem solving**

Problem solving, based on the definition of problem, refers to “finding an appropriate way to cross a gap” (Hayes, 1989: xii), or “finding your way towards a goal” (Robertson, 2001: 17). Looking into problem-solving behaviours, researchers in problem-solving studies have attempted to describe the general process of problem-solving either at a macro level or at a micro level. From a macro perspective, problem-solving consists of two major processes: understanding the problem and searching for the solution. Newell and Simon (1972) describe two co-operating processes: understanding, *i.e.* the process of building a representation of a problem (a problem space), and search, *i.e.* the process of attempting to find a solution within the problem space. Hayes (1989) gives a similar account, describing the former as representing the gap and understanding the nature of the problem and the latter as searching for a means to cross the gap.

From a micro perspective, researchers have also managed to describe the specific sequence of problem-solving. Hayes (1989) points out that problem-solving actions often occur in a characteristic sequence:

1. Finding the problem: recognising that there is a problem to be solved.
2. Representing the problem: understanding the nature of the gap to be crossed.
3. Planning the solution: choosing a method for crossing the gap.
4. Carrying out the plan.
5. Evaluating the solution: asking “How good is the result?” once the plan is carried out.


(Hayes, 1989: 1)

Similarly, other researchers have also described the problem-solving process in terms of a cycle, which are summarised by Pretz et al. (2003) as mostly consisting of the following seven steps:

1. Recognize or identify the problem.
2. Define and represent the problem mentally.
3. Develop a solution strategy.
4. Organize the knowledge about the problem.
5. Allocate mental and physical resources for solving the problem.
6. Monitor the progress toward the goal.
7. Evaluate the solution for accuracy.

(Pretz et al., 2003: 3-4)

According to Pretz et al., the problem-solving cycle does not imply a sequential order, but means that the completion of the steps usually gives rise to a new problem and leads to a new cycle of the steps.

In translation studies, there have also been a few attempts to describe the translation problem-solving process. Discussing translation decision-making behaviour, Wilss (1996) proposes a six-stage model:

1. Problem identification
2. Problem clarification (description)
3. Research on, and collection of, background information
4. Deliberation of how to proceed (pre-choice behavior)
5. Moment of choice

(Wilss, 1996: 188)


1. Establishing the communicative situation or skopos.
2. Identifying and categorizing the translation problems.
3. Analysing possible solutions or strategies and their effects in the Target Text.
4. Choosing the best alternative or solution for each problem.
5. Implementing the chosen course of action, once the decision has been taken, and assessing the possible effects of the solution selected.

(Way, 2014: 141)

It is quite evident that these proposals on translation problem-solving processes are similar to, or rather influenced by, the sequential models in problem-solving studies.

On the basis of previous models in problem-solving studies and translation studies, this thesis will also attempt to propose a translation problem-solving cycle for the current research. In an ideal translation problem-solving sequence, the first step would be problem identification, which is also the first step in previous models in both general and translation problem-solving activities. After all, it is only when a problem is identified that the whole problem-solving sequence is started. What follows problem identification is problem representation and clarification, which is also the second step in most problem-solving cycles. In this step, the gap between the current state and the goal state is analysed and understood to develop a solving strategy for the following problem-solving process. Once the problem is understood, the third step of translation solution proposal will start, in which the search for a translation solution, or in other words, a way to cross the gap between the source text and the target text is carried out. This step is immediately followed by the fourth step, translation solution evaluation, in which the proposed translation solutions are evaluated on their appropriateness. Based on the result of the evaluation, a translation decision will be made, which is the last step of translation problem solving3.

An ideal translation problem-solving sequence, therefore, consists of the following five steps:

1. **Identifying translation problems**: recognising that there is a translation problem to be solved.
2. **Representing translation problems**: understanding the nature of the translation

---

3 It should be noted that in relevant literature in translation studies, problem solving and decision making are sometimes used interchangeably. However, according to Wilss, problem solving is “the more comprehensive concept”, while decision-making processes “do not begin until the need for decision-making is sufficiently defined within the structure of a problem-solving operation that prepares the way for decision-making” (Wilss, 1996: 175). In this thesis, translation problem solving is also regarded as a comprehensive concept that includes decision making as its sub-activity.
problem.
3. **Proposing translation solutions**: generating or searching for possible solutions to the translation problem.
4. **Evaluating translation solutions**: evaluating the appropriateness of the proposed solutions.
5. **Making translation decisions**: making the final translation choice to conclude the translation process.

The proposed sequence of translation problem solving is similar to previous models in many aspects, especially in the first three steps: identifying problems, representing problems and proposing solutions. This is also largely in line with Newell and Simon (1972)’s and Hayes (1989)’s macro-level descriptions of general problem-solving processes: understanding the problem and searching for solutions.

A major difference between the proposed translation problem-solving cycle and previous cycles, however, lies in the sequence of solution evaluating and decision making. In previous problem-solving cycles, the ideal final step is post-decision evaluating, but in the proposed translation problem-solving cycle, translation decision making is the concluding step. This is due to the consideration that in translation activities, post-choice solution evaluation leads to either changing or retaining the choice, and decision still needs to be made on the final translation choice. Unlike in some problem-solving activities where what is done cannot be undone, translators can always go back to re-evaluate and revise their previous translation choices before submitting the final translation product. Once the translation product is submitted, the translation decisions become final, and the translation problem-solving process is concluded.

It needs to be stressed that the proposed translation problem-solving cycle shows only an idealised sequence of translation problem solving, which assumes that each step is successfully completed before proceeding to the next step. In actual translation processes, the five steps may be taken in a rather flexible way, with some steps being repeated constantly and others being ignored. For example, the step of representing translation problems may be skipped by the translator; proposing translation solutions and evaluating translation solutions may take place back and forth. Therefore, to avoid the sequential implications, these steps will be referred to as sub-activities in the following sections and chapters.
2.3.2 The translation problem-solving ability

In the definition of translation competence constructed for the current research in Section 2.2.3, translation competence is defined as something that is demonstrated in the translation process. As the translation process is in its essence a translation problem-solving process, what is demonstrated in this process is inevitably related to the translation problem-solving ability. PACTE group believes that being competent in a profession implies “being able to solve the types of problems most frequently encountered in the course of one’s professional activity” (PACTE, 2017a: 109). In their experiment design, the strategic sub-competence is related to four dependent variables: translation project, identification and solution of translation problems, decision making, and efficacy of the translation process. It is evident that the translation problem-solving ability is an important object of study in their research project. Similarly, in the TransComp project, the degree to which the participants proceed in a strategic manner is also measured by “analysing the individual steps and reflections made by the participants in problem-solving processes” (Göpferich, 2013: 66).

The proposed definition also sees translation competence as something that results from orchestrating a combination of knowledge, skills and attributes in carrying out a translation task. In the translation process, this ability to orchestrate is reflected in the translation problem-solving ability. It is in the process of translation problem solving that the translator organises and mobilises relevant knowledge, skills and attributes to carry out the translation tasks. From identifying translation problems to making translation decisions, each translation problem-solving sub-activity requires the translator to integrate and activate corresponding knowledge, skills and attributes. It is in this way that the accumulated knowledge, acquired skills and developed attributes of the translator interrelate and interact with each other into demonstrated translation competence.

The translation problem-solving ability is to some extent similar to the concept of strategic competence that is often discussed in previous literature on translation competence. In its later version of sub-competence description, the PACTE group describes strategic sub-competence as

procedural knowledge to guarantee the efficiency of the translation process and solve problems encountered. This sub-competence serves to control the translation process. Its function is to plan the process and carry out the translation project
(selecting the most appropriate method); evaluate the process and the partial results obtained in relation to the final purpose; activate the different sub-competences and compensate for any shortcomings; identify translation problems and apply procedures to solve them.

(PACTE, 2011: 319)

Similarly, Göpferich describes strategic competence as a meta-cognitive competence that “sets priorities and defines hierarchies between the individual sub-competences” (Göpferich, 2009: 22). In Kelly’s summary of competence areas, strategic competence is described as including “[o]rganisational and planning skills”, “[p]roblem identification and problem-solving” and “[m]onitoring, self-assessment and revision” (Kelly, 2007: 134). Prieto Ramos also sees strategic competence as “methodological knowhow necessary to activate and coordinate all relevant components in problem solving” (Prieto Ramos, 2011: 14).

The composition of strategic sub-competence seems to be rather complicated in these discussions. It involves not only planning the process but also evaluating and monitoring the process, self-assessment, activating sub-competences and identifying and solving translation problems. However, a closer look at the various functions of strategic sub-competence reveals that they are all related to translation problem solving in a broad sense: planning and evaluating the translation (problem-solving) process, identifying and solving translation problems, and activating sub-competences and compensating for shortcomings for translation problem solving. In this sense, the nature and scope of strategic competence is similar to that of the translation problem-solving ability.

In comparison with strategic competence, the concept of translation problem-solving ability offers advantages in that it is more explicitly linked with the translation process and is thus more capable of facilitating the understanding of translation competence and its development in relation to the translation process. As translation is a problem-solving process, the translation problem-solving ability is essential to carrying out this process. In this process, translation problem-solving ability enables translators to organise and mobilise knowledge, skills and attributes to identify and solve translation problems. It is in the translation problem-solving process that their mastery of knowledge and skills and development of attributes is demonstrated. It is also in the translation problem-solving process that translators’ ability to orchestrate knowledge, skills and attributes is reflected.
2.3.3 Towards an integrated model of translation competence

On the basis of the constructed definition of translation competence and proposed understanding of translation process, this research proposes to formulate a model of translation competence that takes into consideration the translation process. See Figure 2.6 for an illustration of the model.

![Diagram showing the proposed model of translation competence](image)

**Figure 2.6 An illustration of the proposed model of translation competence**

In each translation problem-solving sub-activity, different combinations of knowledge, skills and attributes are organised and mobilised. For example, with reference to the NAATI (2015)’s translator KSAs (see Table 2.2 in Section 2.1.2 for details), in a translation problem-identifying sub-activity, *subject-matter specific knowledge, textual analysis* skills and *attentive-to-detail* attribute may be combined to identify the translation problem. In a translation solution-proposing sub-activity, however, *current events knowledge*, internet-related *computer skills* and *desire-to-excel* attribute may be integrated to generate and search for potential translation solutions. When it comes to a translation decision-making sub-activity, *knowledge of the business of translation, follow specification* skills and *objective* attribute may be activated to select the most appropriate translation solution. The orchestrated combinations of KSAs vary according to different translation problem-solving sub-activities. These sub-activities together form the translation process, in which translation competence is demonstrated.
The various KSAs constitute the prerequisites for translation problem-solving sub-activities and play an indispensable role in the full exertion of one’s translation problem-solving abilities. However, it should be stressed again that a mere summation of knowledge, skills and attributes does not equate with translation competence. Even with a good mastery of KSAs, one will not be able to complete a translation task successfully if the KSAs are not appropriately orchestrated to solve translation problems in the translation process. It is the translation problem-solving ability that distinguishes translation competence from a summation of KSAs and differentiates translation competence from bi-lingual competence, communicative competence and other related general competence. The translation problem-solving ability serves as the key link between the components of translation competence and the concept of translation competence as a whole.

In this conceptual model of translation competence, there is no specific description of the KSAs that are the prerequisites for translation competence. This is because it is nearly impossible to define the scope of these KSAs, as it is always expanding with the emergence of new types of translation tasks. It is also not really desirable to categorise them into various areas with a defining-attribute or a prototypical approach, because the competence areas are likely to have fuzzy boundaries and the core description of each competence area is also likely to be disputed. In fact, based on the definition of translation competence proposed in this research, what matters is not which area of competence the orchestrated KSAs belong to, but whether the translator is able to retrieve or acquire them to solve translation problems.

However, it should be noted that the application of this conceptual model in translator education would still require a categorisation of the KSAs. Although it is conceptually impossible and unnecessary to categorise the KSAs, translation teachers are accustomed to carrying out teaching activities with more specific learning objectives. As Kiraly and Piotrowska point out, existing institutional structures and widespread reductionist pedagogical beliefs need to be considered, as they constitute “societal, institutional and conceptual barriers to the replacement of a time-honoured system” (Kiraly and Piotrowska, 2014: 4). A major reason why multi-componential models of translation competence are popular in translator education is that they have provided translation teachers with specific and practical references for developing and assessing their learners’ translation competence.
Since the categorisation of KSAs is deemed necessary for the application of the model in translator education, this research proposes to adopt NAATI (2015)’s categorisation of competence areas, which includes eight competencies: language competency, intercultural competency, research competency, technological competency, thematic competency, transfer competency, service provision competency, and ethical competency (see Table 2.2 in Section 2.1.2 for details). This recently proposed list is formulated in consideration of job-task analyses, government documents on qualifications and international perspectives on translator competence, and therefore has a practical and broad coverage of the major sets of knowledge, skills and attributes that are essential to the translation process in the translation profession. The scope of each competence area is also clarified by NAATI with detailed descriptions and lists of relevant knowledge, skills and attributes. In other words, at least at the moment, NAATI offers a more comprehensive and clear-cut list of competence areas than other multi-componential models, and is able to provide more practical references for the KSAs needed in real-life translation tasks.

2.4 Re-conceptualising translation competence development

As is already pointed out in Section 2.3.1, a major advantage of introducing the problem-solving perspective is that it will facilitate the understanding of translation competence development. This section therefore attempts to conceptualise translation competence development from the translation problem-solving perspective. A brief review of existing literature on translation competence development is presented in Section 2.4.1, followed by an introduction to the understanding of competence development in other research contexts in Section 2.4.2. Section 2.4.3 then draws on theoretical and empirical findings from translation studies and relevant research contexts to give a new account of translation competence development.

2.4.1 Current understanding of translation competence development

The amount of literature on translation competence development is disproportionately limited in comparison to that on translation competence. A few relevant discussions are found in some translation process research with a focus on translation expertise, which are usually influenced by findings from expertise studies. There are also several
discussions and empirical studies in translation competence research, which are often based on proposed conceptualisations of translation competence.

In translation expertise studies, some researchers have attempted to describe the feature of translation expertise, which can be regarded as the goal state for translation competence development. Existing literature points to two most prominent features of translation expertise. One is automatisation, *i.e.* the ability to operate on autopilot. An expert translator should be able to work largely on intuition and automatic pilot, turning on conscious reflection only when necessary (see Adab, 2000; Chesterman, 2000). Another is meta-cognition, *i.e.* being able to self-monitor and reflect. An expert translator should be able to self-monitor and reflect on the translation process, demonstrating a higher level of meta-cognition (see Tirkkonen-Condit and Laukkanen, 1996; Shreve, 2002; Angelone, 2010; Hansen, 2010). Other researchers have opted to discuss the route and process from translation novice to expert. Based on the Dreyfus and Dreyfus (1986) model of skill acquisition, Chesterman (2000) describes five stages in translation competence development: novice, advanced beginner, competent, proficient, and expert. Shreve, drawing on studies of expertise growth, proposes that what evolves during the development of translation expertise could be seen as “an increased capacity to recognise and represent the problems of translation and an increased ability to effectively resolve those problems” (Shreve, 2002: 161). Although these studies are more focused on translation expertise, they also serve to enrich the understanding of translation competence development by pointing out the goal state, development stages and processes from the perspective of expertise studies.

In translation process research, empirical studies have also been carried out to locate behavioural differences between subjects with different levels of translation expertise. Reviewing the findings from these empirical studies, Göpfertich and Jäskeläinen (2009) summarise that with increased translation competence, the translators are more likely to 1) focus on larger translation units; 2) tackle problems of higher complexity (*e.g.* textual consideration instead of simple equivalent search); 3) consider more aspects to produce a target text that fulfils its specified function for a specific audience; 4) proceed in a less ST-oriented and linear fashion; 5) show more awareness of translation problems; and 6) use reference works more frequently and mainly use them for solving text production problems. These findings from translation process research shed light on the understanding of possible development trends of translation competence. However, these
empirical studies do not necessarily set out to investigate the development of translation competence, and are usually conducted without a clear conceptualisation of translation competence. There is thus the need to integrate and incorporate these findings into the conceptualisation of translation competence development in a more systematic way.

In translation competence research, there have also been a few attempts in describing translation competence development on the basis of a proposed conceptualisation of translation competence. Based on their multi-componential model of translation competence, PACTE postulates that the acquisition of translation competence is a spiral, non-linear process in which “the sub-competences of TC are developed and restructured” (PACTE, 2017c: 304). This integration and restructuring process is made possible by a learning competence with specific learning strategies. (See Figure 2.7 for an illustration of the model.)

According to PACTE, during the competence acquisition process both declarative and procedural types of knowledge are “integrated, developed, and restructured”, but the development of procedural knowledge (and consequently strategic sub-competence) is essential (PACTE, 2017c: 304). The strategic sub-competence is the core of their competence model, which in their view influences the efficacy of the translation process, decision making, translation project and identification and solution of translation problems. They also point out that the sub-competences do not always develop in parallel, and variations can occur depending on translation direction, language combinations, specialisation and the learning context. Therefore, this model presents a general process

Figure 2.7 PACTE’s model of translation acquisition (PACTE, 2000: 104; 2017c: 304)
of competence acquisition rather than describing the exact process of restructuring and developing in detail. It remains to be explained how the sub-competences are restructured and developed, and more details are needed on the learning mechanics at work.

Drawing from dynamics system theory and on the basis of her multi-componential model of translation competence, Göpferich (2013) argues that different translation sub-competencies may not develop at the same pace or in a linear manner:

Some may stagnate while others continue to develop. Certain sub-systems (i.e., sub-competencies or clusters of sub-competencies) may be precursors of other sub-systems in the developmental process. For a specific sub-competence to start developing, it may be necessary for other sub-competencies to have exceeded a certain threshold value. (Göpferich, 2013: 62)

Interpreting the results obtained in the TransComp study within the framework of the dynamics system theory, Göpferich finds that they are compatible with the theoretical framework, which offers convincing explanation for the development and stagnation in the participants’ translation competence development. Göpferich believes that if more results are obtained from similar empirical studies, it would then be possible to know what skills and sub-skills need to be practised in parallel and in what sequential order should these skills and sub-skills be developed. Compared with PACTE group’s general description of translation competence development, Göpferich’s discussions provide more details on possible development paths and sequences. However, Göpferich’s focus is primarily on the sequential development of various sub-competencies, which does not suffice to explain translation competence development as a whole.

In Kiraly and Piotrowska (2014)’s conceptualisation, the emergence of translator competence is a “holistic and autopoietic (dynamic, unpredictable, self-generating and self-maintaining)” process (Kiraly and Piotrowska, 2014: 3). The dimension of time reveals “how a translator’s expertise and professional skills can be developed through instruction and or experience” (Kiraly and Piotrowska, 2014: 3). The post-positivist model of translation competence development thus formulated is one in which a set of sub-competences gradually merge into a single translation super-competence over time as the result of experience and learning. (See Figure 2.8 for illustration.) Compared with PACTE group’s and Göpferich’s models, this model attaches more importance to experience and learning than to the translation sub-competences. Unfortunately, as the
model of emergent translator competence is intended as the foundation of a translation curriculum, Kiraly and Piotrowska’s discussions are more focused on the latter rather than on the details of the model itself. In order for this model to be more clearly understood in translator education, more detailed discussions and explanations are still needed.

![Figure 2.8 Kiraly and Piotrowska's model of emergent translator competence (Kiraly and Piotrowska, 2014: 3)](image)

2.4.2 Translation competence development: a problem-solving perspective

In Section 2.3.1, it is argued that the problem-solving perspective will facilitate the understanding of translation competence development, because problem solving has long been a key concept in learning and development studies as well as in expertise studies. Drawing from these relevant research contexts, this section sets out to explain the development of translation competence from the problem-solving perspective. It then draws on findings from translation process research and competence to give a more detailed account of translation competence development in different translation problem-solving sub-activities.
The development of the translation problem-solving ability

The development of the translation problem-solving ability, from the problem-solving perspective, is essentially a process of translation problem-solving schema acquisition. It is closely related to analogical problem solving, repeated practice and deliberate practice. Analogical problem solving plays a key role in the learning process. It is defined by Robertson as the act of “using an earlier problem to solve a new one” (Robertson, 2001: 79). Analogical problem solving is beneficial to problem-solving processes as it “saves the effort needed for derivation of new solutions and may allow people to solve problems they wouldn’t know to solve otherwise” (Bassok, 2003: 343). Based on Holyoak’s several different proposals on the steps involved in analogical problem solving, Robertson (2001) summarises the following five steps for analogical problem solving:

1. Forming a representation of the source problem and the target problem. …
2. Assessing a plausibly relevant analogue in memory. …
3. Mapping across corresponding elements in the source and target. …
4. Adapting the mapping to generate a solution in the target. …
5. Learning. …

(Robertson, 2001: 124)

The end result of this analogical problem-solving, according to Robertson, is not only solving the problem, but also “learning that takes the form of schema induction” (Robertson, 2001: 125). More specifically, the solver “abstract[s] out the underlying structure and can thereafter apply it to new versions of the problem type without having to refer to a previous solution” (Robertson, 2001: 124).

With experience of similar problem types through repeated practice, the solver begins to build up problem-solving schemas, which are described as a “mental representation that includes both information about the features of such problems and information about the solution procedures” (Robertson, 2001: 147). The acquisition of these problem-solving schemas, according to Kahney (1993), is a significant aspect of the transformation from novice to expert. Repeated exposure to similar problems can familiarise the solver with the problem-solving schemas, and relevant solution procedures will be accessed in a more automated manner. Consequently, it “frees up resources to deal with any novel aspects of a particular problem or situation” (Robertson, 2001: 146). In repeated practice, the problem-solving schemas also become more de-contextualised, so that the solver can directly access or instantiate problem-solving schemas in future problem-solving
activities. It is in this process of acquiring, accumulating and accessing problem-solving schemas towards automaticity, that expertise is gradually achieved.

However, repeated practice alone is not enough for achieving expertise. Ericsson (2003) points out that improving performance to the level of expertise “requires deliberate practice – essentially a form of problem solving, where individuals engage in tasks with goals that exceed the current level of performance” (Ericsson, 2003: 64). According to Ericsson (2006), there are many types of experience and their effects on the continued acquisition and maintenance of expertise are qualitatively and quantitatively different. Repeated practice in routine work may not lead to further improvement, since improvement depends on deliberate efforts to bring about “changes in the structure of the mechanisms that mediate the superior performance of experts” (Ericsson, 2006: 686). From the perspective of analogical problem solving, deliberate practice offers more difficult tasks with goals beyond the current capacity of the solver, and there are no ready problem-solving schemas available to be accessed to solve the problem. The solver is therefore forced to invent solutions to the problem, which leads to the formulation and acquisition of new problem-solving schemas and therefore the continued attainment in expertise. In other words, repeated practice strengthens existing problem-solving schemas and deliberate practice constructs new problem-solving schemas. These two types of practice together contribute to the development of the problem-solving competence.

The development of the translation problem-solving ability, therefore, is a process of enriching and strengthening translation problem-solving schemas through repeated and deliberate practice. In repeated practice, the learner constantly strengthens existing translation problem-solving schemas through analogical problem solving and heads towards automatisation or routinisation in carrying out translation tasks. In deliberate practice, the learner constructs new translation problem-solving schemas by solving translation problems that exceed the current competence level, thereby achieving a higher level of translation problem-solving competence. If the translation problem-solving sub-activities are also taken into consideration, the development of the translation problem-solving ability is manifested in the different translation problem-solving sub-activities; in each sub-activity, the learner becomes more capable of orchestrating the translation KSAs to carry out the sub-activity. This will be discussed in detail later.
The development of translation competence

Since translation competence consists of not only the translation problem-solving ability but also the knowledge, skills and attributes, the development of translation competence should also involve two processes: the enhancement of the translation problem-solving ability, and the improvement of translation KSAs. These two development processes are intertwined; the development of the translation problem-solving ability enables translation learners to orchestrate the KSAs in an improved manner, and the improvement in the KSAs provides an expanded and enriched repertoire of knowledge, skills and attributes for translation learners to orchestrate in the translation problem-solving process.

As is already pointed out above, the translation problem-solving ability can be developed through repeated practice and deliberate practice, and is also fostered by the improvement of translation KSAs. The development of translation KSAs can also be attributed to two sources: general and specialised learning, and translation problem solving. Through the learning of general and specialised translation knowledge, skills and attributes, the learner is able to accumulate and develop a more extensive repertoire of translation KSAs. The learning is not necessarily intended for improving translation competence, but the KSAs thus acquired will enter the repertoire to be orchestrated by the translation problem-solving ability in the translation process. The repertoire of translation KSAs is also developed during the process of translation problem solving. In the translation problem-solving process, existing knowledge, skills and attribute are restructured and re-understood on the basis of their usage in the translation situation. In the meantime, compensation for shortcomings in knowledge, skills and attributes in the translation problem-solving process also updates and expands the repertoire.

In the development of translation competence, the translation problem-solving ability and the translation KSAs are inseparably interconnected, but the two development processes do not necessarily proceed at the same pace. In some cases, the development of translation KSAs goes ahead of the other, and the translation learner, though with a good mastery of knowledge, skills and attributes, is not able to orchestrate them in an appropriate way to identify and solve translation problems. For example, the learner may have a good knowledge of possible translation situation-related problems, but the problem awareness is simply not sharp enough for him/her to identify the problem. In other cases, the development of the translation problem-solving ability goes ahead, and
the translation learner, though committed to solving the translation problems, may not have necessary knowledge or skills to find the appropriate solution. For instance, the translation learner may be able to identify a translation service provision-related problem, but is not able to solve the problem due to the lack of translation business skills. In other words, the development process of the translation problem-solving ability and the translation KSAs can be imbalanced.

Even within the development of translation problem-solving ability itself, the development processes of various translation problem-solving sub-activities can vary in pace and extent. The translation learner may develop a higher level of competence in some sub-activities but stagnate or even regress in other sub-activities. For example, the translation learner may become better at identifying translation problems with sharpened problem awareness, but the stagnation in problem representation may prevent him/her from accessing appropriate problem-solving schemas to solve the problems. As another example, the translation learner may demonstrate progress in all the other sub-activities except in making the final translation decision, where the translation decision is made without justification. In these cases, the translation problem-solving ability as a whole is not visibly improved, as the translation problems are often not successfully solved. Nevertheless, the subtle developments in the translation problem-solving sub-activities should not be underestimated, as they may become increasingly prominent in future translation problem-solving activities.

Compared with the development of translation KSAs which is primarily a process of accumulating and restructuring, the development of the translation problem-solving ability is a more complicated process. It remains under-discussed how translation learners improve their abilities to orchestrate translation KSAs in carrying out the various translation problem-solving sub-activities. On the basis of the proposed theoretical framework, this thesis will set out to integrate findings from learning and expertise studies as well as translation process and competence research to explain the development of translation competence in different translation problem-solving sub-activities.

**Identifying translation problems**

Identifying translation problems is the first and foremost sub-activity in translation problem-solving, as it is only when the translation problem is identified can the whole
problem-solving process be initiated. In problem-solving studies, Getzels points out that “the formulation of a problem is often more essential than its solution” (Getzels, 1975: 12). In a study carried out by Getzels and Csikszentmihalyi (1976), they find that artists who spend more time in the problem-finding stage have more creative products (cited in Pretz et al., 2003). Pretz et al. suggest that problem identifying in a given domain “depends on a sensitivity to gaps in domain knowledge that cannot be filled in by interpolating information from the existing knowledge space” (Pretz et al., 2003: 17). In the context of translation studies, evidence from Angelone and Shreve (2011) research also confirms that problem recognition is pivotal in error control. Problem-identifying behaviours are often “indicators of some form of direct or indirect knowledge assessment” (Angelone, 2010: 20).

Translation process research has generated some empirical findings in the differences in translation problem-identifying sub-activities between subjects with different levels of translation competence. Among the general trends summarised by Göpferich and Jääskeläinen (2009), several findings are related to translation problem identifying: translators with a higher level of translation competence show more awareness of translation problems, take different problems into conscious problem-solving, and release more processing capacity to identify and solve more complex translation problems. Observing uncertainty management behaviours between translation learners and professional translators, Angelone (2010) also finds that professional translators utilise metacognition at problem-identifying stages noticeably more than translation learners do.

Based on existing findings in problem-solving studies and translation studies, it may be predicted that in the translation learning process, the translation learner is likely to make progress in translation problem-identifying sub-activities by identifying more complex translation problems with sharpened problem awareness. If the translation learner’s KSAs are considered, this sharpened problem awareness also depends on increased knowledge (e.g. about translation problem types), improved skills (e.g. in textual analysis) and relevant attributes (e.g. attentive-to-details). In other words, the translation learner becomes more capable of orchestrating the repertoire of KSAs in identifying translation problems, and the improvement in the repertoire of KSAs also enables the translation learner to identify more complex translation problems.
Representing translation problems

Problem representation is vitally important in the problem-solving process. In Pretz et al.’s definition, problem representation is “the aspect of problem solving in which the scope and goals of the problem are clearly stated” (Pretz et al., 2003: 6). According to Robertson (2001), the way a problem is represented has a powerful influence on the ability to solve the problems. Wilss (1996) terms it problem structuring and argues that if students possess a certain amount of structure-organising skills, they will be able to recognise the problem as belonging to a certain type, which can greatly facilitate the ensuing problem-solving process. Similarly, Angelone and Shreve (2011) also contend that it is with the problem correctly diagnosed that the subsequent solution proposal and solution evaluation can be successful.

Problem representation is important as the first step in analogical problem solving, which is key to the learning and development process. A prerequisite for analogical problem solving, as Kahney points out, is that there should be a “mental representation in memory of an analogous problem” (Kahney, 1993: 68). The aim for problem representation is to search for appropriate problem-solving schemas that will facilitate the ensuing problem-solving processes. In other words, the access to existing problem-solving schemas will generate ready solution procedures to solve the current problems. In cases where no existing problem-solving schemas are found, the solver will need to learn to construct new problem-solving schemas. The accumulation of problem-solving schemas is therefore crucial to the development of the problem-solving ability.

In translation studies, the discussions on different translation techniques and strategies can be regarded as forms of problem-solving schemas. These translation techniques and strategies are usually summarised from specific translation examples and aimed at solving particular types of translation problems. At the early stage of translation learning, when the learner has not had much translation experience to build up problem-solving schemas, learning about the translation techniques and strategies is conducive to the initial translation problem-solving activities. However, as the practical translation experience accumulates, the learner also needs to be able to represent translation problems to retrieve and strengthen existing schemas or to construct new ones.

In current translation competence research, there are not many findings related to translation problem-representing sub-activities. However, the findings described in the
preceding section on problem identifying can also be explained with problem representation and analogical problem solving. Problem representation enables translators to solve new problems analogically, to learn from the problem-solving process and finally to become capable of solving similar problems more easily without allocating much cognitive resource. Consequently, more processing capacity is released to identify and solve more complex problems. Just as Wilss (1996) points out, when translators have accumulated sizable experience in handling a certain type of translation problem, they can simply disregard the aspect of decision-making procedure and proceed routinely.

Based on existing findings in problem-solving studies and translation studies, it may be predicted that in the translation learning process, the learner is likely to make progress in translation problem-representing sub-activities by representing translation problems more deliberately to retrieve or construct problem-solving schemas. This requires the learner to be able to analyse the nature and structure of current translation problems and retrieve appropriate problem-solving schemas as well as to summarise and categorise translation problems to construct new problem-solving schemas. If the learner’s KSAs are considered, this progress in analogical problem solving also relies on increased knowledge (e.g. about translation techniques), improved skills (e.g. in meaning transfer) and relevant attributes (e.g. self-reflective). In other words, the update in the repertoire of KSAs enables the learner to represent problems more correctly and efficiently to retrieve or construct problem-solving schemas, and s/he is able to better orchestrate the repertoire of KSAs to represent translation problems and update the stored translation problem-solving schemas.

**Proposing translation solutions**

Proposing translation solutions is probably the most salient sub-activity in translation problem-solving activities. It refers to “strategy planning and/or application” with the objective of “generating and trying-out potential solutions for the encountered problem” (Angelone, 2010: 20). The search for solutions, according to Hayes (1989), can resort to both internal memory and external memory. One can use both “automatic and non-automatic cognitive resources” and “different sources of documentation” to propose translation solutions (PACTE, 2009: 222). To put it plainly, internal support is generated from the translator’s existing KSAs and external support is sought through multiple channels: dictionaries, corpora, online resources, experts and specialists and so forth.
The unique nature of translation determines that there can be many different versions of the same text in different translation situations. A translator needs to be able to propose different solutions based on different situations. Consequently, for a problem in a specific translation task, the translator should be able to flexibly adjust the general solutions and propose alternative solutions to be evaluated and decided later on. Online searching facilitates the process of proposing translation solutions. However, the explosion of information on the internet also means that translators need to have a higher level of information literacy so as to carry out web search efficiently and precisely.

Gile (2004) and Enríquez Raído (2011) find that translation students often excessively rely on websites and are mostly interested in retrieving equivalents than in acquiring background knowledge. This imbalance between internal support and external support also manifests itself in an opposite direction, where internal support overwhelms external support when linguistic competence is more developed than instrumental competence. PACTE group finds that in their experiments, foreign language teachers tend to use internal support more often (but with less acceptable results), while professional translators “use external support combined with internal support much more frequently in their problem-solving processes” (PACTE, 2017a: 209).

Based on existing findings in problem-solving studies and translation studies, it may be predicted that in the translation learning process, the learner is likely to make progress in translation solution-proposing sub-activities by proposing translation solutions with a more balanced combination of internal support and external support. This requires the learner to be able to orchestrate available internal support to propose translation solutions more independently without sole dependence on external support. It also requires the translation learner to be able to judge the reliability of external support and find appropriate external support more efficiently. If the translation learner’s KSAs are considered, the progress in balancing internal and external support also builds on increased knowledge (e.g. general knowledge), improved skills (e.g. internet skills) and relevant attributes (e.g. willing-to-learn). In other words, the learner is able to better orchestrate relevant KSAs to search for and generate solutions for translation problems, and the improvement of relevant KSAs also enables the learner to strike a better balance between internal and external support.
Evaluating translation solutions

Evaluating translation solutions closely follows or synchronises with the preceding solution-proposing sub-activities. The translator has to compare different translation solutions of a translation problem and evaluate their appropriateness in the specific context of the translation task. As translators are often faced with various translation alternatives (Wilss, 1996), and as the abundance of online resources have made the production of alternative translation solutions much easier (Pym, 2003), the evaluation of different translation solutions becomes more important and also more difficult.

A distinction needs to be made here to differentiate evaluating translation solutions from making translation decisions. In this research context, translation solution evaluating is considered as mainly concerning the micro aspect of the translation, i.e., evaluation of linguistic, textual, pragmatic and stylistic appropriateness. Translation decision making, however, refers to more macro aspects, i.e., decision on general translation principle, macro translation strategy and other macro factors that influence the translation activity as a whole. In other words, in translation solution-evaluating sub-activities, the strengths and weaknesses of translation solutions in the specific translation context are evaluated; in translation decision-making sub-activities, the decisions are made in consideration of macro principles and strategies that govern the whole translation process.

In translation solution-evaluating sub-activities, the translator may resort to internal support and external support. With internal support, the translator evaluates solutions against one's existing KSAs to judge the appropriateness of the solutions in the current translation context. With external support, the translator judges the appropriateness of translation solutions based on their suitability and frequency of appearance in other contexts that are not necessarily related to the current translation context. The fact that translation is a highly contextualised communicative act determines that translation solutions need to be evaluated in the specific translation context. In contextualised solution-evaluating sub-activities, a variety of criteria needs to be considered. These criteria are referred to as constraints by Darwish (2008), who summarises several types of constraints including textual, interlingual, cultural constraints and others. Wilss (1996) refers to these criteria as determinants that inhibit or allow the translation choices to be made, which, in his opinion, are worthier of study than the translation choices themselves.
In translation studies, empirical research has found that, with increasing translation competence, translators monitor their tentative solutions more critically (Göpferich and Jääskeläinen, 2009). Professional translators tend to demonstrate a higher degree of pragmatic and stylistic awareness in solution evaluating (Englund Dimitrova, 2005). Translators with a lower level of translation competence, however, tend to make more decontextualised evaluation. Gile (2004) reports on translation students often evaluating translation solutions depending on their frequency of appearances in online materials without systematic analysis of the actual meaning or the specific context. Moreover, professional translators are also found to demonstrate a higher degree of TL pragmatic and stylistic awareness in terms of solution evaluating (summarised by Englund Dimitrova, 2005).

Based on existing findings in problem-solving studies and translation studies, it may be predicted that in the translation learning process, the learner is likely to make progress in translation solution-evaluating sub-activities by conducting more contextualised evaluation of translation solutions that takes into consideration a wider range of criteria. If the learner’ KSAs are considered, the progress in making more contextualised solution evaluating is related to increased knowledge (e.g. subject-matter specific knowledge), improved skills (e.g. sociolinguistic skills) and relevant attributes (e.g. desire-to-excel). In other words, the learner is able to better orchestrate relevant KSAs to evaluate translation solutions based on the specific translation context, and the improvement of relevant KSAs also enables the learner to combine internal and external support in a more balanced way and to take a wider range of constraints into consideration.

Making translation decisions

Translation decision making is a rather complicated sub-activity, as the final choice often needs to be made among a number of available translation solutions. While the preceding solution-evaluating sub-activities may be able to eliminate some solutions, it often happens that there are still a number of alternatives to choose from or even to eliminate and propose new ones. In such cases, the translator will need to consider the general aspects of the translation task as well as global translation strategies and principles in the decision-making process.

In translation studies, there are both theoretical discussions and empirical findings on translation decision-making sub-activities. Wilss points out that a translation decision has
to be made within the range of a “translation paradigm” (Wilss, 1996: 179). This translation paradigm can be manifested in the form of global translation strategies and translation principles. Englund Dimitrova (2005), summarising previous studies, points out that professional translators resort to more global strategies, translation principles and personal theories of translation in the decision-making process, and they also demonstrate a sharper awareness of the purpose of the translation task. Prassl (2010) finds that professional translators are able to make more reasoned decisions than translation students do, as translation students tend to make decisions through guessing. Way (2014) argues that in initial stages of translator training, it is central to build a framework for guided decision making, which will enable translation learners to develop self-confidence in their decision-making activities. In other words, translators with increased translation competence should be able to make more reasoned translation decisions and to justify their translation decisions to others (see Chesterman, 2000; Pym, 2003; EMT, 2009).

Based on existing findings in problem-solving studies and translation studies, it may be predicted that in the translation learning process, the translation learner is likely to make progress in translation decision-making sub-activities by making more reasoned translation decisions in consideration of global translation strategies and principles that are applicable to the translation situation. If the translation learner’s KSAs are considered, the progress in making more reasoned translation decisions also depends on increased knowledge (e.g. translation standards knowledge), improved skills (e.g. in following specifications) and relevant attributes (e.g. objective). In other words, the translation learner is able to better orchestrate relevant KSAs to make more reasoned translation decisions that are in line with global strategies and the specific situation, and the improvement of relevant KSAs also enables the translation learner to make translation decisions based on a fuller consideration of global translation strategies, principles and the current translation situation.

A summary

In this section, it is proposed that the development of the translation problem-solving ability is reflected in different aspects of progress made in translation problem-solving sub-activities. The essence of the progress is a demonstrated ability to better orchestrate relevant knowledge, skills and attributes to carry out translation problem-solving sub-
activities. Such progress is also made possible by the development of the translation KSAs, which provides a more extensive repertoire of knowledge, skills and attributes that enables the learner to carry out translation problem-solving sub-activities more efficiently and successfully. In the long-term translation learning process, the learner is able to improve the translation problem-solving ability through repeated and deliberate practice and to develop the translation KSAs through both learning and practice. Together, the two development processes lead to the development of translation competence.

Compared with previous conceptualisations of translation competence development, the proposed conceptualisation gives a more clarified account of the mechanism at play in the development of translation competence. It points out that there are two development processes – the development of the translation problem-solving ability, and the development of knowledge, skills and attributes – involved in the development of translation competence. It also describes the interrelation between the two development processes in the translation process, taking into consideration the role of repeated practice and deliberate practice in the development of translation competence.

As the discussions above have demonstrated, many existing findings in translation process and competence research can be interpreted in translation problem-solving terms and integrated into the proposed understanding of translation competence development. The proposed conceptualisation provides a viable theoretical framework for relevant findings to be integrated in a systematic way. Findings from translation process research, especially those related to novice-expert or learner-professional comparisons can be incorporated to enrich the understanding of the progress in different translation problem-solving sub-activities. Findings from translation competence research on development patterns, paths or trends can also be interpreted from a translation problem-solving perspective to be incorporated into the conceptualisation. In other words, the proposed understanding of translation competence development provides an open and inclusive framework that can be constantly expanded and updated.
Chapter 3 Conducting a longitudinal study: methodology and data

The preceding chapter has re-conceptualised translation competence and its development based on translation problem-solving, providing a fresh perspective on the conceptualisation and understanding of translation competence. It also lays the ground for the design of an empirical research into translation competence, and provides a framework for the subsequent data analysis. A longitudinal empirical study is therefore conducted with a group of Chinese students from an MA translation programme in order to observe and analyse their translation competence development from the proposed translation problem-solving perspective. This chapter aims to introduce the research design, implementation and analytical methods of the longitudinal study. Section 3.1 gives a brief introduction to the formulation and revisions of the research design through two pilot studies. Section 3.2 elaborates on the research design, with a primary focus on the proposed data-collecting instrument, the translation task-based interview. Section 3.3 describes the implementation of the longitudinal study, providing information about the research participants, schedule as well as translation tasks used in the interview sessions. Section 3.4 introduces how the collected data are processed and analysed.

3.1 Developing the research design

The general aim of this longitudinal study is to gather data on translation learners’ translation problem-solving processes to analyse their translation competence development in the learning process. In order to design such a study, a first and foremost question that needs to be answered is what data-collecting instrument will be adopted to gather data on the participants’ translation processes. Göpferich and Jääskeläinen (2009) summarise several different types of data-collecting instruments: think-aloud protocol, eye tracking, key logging, screen recording, retrospection, dialogue protocols, questionnaires, interviews, integrated problem and decision reporting, and translation journals or diaries. Among these instruments, eye tracking and key logging are not necessary for the current research, as the key focus is on the translation problem-solving activities demonstrated in the translation process. The integrated problem and decision reporting, translation journals and diaries are not very appropriate for this research, as the content and quality of these reports, journals and diaries are unpredictable and
difficult to control. The think-aloud protocol, which has been used in many translation process studies, is also a disputed data-collecting instrument in that it risks interfering with the participants’ translation process. Therefore, the data-collecting instruments on Göpferich and Jääskeläinen (2009)’s list that are potentially applicable for the current research would be: dialogue protocols, retrospection, interviews and questionnaires. It was taking these instruments into consideration that two pilot studies were conducted in the spring of 2015 to gradually develop and refine the design for the longitudinal study.

3.1.1 First pilot study

In March 2015, a pilot study was conducted in preparation for the longitudinal study during the 2015-2016 academic year. The participants were four Chinese translation students from the MATIS (MA Translation and Interpreting Studies) programme at the University of Manchester. The aims of this pilot study were to test the relevance of the proposed theoretical framework and to test and improve the research instruments for the main study.

The data-collecting instruments proposed for this pilot study included:

1) A questionnaire, which consisted of two parts. The first part was designed to gather information on the participants’ academic background, previous translation experience and other relevant background information. The second part was made up of disagree-agree questions about the participants’ translation problem-solving behaviours and possible changes during the academic year.

2) A group dialogue protocol, in which the four participants were asked to work together to identify translation problems in a text to be translated, and discuss how to solve these identified translation problems. Afterwards, they were also asked to compare and evaluate two different translated versions of the text and make final translation decisions.

3) A focus group, in which the four participants were asked to share their opinions of their own translation competence development and comments on the course modules they have taken.

4) Individual interviews after the group discussion and the focus group, in which the participants were asked to further explain some translation problem-solving activities in the group discussion and clarify some perceptions and self-evaluation comments in the focus group and the questionnaire.
5) Assessed coursework collecting. The participants were also asked (with their consent) to share their assessed coursework.

Findings from this pilot study preliminarily confirmed the relevance of the proposed translation problem-solving sub-activities. The five sub-activities largely covered the discussions on translation problems in the group dialogue. Results from the disagree-agree questionnaire demonstrated that the participants agreed with most of the statements about changes or development tendencies in their translation processes. Findings from the focus group and individual interviews revealed links between some course modules and the participants’ self-perceived translation competence development. The analysis of the assessed coursework also pointed to some key focus points in the participants’ translation processes.

The data-collecting instruments proved to be effective in gathering data on the participants’ translation problem-solving activities as well as their views, opinions and self-evaluations on the activities. However, the pilot study also showed that some improvements were needed in the data-collecting instruments. First of all, the group dialogue protocol was detrimental to some aspects of data collection. The form of group discussion inhibited some participants from speaking up or volunteering to share their thoughts and opinions about the translation problem-solving activities. Discussing translation problem solving was also different from actually solving translation problems, making it difficult to gather data on the participants’ usual translation problem-solving activities. The participants also tended to argue over some translation problem for a long time, leaving little discussion time for other problems. It was therefore decided that the group discussion would be replaced by individual translation sessions in the main study. Moreover, the individual interviews would also be incorporated with these individual sessions, as the time gap between the translation sessions and the interview sessions made it difficult for the participants to recall their thoughts and activities during the translation processes. This individual translation and interview session would be the main data-collecting instrument for the main study.

The focus group and the second part of the questionnaire, which aimed to gather the participants’ perceptions and evaluations of their own translation processes, also resulted in a conflict of research perspectives between the researcher’s perspective and the participants’ perspective. The former focused on what development paths could be found
from observing the participants’ translation problem-solving processes using the proposed theoretical framework. The latter, however, required a more ethnographic study with more focus on how the participants perceived their own competence development. Since the current research adopted the researcher’s perspective as the main perspective, the proportion of data on the participants’ self-perception and evaluation would need to be reduced. Therefore, in the main study the second part of the questionnaire would be deleted and the focus of the focus group would also be adjusted. It was also decided that the collection of assessed coursework would be removed from the main study, as the translation problem-solving activities demonstrated in the text analyses and commentaries were limited and restricted by the requirements of different course modules.

3.1.2 Second pilot study

In May 2015, a second pilot study was conducted with the same group of participants. The aims of this pilot study were to test and improve the individual translation task and interview session as the new data-collecting instrument, and to further test the relevance of the theoretical framework with the new set of data.

In the individual translation task and interview sessions, the participants were asked to complete a translation task and were interviewed on their translation problem-solving activities. They were provided with a computer connected to the internet, with dictionary software installed. Printed and e-dictionaries were also provided. The participants were first required to identify translation problems in a given translation task before translating. After completing the translation task, they were immediately interviewed on their translation problem-solving activities, in which they needed to explain and justify certain problem-solving sub-activities. Afterwards, they were given a peer translation and asked to evaluate the translation solutions in the peer translation as well as to revise their own translations if necessary. The translation and revision processes were screen recorded, and the interview sections were audio recorded. More details of this data-collecting instrument will be discussed in the next section.

The individual translation task and interview session proved to be effective in gathering data on a wider range of the participants’ translation problem-solving activities. It allowed the researcher to have a fuller view of individual participants’ complete and uninterrupted translation processes. The interview sections that preceded and followed
the translation and revision sections enabled the researcher to gather further information and clarify arising doubts on the spot. These individual sessions also made it possible to explore possible individual differences in translation competence development and the reasons behind these differences. Compared with the separated group discussion and individual retrospective interviews, the individual translation task and interview session was in many ways more suitable for the main study.

Apart from testing the effectiveness of the new research instrument, this second pilot study also yielded some interesting findings, which confirmed the relevance of the theoretical framework as well as pointing out some focus points for special attention in the main study. For example, it was found in this pilot study that there was considerable discrepancy between the translation problem identified before translating, during translating and during revising. This indicated that it would be worth investigating in the main study whether the problem-identifying patterns would change over time into, for example, more complex problems to be identified before translating. It was also observed that some participants tried to find information from those websites they referred to as “official” or “mainstream” (institutional or authoritative) while other participants showed less awareness of such selection of information sources. It would therefore be interesting to also pay attention to the changing patterns in the online resources the participants consulted and to interview them on their perceptions of these resources. Moreover, all the four participants in this pilot study showed little dependence on the peer translation and defended their own translation solutions with confidence. Considering that the participants attended this pilot study towards the end of their programme, it would be worth finding out in the main study whether there would be changes in the participants’ attitudes towards the peer translations. These preliminary findings not only enabled the researcher to adjust the focus of the research instrument in the main study, but also posed some intriguing questions that could be addressed in the analysis of the main set of data.

3.2 Research design

On the basis of the two pilot studies, the design of the research was finally determined. The main data-collecting instrument would be translation task-based interviews, with focus groups and questionnaires as supporting instruments. The research participants would be recruited from the MATIS programme during the 2015-2016 academic year. Four individual translation task-based interviews would be conducted during the
academic year, at intervals of three months or so. Two questionnaires would be conducted at the beginning and the end of the study, and a focus group would also be conducted towards the end of the study.

3.2.1 Main research instrument: translation task-based interview

The main instrument for this research is the translation task-based interview (TTBI). The translation task-based interview is adapted from the task-based interview in mathematics research. Attracted by the effectiveness of structural clinical interviews in observing the mathematical problem-solving behaviour, Goldin (1997) advocates the use of task-based interviews in mathematics research. According to Goldin, task-based interviews serve as both important research instruments and potential research-based tools for assessment and evaluation. He proposes five principles of task-based interview design and construction: accessibility, rich representational structure, free problem-solving, explicit criteria, and interaction with the learning environment. In the translation context, these five principles can be interpreted into the following descriptions: 1) the translation task should contain translation problems at a level of difficulty appropriate for the participants being interviewed; 2) the translation task should embody meaningful translation problems capable of being represented properly and suggest or entail strategies of some complexity. In other words, opportunities for self-reflection and retrospection should be included; 3) participants should engage in free problem-solving so that spontaneous behaviours can be observed; 4) major contingencies should be addressed in the interview design with structured questions designed to give participants opportunities to self-correct in any contingency; and 5) interaction with an observable learning or problem-solving environment should be provided and inferences about problem solvers’ internal representations should be permitted.

Procedures of the translation task-based interview

Based on Goldin (1997)’s principles of task-based interview design, the translation task-based interviews are designed as follows:

Step One: pre-translation interview. An English-Chinese translation task is presented to the participant. The participant is asked to read the passage and identify translation problems that are likely to be encountered in the translation process.
Step Two: translating. The participant is asked to start translating on a computer provided by the researcher. The participant is allowed to consult dictionaries, websites and any other resources deemed necessary to facilitate the translation process.

Step Three: post-translating interview. Upon finishing translating, the participant is interviewed by the researcher on problem-solving behaviours observed in the translation process. The participant is asked to share any thoughts on the problems encountered in the process, justify some translation decisions and explain some problem-solving behaviours.

Step Four: pre-revising interview. A prepared peer translation of the text is then presented to the participant, who is asked to compare the peer translation with his/her own translation. The participant is asked to report new problems, if there is any, identified from reading the provided translation, and also to evaluate the different solutions to those previously discussed problems.

Step Five: revising. The participant is asked to revise the original translation until he/she is satisfied with the final translation decisions.

Step Six: post-revising interview. Finally, the participant is interviewed again on problem-solving behaviours in the comparison and revision process. This interview will also touch upon the participant’s general perceptions of translation problem-solving activities and other relevant thoughts and opinions.

The whole process is audio-recorded and screen-recorded.

Step One mainly aims to gather data on the participant’s problem-identifying behaviours. As participants are asked to predict and identify translation problems before they start to translate, this can reflect their problem awareness to a certain extent. The way they describe and sometimes explain the problems they identify also reveals aspects of their problem-representing behaviours.

Step Two gathers rather comprehensive data on the participant’s translation problem-solving behaviours. Two methods are adopted for data gathering at this step: screen recording and observation. The screen is recorded using the BB Flashback software, so that any words the participant types out and deletes, any desktop or online dictionaries the participant consults, and any websites the participant opens can be recorded and processed for data analysis later. In the meantime, the researcher also sits near the participant, observing and taking notes of the participant’s problem-solving behaviours in order to prepare questions for the follow-up interview. Some details that do not show
on the screen, for example, the participant’s constant reading back into the source text, can be recorded in the observational notes. This step provides substantial direct data on the participant’s problem-solving behaviours, especially on the three more explicit behaviours: problem-identifying behaviours, solution-proposing behaviours and decision-making behaviours.

Step Three is a meaningful supplement for the data collected at Step Two, since it reveals the participant’s more implicit problem-solving behaviours, i.e. problem-representing behaviours and solution-evaluating behaviours. Questions are posed to the participants based on the researcher’s notes of the problems recorded in the translating process. The participant is asked to explain the selection or elimination of certain translation solutions, to justify some translation decisions, as well as to analyse aspects of some translation problems. The participant is also encouraged to share any thoughts generated on the problem-solving activities.

Step Four aims to collect further data on the participant’s problem-identifying and solution-evaluating behaviours. From the perspective of problem-solving, the peer translation enables the participant to identify problems and propose solutions. From reading the peer translation, the participant can either identify new translation problems, or find new solutions for problems already identified in the translating process and consequently draw comparisons and make evaluations.

Step Five provides further data on the participant’s solution-evaluating and decision-making behaviours. The participant compares and evaluates the new solutions found in the peer translation to make the final translation decisions. Similar to Step Two, this step mainly collects more explicit problem-solving behaviour data, i.e. decision-making behaviours.

Step Six mainly gathers data on the participant’s solution-evaluating behaviours in the revising process as well as the participant’s self-perception and self-reflections. The participant is asked to explain and justify the revision of the translation and also to share any thoughts on the revising activity. The participant is also encouraged to talk about their perceptions of the differences, in terms of translation problem-solving, between the translating and revising processes.
Advantages of the translation task-based interview

The translation task-based interview is designed to be predominantly focused on the participant’s translation problem-solving activities. Integrating translation and revision tasks with interviews sections, it has particular strength in providing a comprehensive view into the participant’s translation problem-solving process. From problem-identifying sub-activities to decision-making sub-activities, data on all the five translation problem-solving sub-activities can be collected through observation and interviews. The researcher’s on-site observation and note-taking also enables questions to be formulated and focus points to be determined flexibly and timely for the interview section that follows. The adoption of immediate retrospective interviews combined with on-site observation also enhances the integration of the two: if the retrospective interview is not conducted immediately but a while after the translation task is finished, it is very likely that the participant will have difficulty in recalling some thoughts generated in the process and answering questions posed from observation of the very process.

The translation task-based interview also has its strength in that it integrates the processes of translating and self-revising so that certain aspects of the participant’s translation problem-solving processes can be observed from a different angle. From reading a peer translation, the participant may be able to identify further translation problems or find alternative translation solutions. The identification of further problems will start a new round of translation problem-solving activities, and the discovery of alternative translation solutions will also require the participant to carry out further solution-evaluating and decision-making sub-activities. In this way, an expanded set of data on the participant’s translation problem-solving behaviours is gathered. Moreover, the differences between translation problem-solving activities in translation and revision processes will also contribute to the richness of the data.

It should be pointed out that it is likely for some participants to think a lot but type little, and what is observed from the screen is therefore only a partial presentation of their problem-solving activities. They may have proposed, evaluated and eliminated several solution proposals before typing a solution, and those eliminated solutions are often inaccessible to the researcher. This does not constitute a major threat to data gathering, however, as what is observed from the screen demonstrates the participant’s more deliberate and considered translation problem-solving activities. This part of data already
suffices to reveal the participants’ changes and developments in their translation problem-solving activities. In addition, the researcher’s observation notes can also record where a participant pauses for a relatively long time, and the participant can be asked to explain the long pause in the retrospective interview.

**Criteria for text choice**

As the translation task-based interview is the main data-collecting instrument, the texts to be used in the translation tasks are of vital importance. Based on the principles proposed by Goldin (1997) for task-based interview design, the texts used in the interviews should reflect an appropriate difficulty level and include meaningful translation problems. “Appropriate” in this research context means that the translation task should neither be too difficult for the participants to finish, nor be so easy that few deliberate translation problem-solving processes are reflected; “meaningful” here means that the translation problems in the text should be able to elicit the type of data the researcher intends to gather. As this research focuses on the participant’s translation problem-solving activities, the inclusion of meaningful translation problems in the translation tasks is crucial. Admittedly, different participants can identify and solve rather different translation problems, but it is also true that some translation problems are common to most, if not all, participants. Therefore, it is possible and viable for the researcher to pre-identify translation problems in the selected texts to decide whether there are similar numbers and types of meaningful translation problems in the tasks.

The translation problem-solving perspective is adopted to pre-identify translation problems in the selected texts. In other words, the problem-solving processes for identified translation problems are considered to predict potential hindrance to and difficulties in the problem-solving sub-activities. Each translation task should contain a number of pre-identified translation problems that are more demanding in one or more of the five problem-solving sub-activities. For example, there need to be some translation problems that require sharper problem awareness to identify and some translation problems that are more difficult to find ready translation strategies. There need to be some translation problems that required more efforts in proposing solutions and evaluating alternative solutions. Furthermore, there should also be some translation problems that required more deliberation in making the final translation decisions. The
distribution patterns of these pre-identified translation problems also needed to be similar in the four translation tasks.

Admittedly, the pre-identification of these translation problems is more or less influenced by the researcher’s perspectives. However, such influence does not necessarily affect the research, as the pre-identified translation problems are not required to be entirely objective or identical with those identified by the participants. A major reason is that the pre-identification of translation problems mainly aims at helping select four comparable texts and suggesting possible aspects for observation and analysis. In other words, what the pre-identified translation problems provide are merely potential problems perceived by the researcher. In the actual translation task-based interview sessions, translation problems identified and solved by different participants are very likely to be rather different, and the problem-solving activities discussed in the interview sections will also vary according to each participant.

3.2.2 Supporting research instruments

Apart from the translation task-based interview, questionnaires and focus groups are also used as supporting research instruments to supplement the data gathering. The questionnaires aim at gathering the participants’ background information and relevant personal information. The focus group aims to gather participation feedback and validate preliminary findings with the participants.

**Questionnaire.** At the beginning of the study, a questionnaire will be conducted among the participants in order to collect some basic information on their academic background, previous experience as well as personal interests and plans. The first part of the questionnaire aims to find out about the participant’s previous experience, including previous degree, translation training, translation theory learning, practical translation experience, translation qualification and self-perception of previous translation competence. Data gathered from these questions will facilitate the analysis of the participant’s starting point in terms of translation competence, as reflected in their first round of translation problem-solving activities. The second part of the questionnaire aims to find out about the participants’ academic interests and plans. Questions asked in this part include their interests in the course modules and dissertation type, as well as their plans for freelance translation during the programme and career choice after graduation. Data thus collected will give a rough idea of the participant’s study interests and
motivations, which will support the later analysis of the participants’ problem-solving behaviour.

At the end of the main study, another questionnaire will be conducted, which repeats some of the questions from the previous questionnaire to see whether there have been any changes in the participants’ translation experience, self-perceptions, academic interests and plans. Questions asked in this questionnaire include the participants’ self-perception of translation competence, the attended course modules, extra-curricular translation experience, their choice of dissertation type and topic, and their career plan. Data collected from this questionnaire will be triangulated with data collected from the translation task-based interviews to facilitate the analysis of some changes in individual translation problem-solving activities.

Focus group. Towards the end of the research, a focus group will also be conducted. The focus group aims to collect data on the participants’ opinions about their own translation competence development. It also aims to gather the participants’ views on some preliminary findings from the research, which will help validate or amend the findings. The focus group also encourages the participants to give their feedback on the research participation, which will provide valuable suggestions for the improvement of research design for future studies.

3.3 Research implementation

During the 2015-2016 academic year, a longitudinal study was conducted with a small group of translation students from the MATIS programme at the University of Manchester. This section will briefly introduce the recruited participants, the schedule of the study and the translation tasks used in the interview sessions.

3.3.1 Research participants

The invitation to participate in the research was sent to all the Chinese students in the 2015-2016 MATIS programme along with an information sheet. All participants were required to be native speakers of Chinese who were enrolled in the MATIS programme for the 2015-2016 academic year. Seven participants signed up for the study, but one participant chose to withdraw after the first translation task-based interview. Therefore, altogether six participants completed the entire longitudinal study.
As there was no further requirement for participation, the six participants came from various academic backgrounds with varied previous translation training, practical translation experience and plans for the academic year and future career. These variations contributed to the differences in their translation problem-solving activities as well as the variations in their personal styles and characteristics. On the basis of the gathered data, the following paragraphs will attempt to provide a sketch of each participant. The six participants will be referred to as Wang, Tang, Shan, Gong, Wu and Liu, respectively.

**Participant Wang** majored in Language Sciences in her undergraduate studies in France. Before starting the MA programme, she had almost no previous experience in translation. She evaluated her translation competence as “2 – slightly competent” at the beginning of the MA programme and as “3 – moderately competent” at the end of the programme.

Wang was planning to work as a freelance translator/interpreter after graduation. She was eager to improve her translation competence and showed great enthusiasm for the programme. She was more interested in taking practical course modules, but she also remarked that taking theory-oriented course modules was important. In her interviews, she often referred to theoretical concepts when analysing a translation problem or justifying a translation choice.

**Participant Tang** was the only participant who majored in Translation and Interpreting in her undergraduate studies. In her undergraduate years, she attended both theory-oriented and practical translation course units and did some freelance translation, mostly in the fields of industry, law and regulation. She also passed the Advanced Interpreting Qualification Exam (Shanghai), a widely-recognised qualification exam in China. Tang evaluated her translation competence as “3 – moderately competent” at both the beginning and the end of the MA programme.

Tang’s career plan was to teach translation and interpreting in a Chinese university. For that reason, she was interested in applying for a PhD programme immediately after graduation, but had no idea of potential research topics yet. She preferred practical translation course modules and expressed little interest in theory-oriented ones. During the translation programme, she gradually lost motivation and confidence in doing a PhD, and instead planned to work in other professions.
**Participant Shan** majored in English in her undergraduate studies. Before starting this MA programme, she had already received some (although not much) practical T&I training and learned about some theoretical concepts in translation studies from her university course modules. She had done some practical translation in the form of in-classroom practice and coursework, but apart from that, she had no further practical translation experience. Shan evaluated her translation competence as “2 – slightly competent” at the beginning of the MA programme and as “3 – moderately competent” at the end of the programme.

Shan was planning to work as a freelance translator/interpreter after graduation. She was a highly motivated learner, eager to learn and improve herself. She expressed an interest in most of the course modules, both theory-oriented and practical. On the ones she had actually taken, she also gave very positive feedback and was able to summarise what she had learnt from the course modules.

**Participant Gong** studied Electrical Engineering in his undergraduate studies, a major largely unrelated to translation or interpreting. Before starting the MA programme, he had not received any practical T&I training or learned about any theoretical concepts of translation. However, he had been reading translated literary works, and had developed an interest in learning translation. He trained himself to translate and passed China Accreditation Test for Translators and Interpreters (CATTI) exams (Level 2 Translation and Level 3 Interpreting), which were difficult for even translation major students to pass. Apart from that, he had also done approximately 15k words of freelance translation in commercial and academic fields. He evaluated his translation competence to be “3 – moderately competent” at the beginning and the end of the MA programme.

Gong was planning to work in a T&I-involved profession at first, but later started to consider the possibility of doing a PhD in translation studies. He had a balanced interest in both theory-oriented course modules and practical ones, but towards the end of the programme, he remarked that he did not seem to have benefited much from taking the course modules.

**Participant Wu** previously majored in linguistics. Interested in translation and especially interpreting, she decided to take the CATTI exams. In order to prepare herself for the exams, she took some lessons in a training institute, where she received practical translation and interpreting training and learned about some theoretical concepts in
translation studies. Although she failed the exams, her enthusiasm for translation and interpreting (especially the latter) remained. Wu evaluated her translation competence as “2 – slightly competent” at the beginning of the MA programme and as “3 – moderately competent” at the end of the programme.

Prior to starting the MA programme, Wu worked as an IELTS trainer in China. She planned to return to the job position after graduation while actively seeking opportunities to work as a freelance interpreter. She had strong preference for practical course modules over theory-oriented ones and for interpreting over translation. In the first semester, she reported to have been practising interpreting almost every day, but this enthusiasm for interpreting gradually faded in the second semester.

**Participant Liu** majored in Applied Foreign Languages in her undergraduate years. Prior to the MA programme, she received some practical translation and interpreting training from university courses and training institutes, and did approximately 10k words of freelance translation. She evaluated her translation competence as “2 – slightly competent” at the beginning of the MA programme and as “3 – moderately competent” at the end of the programme.

Liu planned to work in translation-relevant professions, but was also open to other possible job opportunities. She expressed an interest in all the course modules, showing great enthusiasm in learning and improving her translation competence. She enjoyed the translation process, seeing it as a process of playing with words.

**Table 3.1 The participants’ choices of specialist course units**

<table>
<thead>
<tr>
<th>Course Modules</th>
<th>Wang</th>
<th>Tang</th>
<th>Shan</th>
<th>Gong</th>
<th>Wu</th>
<th>Liu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation Technologies</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Audiovisual Translation I</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Consecutive Interpreting</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Literary Translation: Contexts and Challenges</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Scientific and Technical Translation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Translation Project Management and Professional Ethics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Translating for International Organisations</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Translation and Media Culture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Public Service Interpreting</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
During the 2015-16 academic year, the six participants all took three compulsory course units – Research Methods in Translation and Interpreting Studies I, Research Methods in Translation and Interpreting Studies II, and Translation and Interpreting Studies I. Apart from these core course units, they were also required to choose five course units from a range of specialist research-oriented course units, specialist translation course units and specialist interpreting course units. See Table 3.1 for a list of the participants’ choices of optional course units.

3.3.2 Schedule and participation

The longitudinal study was conducted from September 2015 to August 2016. In September 2015, the first questionnaire was conducted at a participation briefing held after the MATIS students’ orientation meeting. The second questionnaire was conducted with each participant at the end of their final translation task-based interview. Four translation task-based interview sessions were conducted in October 2015, February 2016, May 2016 and August 2016, in study rooms in the learning commons and the main library at the university. The interview sessions were carefully scheduled with each participant so as to avoid their coursework deadlines, essay deadlines and examination dates. The sessions with different participants were also arranged to take place within a week, so that the participants had similar exposure to recent course content. A focus group was conducted in August 2016. Three participants attended the focus group in a study room in the learning commons. Two participants discussed topics from the focus group through separate interviews and another participant opted to send written discussions through email.

The participants were assured anonymity to participate in the longitudinal study. The interview sessions were screen-recorded and audio-recorded with each participant’s consent. When the participants came into the study room, they were provided with a laptop computer connected to the internet and with dictionary software installed. A printed dictionary was provided, and the participants were also allowed to bring other printed or electronic dictionaries they preferred. Each participant was told about the approximate procedure of the interview session and what they were supposed to do at each stage. Afterwards, they were given the translation task for the session and the translation task-based interview began. At the beginning of the first sessions, the
participants were also asked about their language preferences in the interview sections. All the participants chose to speak Chinese in the interviews.

The dictionary software pre-installed on the computer was Youdao desktop dictionary, a popular multi-platform dictionary application among Chinese students. This dictionary software provided a wide range of explanations from simple Chinese equivalents to detailed English definitions, from online explanations to authoritative dictionary entries, and from synonyms to example sentences (see Appendix 7 for some screenshots of the dictionary interface). Most participants were already used to using this dictionary software, but some participants were more inclined to use other online dictionaries. None of the participants used the provided printed dictionary or brought their own dictionaries.

3.3.3 Translation tasks

For each TTBI session, the participants were assigned a translation task. Each translation task consisted of two parts: a text to be translated with specific translation situation described and requirements set, and a peer translation for the participants to read after finishing their own translation. The following sections give an overview of the four translation tasks and a detailed analysis of each translation task.

An overview of the translation tasks

All the four tasks were English-to-Chinese translation tasks. The texts to be translated were excerpts (usually the beginning paragraphs, with a length of between 120 and 160 words) from latest news articles, columns or commentaries discussing events or topics related to China.

The choice of news translation tasks was due to the following considerations. First of all, the participants were very likely to be familiar with news translation, as news translation is common in China. Numerous news articles are being translated every day for various media channels, including Chinese news portals, localised Chinese websites of Western media, Chinese magazines and newspapers and social media platforms. Therefore, the participants, who were probably used to reading translated news articles, were also more likely to treat the task of news translation as an authentic translation task. Moreover, news articles are usually non-specialist texts intended for general readers, and are often easy to read and understand. As the participants came from varied academic backgrounds with different extents of translation practice, it was more appropriate to have translation tasks
that did not require much specialist knowledge. In this case, news articles provided a good choice. It should also be noted that there is no course module on news translation in the MATIS programme, which means that none of the participants would be learning about news translation explicitly during the study, and they would only carry out news translation tasks in the four translation task-based sessions.

As was already pointed out in Section 3.2.1, the texts for TTBI sessions were selected mainly on the basis of pre-identified translation problems from a translation problem-solving perspective. Each translation task contained a similar distribution pattern of pre-identified translation problems that were more demanding in one or more of the five problem-solving stages. Each task had some translation problems that needed the participants to have stronger problem awareness to identify, for example, problems related to the translation situation and problem related to the intercultural differences. There were problems that were more difficult to represent than others, which required the participants to be better at making analyses, analogies or summaries so that the problems could be represented more clearly and solved more easily. Each task had some problems that required more efforts in proposing solutions, and the participants needed to think harder to come up with a solution or search deeper to find a suggested solution online. They would also find that some translation solutions were more complicated to evaluate as more aspects needed to be taken into consideration, for example, the context, the translation situation. The final decisions for some translation problems were also more difficult to make, as the participants needed to develop and follow their own macro translation strategies.

These pre-identified translation problems ensured that the four translation tasks were comparable in eliciting the participants’ translation problem-solving activities. In each task, the participants needed to pay special attention or devote more efforts to a similar distribution of translation problem-solving sub-activities to solve translation problems successfully. Moreover, the design of these translation tasks also took into account the longitudinal nature of the study and selected four texts that contained both unfamiliar and familiar translation problems. More specifically, each later task contained some familiar problems that resembled certain problems in previous tasks and some unfamiliar problems that were new to the participants (at least in the series of translation tasks in the task-based interview sessions). In this way, the participants’ progress (or no progress) in
their translation problem-solving activities would become more visible in the gathered dataset.

In addition, each text also came with a peer translation. The four peer translations were all provided by Qin, a MATIS graduate from the previous academic year. Except for the first text where no time limit was set for Qin to finish the translation task, for the following three translation tasks, she was asked to submit the translation within an hour. In all translation tasks, she was allowed to consult dictionaries and search online when necessary. The four peer translations provided by Qin reflected a generally consistent translation style and a good overall translation quality. There were some misunderstandings, flaws in idiomaticity or inappropriate translation solutions in the peer translations. However, the translations would not be corrected or revised before they were presented to the participants, as the inappropriate translation solutions might also help elicit more data on some translation problem-solving sub-activities. See Appendix 6 for back translations of the four peer translations.

**Task 1: Chinese researcher winning the Nobel Prize**

The text to be translated in Task 1 was the beginning of a news article from *The New York Times* that discusses a Chinese researcher winning the Nobel Prize. The news of Tu Youyou winning the Nobel Prize in science was widely disseminated in China and global Chinese communities through news portals and social media. It was therefore a topic that the majority of the participants were likely to be familiar with. However, the perspective *The New York Times* reports from was rather different from those found in domestic Chinese reports, which could cause some difficulty in understanding.

In the task description, this text was to be translated for news.sina.com.cn, a popular Chinese news portal where lots of original and translated news articles are posted every day. The translated news articles on this website are often edited, sometimes to a great extent. The languages are usually edited to be more like original Chinese writings so that the news translations will read more easily and naturally, as the target readers are general netizens who are not always highly educated or do not have plenty of time. The opinions in the news articles are also edited when necessary, so that negative implications and sensitive topics can be erased. This is due to the fact that news.sina.com.cn, like other mainstream news portals, is moderated by relevant government sectors. In order to reduce the risk of getting into trouble for posting inappropriate facts or opinions online, news
articles written and translated for news.sina.com.cn are usually self-censored (removing negative attitudes, offensive implications, sensitive topics, etc.) before they are posted. Therefore, the participants needed to be aware of negative implications and sensitive expressions in their process of translating, which added to the difficulty of the translation task.

The peer translation provided by Qin was of high quality. She took a bold step and rearranges the sentence order and information flow to guarantee the fluency of the translation, which also indicated that she had gained a good grasp of the theme and the context. Her translation addressed intercultural problems with care and tried to soften the tone wherever negative implications towards China could be felt, taking the translation situation into consideration.

Text to be translated:

① As China basks in its first Nobel Prize in science, few places seem as elated, or bewildered, by the honor as the China Academy of Chinese Medical Sciences.

② Located on a shady street in the Old City, the academy is spread over a city block and welcomes visitors with an incongruous juxtaposition: a six-foot high quotation from Chairman Mao facing bronze statues of gowned doctors from antiquity who devised esoteric theories to heal the human body.

③ These contrasts are part of a bigger, century-long debate in China that has been renewed by the award on Monday to one of the academy’s retired researchers, Tu Youyou, for extracting the malaria-fighting compound Artemisinin from the plant Artemisia annua. (116 words)

Peer translation:

当中国沉浸在获得首枚科学类诺贝尔奖的喜悦之中时，没有哪个地方会比中国中医科学院对这项殊荣更感到欢欣鼓舞，或者说不知所措。

中医科学院坐落在北京老城区一条绿树成荫的街道上，占地约一个街区大小。院门口立着一群身着长袍的中国古代医者青铜像，这些古代医者提出了一套救死扶伤的深奥中医理论；在这些青铜像的正对面，是近2米高的毛主席语录——两者的共存看上去有些不大协调。
在这种对比的背后，关于中医的大型辩论已经持续了一个世纪之久。而就在上周一（10月5日），该院退休研究人员屠呦呦因为从黄花蒿中提炼出抗疟有效成分青蒿素，获得诺贝尔奖，又掀起了针对中医的新一轮热议。

Pre-identified translation problems:

a. translation situation. This translation task is to translate a news article from *The New York Times* online edition for news.sina.com.cn. The source website and the target website are rather different in terms of political stance, attitude, style and so on. The participants need to be aware of the translation situation and think of appropriate translation strategies to cope with the situation. This translation problem is more demanding in its problem-identifying and decision-making stage. The peer translation has identified and solved this translation problem by adopting a more flexible translation strategy and eliminating negative implications.

b. Monday. The original news article was posted on Friday, four days after Tu Youyou won the Nobel Prize, and therefore uses “Monday” to refer to the day. However, the article is not translated in the same week, and a simple translation of “Monday” can be problematic. The participants need to be sensitive to the difference in temporal reference in their translations. This translation problem is more demanding in its problem-identifying stage. The peer translation identifies and solves this problem by changing 周一 (Monday) into 上周一 (last Monday) as well as by adding 10月5日 (5th of October) in parentheses.

c. These contrasts. The word “contrast” is not a problem, but what “these contrasts” refer to is unclear. “These” means that there is more than one contrast, but the second paragraph seems to have only mentioned one “incongruous juxtaposition”. The participants therefore need to figure out the meaning of the contrasts before they are able to correctly translate it. The peer translation translates it into 这种对比 (this kind of contrast), which is a viable solution.

d. Sentence ①. This sentence can be difficult for the participants to comprehend if they are not able to grasp the “few … as… as…” structure from the long sentence. The “elated, or bewildered, by the honor” part can also be confusing if they lack enough contextual knowledge to understand why the academy should be elated
and bewildered at the same time. This translation problem is more demanding in its problem-representing and solution-proposing stage. The peer translation offers a correct understanding and translation of this sentence.

e. Sentence ②. This sentence is long and complicated. It contains two parts of information: the location and zone of the academy, and the quotation from Chairman Mao, the statue of ancient doctors and the description of the ancient doctors, with the two parts connected by a phrase “incongruous juxtaposition”. Such a sentence structure, if directly copied in its Chinese translation, will become very awkward. The participants therefore need to find an appropriate way to break down the sentence into shorter ones and rearrange their order. This translation problem is more demanding in its problem-representing and solution-proposing stage. The peer translation provides a bold solution to this problem by restructuring the whole sentence.

f. Sentence ③. This sentence is also quite informative and complex. The structure “has been renewed by”, which connects different parts of information in the original text, is particularly difficult to translate, as Chinese uses the “by … has been renewed” structure. The participants need to pay attention to this difference in sentence structure and rearrange the information order in a reasonable manner. This translation problem is more demanding in its problem-representing and solution-proposing stage. The peer translation solves this problem by moving the “has been renewed by” part to the end of the sentence.

g. six-foot. A foot is a unit for measuring length, height, or depth, and is commonly used in English texts. However, modern Chinese texts usually use metre, the basic unit of length adopted under the Systeme International d'Unites. Therefore, the participants need to be aware of this cultural difference and convert the measurement unit, as is the convention on news.sina.com.cn for translated news articles. This translation problem is more demanding in its problem-identifying stage. The peer translation pays attention to this problem and converts it into 近2米 (nearly 2-metre).

h. incongruous juxtaposition. There is some sarcasm hidden in this phrase. The statue or quotation of Chairman Mao in front of an ancient building or a modern
architecture is a common sight for Chinese readers, who are not likely to perceive it as an incongruous juxtaposition. Even if they agree that is indeed incongruous, they will probably not put it in such a straightforward manner. Therefore, even though a faithful translation of this phrase will not be a big problem, the participants might need to think about it and decide whether they want to reduce the negative implications. This translation problem is more demanding in its problem-identifying and problem-representing stage. The peer translation tackles this problem by adding看上去有些不大（seemingly not that much），which softens the tone to some extent.

i. China Academy of Chinese Medical Sciences. This is a proper noun, the translation of which needs to be searched online. However, when the participants search the term on Google, they will find two suggested translations: 中国中医科学院and 中国医学科学院. The former is the correct name while the latter is a seemingly similar and therefore easily confused name of a medical college. The participants need to find out the correct Chinese name of the academy. This translation problem is more prominent in its solution-proposing stage. The peer translation provides a correct translation in this case.

j. Old City. “Old City” only refers to a certain region in a city, and readers might not know which city the academy is situated in. The participants need to be aware of this problem and find out where the Old City is located. This translation problem is more prominent in its problem-identifying and solution-proposing stage. The peer translation also addresses this problem by adding北京 before the translation of Old City.

k. the plant Artemisia annua. This appears to be a terminological problem, but is more than a simple language problem. When participants look up the term in the dictionary or search it online, they would find two similar Chinese equivalents: 黄花蒿 and 青蒿. In fact, even in the Chinese news reports, these two terms are often misused, leading to great confusion. If the participants search for the difference between these two Chinese terms online, they would easily find the explanation: when one talks about the plant, 黄花蒿 should be used; when one talks about the traditional Chinese herbal medicine, 青蒿 should be used. As this
passage uses “the plant Artemisia annua”, 黄花蒿 should be the more appropriate translation for the term. The participants need to be sensitive to the terminological controversies online and to find out more clearly about the differences between the two options. This translation problem is more prominent in its *solution-proposing* and *solution-evaluating* stage. Even if the participants are not able to realise the difference in their own translation processes, they will find that the peer translation translates it as 黄花蒿.

1. **The context.** The participants might be quite familiar with the event discussed in this news article, *i.e.* Tu Youyou winning the Nobel Prize in science, as they can read about the news from various channels. However, this news article discusses it from a perspective different from the popular ones: while many Chinese news media report the winning of Nobel Prize as a great success for traditional Chinese medicine, Western news media more often point out that the methods used by Dr. Tu were very similar to those used by Western drug companies. This actually explains the opening paragraph of the article which says that the China Academy of Chinese Medical Sciences is “elated, or bewildered, by the honor”: it is elated for its researcher has won the Nobel Prize; it feels bewildered because the reason its researcher wins the Nobel Prize does not really have much to do with traditional Chinese medicine. If the participants are able to gain a more comprehensive grasp of the news event, they will be able to understand and translate this sentence more easily and correctly. This translation problem is more demanding in its *problem-identifying* and *solution-proposing* stage.

**Task 2: Three Chinese economists**

The text to be translated in Task 2 was a report from *The Economist*, and the translation was intended for the news magazine *VISTA*. *The Economist* is renowned for its good writing style – clarity, style and precision – among English language learners in China, and *VISTA* is a high-end Chinese news magazine with a unique style which targets at middle-class and elite readers. Therefore, the participants needed to pay special attention to the style and register of the translation.

The report discussed three influential Chinese liberal economists. Some participants were perhaps familiar with their names and even their economic opinions, as these economists’ views and comments are often cited and discussed online. For those participants who had
little knowledge of the three economists, it would also be easy to find detailed information – and sometimes with too many details – on the economists on the internet. As long as they filled in the knowledge gaps, the whole text would not be too difficult to understand.

The peer translation provided by Qin for this task was also of good quality. She continued to make bold changes in her translation by pointing out the real names of the three economists in the first paragraph, while the source text did not reveal their names until in the second paragraph. It was reflected in the translation that Qin had conducted thorough research of the context and had a full grasp of the theme and context of this text. Her translation had a generally good sense of Chinese writing, but it also failed to identify some language and intercultural problems.

Text to be translated:

Three Wise Men

①WHATEVER image you may have of the reformists hoping to shake up China’s creaking economic system, it is probably not one of octogenarians who fiddle with their hearing aids and take afternoon naps. ②But that is a fair description of three of the country’s loudest voices for change: Mr Market, Mr Shareholding and the most radical of all, the liberal. ③With growth slowing, the stockmarket once again in trouble and financial risks looking more ominous, their diagnoses of the economy, born of decades of experience, are sobering.

④Wu Jinglian, Li Yining and Mao Yushi—their real names—were born within two years of each other in 1929 and 1930 in Nanjing, then China’s capital. ⑤Whether it was that or pure coincidence, all three grew up to demand an end to Soviet-style central planning and to propose, to varying degrees, capitalism in its place. (146 words)

Peer translation:

中国经济改革三贤士

一提起那些希望撼动中国摇摇欲坠的经济体系的改革家时，你眼前浮现的画面恐怕怎么也不可能里是那些摆弄着助听器、午后需要打会儿盹的年逾八旬的老人。但事实上，在这个国家对于经济体制改革呼声最响的人里，正有着这样三位耄耋
老人：倡导市场经济的吴敬琏、提出股份制改革的厉以宁以及最激进的自由主义经济提倡者茅于轼。当前，中国经济增速迟滞，股市再次陷入困境，金融前景凶多吉少，他们基于自己几十年的经验对于中国经济作出的诊断发人深省。

三位改革家均于1929年至1930年间出生在当时是中华民国首都的南京。不知是天意还是巧合，三人后来都呼吁终结苏维埃式的中央计划经济，并且在不同程度上提出以资本主义取而代之。

Pre-identified translation problems:

a. Translation situation. The translation situation for the task is to translate a news article from The Economist for VISTA magazine. Although both are high-quality magazines targeted at high-end readership, they are different in terms of political stance, style and many other aspects. The participants need to be aware of the translation situation and other translation problems it is likely to cause in their process of translating. This translation problem is more demanding in its problem-identifying and decision-making stage.

b. The headline. The headline for this news article is rather brief. It is also an allusion to the magi in the Bible. However, the target magazine VISTA tends to use longer headlines that are always informative and sometimes appealing, and give the readers an idea of what the article is talking about and will be interested in reading the whole article. A literal translation of this short headline, therefore, will not be in line with the convention of VISTA magazine. The participants need to be aware of this problem and come up with an appropriate translation of the headline. This translation problem is more demanding in its problem-identifying and problem-representing stage. In the peer translation, the headline is revised into a longer one: 中国经济改革三贤士（China economic reform three wise scholars).

c. Nanjing, then China’s capital. This phrase has some subtle implications. The “China” here refers to “The Republic of China”, which, in many Westerners’ view, is more democratic and progressive than “The People’s Republic of China”. This is why the author says “whether it was that or pure coincidence” in the following sentence, emphasizing that the three economists were influenced by the trends of thought during the period of the Republic of China. The participants need to be
aware of this problem and decide how to deal with the term. Simply translating it into 中国旧都 (former capital of the People’s Republic of China) is clearly not appropriate. This translation problem is more demanding in its problem-identifying and problem-representing stage. The peer translation translates it into 当时是中华民国首都 (then the capital of the Republic of China), which is acceptable but not without the problem of overemphasizing “the Republic of China”, a politically sensitive concept in current discourse.

d. **creaking.** It is not difficult to look up this word in dictionaries. Participants will easily find its direct explanation as 嘎吱作响 (make a squeaking sound) as well as an extended explanation as 勉强运转 (manage to operate). An idiomatic phrase in Chinese that the participants are very likely to think of is 摇摇欲坠 (on the verge of collapse), as it is often regarded as an equivalent for the word. However, 摇摇欲坠 is in fact not appropriate here, as it can be overly exaggerating. The participants need to find ways to translate this word in a softer tone. This translation problem is more demanding in its solution-proposing and solution-evaluating stage.

e. **Sentence ①.** This sentence seems straightforward, but is in fact not easy to translate. The two modifiers in the sentence, “hoping to shake up China’s creaking economic system” that modifies “the reformists” and “who fiddle with their hearing aids and take afternoon naps” that modifies “octogenarians”, are postpositive attributives. In Chinese writings, the modifiers usually come before the nouns modified. The participants need to be aware of this syntactic difference and restructure the sentence in their translations. This translation problem is more demanding in its problem-representing and solution-proposing stage. The peer translation has not addressed this problem very well and reads a little awkward.

f. **Coherence.** The five sentences in this text have a good sense of coherence, especially Sentence ① and Sentence ②, Sentence ④ and Sentence ⑤. The participants need to be sensitive to the coherence of the whole text and pay attention to the coherence in their translations. This translation problem is more demanding in its problem-identifying stage.

g. **capitalism.** Capitalism refers to a type of economic system, but its Chinese
equivalent 资本主义 (capitalism) has negative implications and is often perceived more as a type of political ideology that is against Socialism. In other words, this economic term in the Western context, if translated directly into Chinese, becomes an ideological term. The participants need to be aware of this cultural difference and choose to minimize possible misunderstandings by either explicitly describing it as an economic system 资本主义经济体制 (capitalism economic system) or by using a different term 自由经济 (free economy). This translation problem is more demanding in its solution-evaluating and decision-making stage.

h. demand. Demand is a strong word in terms of expressing the meaning of asking for something. In the western culture, economists might have more freedom in explicitly expressing their opinions to the government. However, in the Chinese culture, these economists could not have demanded but could only have advocated or proposed the changes and reforms. This translation problem is more demanding in its solution-evaluating stage. The participants need to be aware of this cultural differences and propose an appropriate translation of this word.

i. Mr Market, Mr Shareholding. These two terms are originally Chinese terms: 吴市场 (Market Wu) and 厉股份 (Shareholding Li). When they are translated from Chinese into English, the author has made some adaptation by deleting the family names and adding “Mr.” before the nickname, perhaps in order to make them more reader-friendly to Western readers. Both the Chinese nicknames and the more commonly used English nicknames can be found on Wikipedia and many other related news articles. The participants need to be sensitive to both Chinese nicknames they find in Chinese articles and English nicknames they find on English websites in order to correctly translate the terms. This translation problem is more demanding in its problem-representing and solution-proposing stage.

j. the liberal. While the other two economists have their own nicknames, the third economist does not seem to have an established nickname. The participants need to search online carefully in order to make sure there is no similar nickname for this economist. This translation problem is more demanding in its solution-proposing stage.
k. **born within two years of each other.** In Chinese when people say that several persons were born within several years of each other, they tend to put the names in a chronological order and use the term 相继出生 (born one after another). However, the English phrase “born within two years of each other” does not necessarily mean that the three economists were born one after another in their name order. The participants need to be sensitive to this problem and figure out their years of birth in order to translate correctly. This translation problem is more demanding in its **solution-proposing** stage.

l. **The context.** This passage talks about three prestigious Chinese liberal economists. The participants might have heard of their names, but are not very likely to be familiar with their economic opinions, which is in fact the key to understanding the term “Mr Market, Mr Shareholding” in the first paragraph. If participants are not able to gain a good grasp of the whole context, they will probably struggle a lot with understanding and translating the first paragraph. However, if they have enough contextual knowledge to understand the topic, the difficulty in translating the text will be greatly reduced. This translation problem is more demanding in its **problem-identifying** and **solution-proposing** stage.

**Task 3: South China Sea conflict**

This text to be translated in Task 3 was a news article from *The Wall Street Journal* online edition. The topic discussed in the article, *i.e.* the South China Sea dispute, was a topic widely reported in both Chinese and Western news media in recent years. This article analysed the issue by looking at the new political situation brought about by Philippines’ newly elected president and its possible influence on the South China Sea dispute. The event might sound familiar to the participants, but the perspective this article reported from could be quite unfamiliar to them.

This news report from *The Wall Street Journal* was to be translated for its Chinese website 华尔街日报中文网 (*The Wall Street Journal* Chinese Version). Unlike previous translation tasks in which the text was translated for a domestic Chinese website or magazine, 华尔街日报中文网 is a Chinese website run by a Western media group. Therefore, the participants needed to pay special attention to the translation situation, especially the translation conventions that might be different from domestic Chinese websites.
The peer translation continued to display Qin’s consistent translation style. She made several changes in the translation: explicitly pointing out Trump’s name in the first paragraph, boldly restructuring several long sentences, and adding background information. These actions showed that she had done a deep context research and had gained a good knowledge of all the background information. However, whether these changes and additions were appropriate in this translation situation was yet to be considered. Her translation showed a good mastery of language and a good sense of intercultural differences, despite one translation mistake due to the misunderstanding of a sentence.

Text to be translated:

①Fed up with elites, voters flock to a populist outsider with an admired but checkered past, a macho persona and a record of insulting women, foreigners and the pope. ②He distrusts allies and promises to cut deals with adversaries. ③Is he destined to be a destabilizing leader? ④Or would responsibility moderate him?

⑤U.S. allies mull these questions as they watch Donald Trump, but now Americans are asking similar questions about an important ally: the Philippines, which last week elected tough-talking city mayor Rodrigo Duterte to a six-year term as president. ⑥Philippine cooperation is crucial to checking aggressive Chinese action in the South China Sea, but Mr. Duterte seems to want to accommodate Beijing.

⑦In 2013 the Philippines went to a United Nations court to challenge China’s notorious claim to nearly the entire South China Sea, an area larger than the Mediterranean that stretches 1,000 miles from Chinese shores. (148 words)

Peer translation:

在今年的美国大选中，厌烦了政治精英的美国选民簇拥起了一位平民圈外人。这位圈外人拥有令人羡慕却又充满曲折的过去，大男子主义的他曾发表侮辱女性的言论，并且对外国人和教皇也出言不逊。他不信任盟友，也不相信能够与敌手达成协议。他注定会是一位带来动荡的领导者吗，还是说责任感会让他变得趋于温和？
这些问题都是美国的盟友在旁观唐纳德·特朗普竞选美国总统时所思考的，而现在，美国也针对自己的一个重要盟友——菲律宾——问出了相似的问题。手腕强硬的菲律宾达沃市长罗德里戈·杜特尔特于5月10日在大选中获胜，将于6月30日正式就任新一届菲律宾总统，任期六年。对于美国而言，想要在南海问题上制约中国，菲方的配合至关重要，而杜特尔特却似乎想要与中方达成调解。

南海地区范围广阔，最远处距离中国海岸约1600公里，整体面积超过地中海。2013年，菲律宾曾就中菲有关南海“海洋管辖权”的争端向国际法庭提起强制仲裁。

Pre-identified translation problems:

a. **Translation situation.** The translation situation for the task is to translate a news article from *The Wall Street Journal* for its Chinese website. Unlike other Chinese news portals or magazines, this Chinese news website is run by a Western media group, which follows its own conventions for translated news articles. The participants need to be aware of the translation situation and figure out and follow the specific translation conventions for the target website. This translation problem is more demanding in its problem-identifying and decision-making stage.

b. **Name.** There are two names in this text: Donald Trump and Rodrigo Duterte. In Chinese these names usually have several translated versions. The participants need to be aware of the translation conventions of these names on the target website and adopt appropriate translations. This translation problem is more demanding in its solution-evaluating stage.

c. **aggressive.** The word “aggressive” is negative and this problem will be obvious to the participants, but how they should solve this problem is not easy. They need to decide whether to translate it directly into 侵略性 (aggressive), completely delete it, or soften the tone into 强硬 (tough) in their translations. They also need to be sensitive to translation conventions on the target website in order to translate it in the most appropriate way. This translation problem is more demanding in its problem-identifying and decision-making stage. The peer translation chooses to delete this word.
d. **notorious.** This can be a rather offensive term for Chinese readers. The participants are very likely to identify this problem, but might have difficulty in solving the problem. They need to decide on whether to retain the expression, to completely delete the term, or to soften the tone a little in their translations. They also need to have the awareness to find out the conventions for solving this type of problems on the target website. This translation problem is more demanding in its **problem-identifying** and **decision-making** stage. The peer translation chooses to retain the expression.

e. **checkered.** Explanations of this word can be easily found in the dictionary, but an appropriate translation in this context is not easy to find. The dictionary explains it as 多变的 (with many changes). The participants need to consider the “but” in “admired but checkered” and translate “checkered” into a Chinese term that is opposite to the Chinese translation of “admired”. This translation problem is more demanding in its **solution-proposing** and **solution-evaluating** stage. The peer translation translates it into 充满曲折的 (full of twists and turns), which is an appropriate translation.

f. **macho.** When participants look up “macho” in the dictionary, what they will find is 大男子气概的 (big masculine spirit). The Chinese term is often used as a commendatory term to describe someone who is brave, confident and strong. However, the word “macho” in this context is clearly not a commendatory term, judging from the diction “checkered” and “record of insulting”. A Chinese term 大男子主义的 (male chauvinism) seems to be a more appropriate translation for this term. The participants need to be aware of this problem and think of an appropriate translation. This translation problem is more demanding in its **solution-proposing** and **solution-evaluating** stage. In the peer translation, this word is translated into 大男子主义的.

g. **Sentence ⑤.** This sentence is long and complicated. It contains several layers of information: U.S. allies and Trump, American and an important ally, the presidential election in the Philippines, the Philippines’ newly elected president, the characteristic of the new president, the term of the presidency. All the different information is combined into a single sentence, which, if directly translated into
Chinese, will be very difficult to read. The participants need to figure out how to break down the sentence into smaller parts and to recombine the shorter sentences in a reasonable manner. This translation problem is more demanding in its **problem-representing** and **solution-proposing** stage.

**h. Sentence (7)**. This sentence is also very informative. It not only gives the information of time, place and reason for the Philippines’ prosecution of China, but also provides a summative information on South China Sea. The original text connects the two parts of information by “an area”, but such a structure does not exist in Chinese writings. The participants need to either break down the sentence into shorter ones or to rearrange the information order of the sentence in order to produce an appropriate translation. This translation problem is more demanding in its **problem-representing** and **solution-proposing** stage.

**i. 1000 miles.** A mile is a unit for measuring length, height, or depth, and is commonly used in English texts. However, modern Chinese texts usually use kilometre, the basic unit of length adopted under the Systeme International d'Unites. Therefore, the participants need to be aware of this cultural difference and convert the measurement unit. This translation problem is more demanding in its **problem-identifying** stage. The peer translation pays attention to this problem and converts it into 1600公里 (1600 kilometre).

**j. Beijing.** It is a common practice for Western media to use place/building names to refer to governments/government sectors, for example, Washington referring to U.S. government, Pentagon referring to the United States Department of Defense. However, such use of metonymy is not commonly seen in Chinese news reports, as in Chinese news writings city/province names more often refer to municipal/provincial governments, for example, Beijing referring to Beijing municipal government. The participants need to be aware of this cultural difference and translate in a more appropriate manner. They can either translate it into 中国/中国政府 (China/Chinese government) or into 北京方面 (the Beijing part) in order to distinguish it from Beijing municipal government. This translation problem is more demanding in its **problem-identifying** stage. The peer translation has noted this problem and translated it into 中方 (the Chinese part).
k. populist outsider. This term is frequently used by the news press to describe Trump. To understand the term in the context is not difficult, but to translate it is another. For “populist”, the dictionary provides two options: 平民主义 (populism, with 平民 being a commonly used term) and 民粹主义 (populism, with 民粹 more frequently used in political discourse). The participants need to read more information in order to figure out the subtle difference between the two Chinese terms. For “outsider”, the participants also need to read more about Trump’s bibliography so as to correctly understand what circle he is outside of. This translation problem is more demanding in its solution-proposing and solution-evaluating stage. The peer translation translates this phrase into 平民圈外人 (common people outsider), which is an acceptable solution.

l. tough-talking. When participants look up this word in the dictionary, what they will find is 发出豪言壮语 (give out brave and proud words). The emphasis of “tough-talking” in this context is clearly not about some brave words said by Duterte. The participants need to be aware of this problem and find out more about Duterte in order to translate this word correctly. This translation problem is more demanding in its solution-proposing and solution-evaluating stage. The peer translation translates it into 手腕强硬的 (with tough measures), which is an appropriate solution.

m. The context. Having a full grasp of the context is the key to understanding the text. It is only with a good contextual knowledge that the participants can be able to see the similarity between Trump and Duterte and to better understand the role of the first paragraph, which seems to be irrelevant to the topic under discussion but in fact describes both Trump and Duterte. This translation problem is more demanding in its problem-identifying and solution-proposing stage.

Task 4: China’s overseas investment

The text to be translated in Task 4 was the beginning paragraphs of a commentary from The Fortune that commented on the barriers China’s overseas investment was faced with. Several events were discussed in the commentary, some of which the participants might be familiar with and some of which might be new to them. All the events have been covered by Chinese news press and relevant articles could be easily found online.
The task for the participants was to translate this commentary from *The Fortune* for guancha.cn as a job candidate doing a test translation. guancha.cn is a news website which is not a leading news portal but nevertheless has a big readership. The website gathers both original and translated news reports and commentaries, and is famous for its domestic columns as well as timely translation of foreign commentaries. The news articles on the website, be it original or translated, often have appealing headlines, which has become its unique characteristic. Another characteristic of the website is that its translations of Western commentaries are often found to have been adapted and even rewritten in order to embellish the opinions or add the translators’ personal opinions.

The peer translation provided by Qin this time was also of good quality. She continued to make changes she deemed necessary in the translation, for example, more explicitly describing what happened to Snapchat, giving details of the dates, and correcting the information that she finds incorrect in the original text. She also paid attention to the translation situation for this task and tried to conform with the conventions (especially format and layout) of the target website as much as she could. The language of her translation was general fluent, but some language and intercultural problems were not addressed.

**Text to be translated:**

**China - The Unwanted Investor**

by Geoffrey Smith

①Snapchat succumbed yesterday to a wave of online outrage about a filter that smacked of anti-Asian racism (a yellow face with closed, slanted eyes). ②It seems a good moment to wonder if the same outrage will ever be directed at those who are blocking Chinese investment overseas.

③It may be easier to illustrate the problem in three cases where U.S. interests aren’t directly affected. ④Today, Australia moved to block a Chinese consortium of state and private interests taking a controlling stake in the country’s largest electricity network over national security concerns.

⑤Last week, the U.K.’s new Prime Minister slammed the brakes on a project to build the country’s first new nuclear power station in 40 years due to China having a minority
stake in it (although one suspects that London is more concerned about wriggling out of
a ludicrously high power-purchase contract it has already signed with the lead partner,
France’s EDF). (160 words)

Peer translation:

杰弗里·史密斯：中国的海外投资阻力重重

昨天（8月10日），美国社交应用Snapchat在大批网友的炮轰之下，将新推出
的一款被指歧视亚洲人的滤镜（斜眼眯缝的黄面孔）火速下架。这不禁让人疑惑：那些阻止中国在海外投资的人，是否也会遭遇相似的炮轰？

用三个不直接牵涉到美国利益的例子，可能更容易说明这个问题。今天（8月11日），澳大利亚以“国家安全利益”为由，准备阻止中国的国有企业和私有企业联手购买澳大利亚国内最大的一家电网企业的控股股份。

上周（7月31日），英国新任首相叫停了一个核电项目。这是英国近20年来
第一座新建的核电站，而项目被叫停的原因是中国在其中持有少数股权（尽管有人怀疑英国政府其实更想摆脱一份荒唐的合同，也就是和该项目主要合作方法国电力公司EDF签订的高额购电合同）。

……

（青年观察者XXX译自8月11日美国《财富》杂志网站）

Pre-identified translation problems:

a. Translation situation. The translation situation for the task is to translate a
commentary from The Fortune for guancha.cn as a job candidate doing a test
translation. The participants need to be aware of the translation situation and
figure out the translation conventions on guancha.cn. As a job candidate, they
need to show that they understand what kind of translation will be regarded as a
good translation on guancha.cn and that they are able to produce such kind of
translation. This translation problem is more demanding in its problem-
identifying and decision-making stage.

b. The headline. The original headline of the text is short, stating the topic of the
commentary in a plain way. As the headlines on guancha.cn tend to be long and appealing, a direct translation of the headline is clearly not its type. The word “unwanted” also has negative implications, and a faithful translation of this term is also not wise. Moreover, as guancha.cn is famous for its original and translated commentaries, it has the convention of placing the author’s name before the headline. The participants need to be aware of these problems and think of a viable translation of the headline that is both informative and appealing. This translation problem is more demanding in its problem-identifying and solution-proposing stage. The peer translation translates it into 杰弗里·史密斯：中国的海外投资阻力重重, which has clearly followed the convention of guancha.cn.

c. **yesterday/today.** The author uses “yesterday”, “today” and “last week” in his commentary, which is fine in the original text. However, when the participants translate the commentary, the day “yesterday” refers to in the translation will be different from the day it refers to in the original article. Therefore, the participants need to be aware of this problem and think of appropriate ways to reduce the possible misunderstanding. This translation problem is more demanding in its problem-identifying and decision-making stage. The peer translation addresses this problem by adding the specific dates in parentheses.

d. **closed, slanted eyes.** This description is simple to understand but is difficult to translate. Either “closed eyes” or “slanted eyes” will be easy to translate, but “closed, slanted eyes” does not have an immediate translation in Chinese, especially when it serves as a post-positive attributive in “yellow face with closed, slanted eyes”. The participants need to think of alternative ways of expressing the meaning in Chinese either by altering the order of “closed” and “slanted” into 斜闭双眼 (slanted, closed eyes) or by using a completely different description 倒八字眼 (in the upside-down shape of the Chinese writing 八). This translation problem is more demanding in its solution-proposing stage. The peer translation translates this description into 斜眼眯缝 (slanted eyes, closed), which is also an appropriate solution.

e. **consortium.** This word is perhaps not an unfamiliar word for most of the participants. Without even looking it up in the dictionary, they will be able to
propose its translation 财团 (consortium). However, 财团 is often regarded as a product of Capitalism, which has some negative implications in the Chinese context. The participants need to be aware of this problem and think of alternative translations to express the original meaning. This translation problem is more demanding in its solution-proposing and solution-evaluating stage. The peer translation addresses this problem by translating it into 联手 (join hands).

f. **ludicrously.** The explanations for this word in the dictionary are 滑稽地; 荒唐地 (in a ridiculous manner; in a funny manner). However, in this context it does not necessarily mean that the contract is ridiculous or funny, but is an exaggerated way of saying that the price of the contract is simply too high. The participants need to be aware of this problem and emphasize the right information in their translation. This translation problem is more demanding in its solution-proposing and solution-evaluating stage. The peer translation addresses this problem by translating it into 荒唐的 (ridiculous), which is not very appropriate.

g. **Sentence ⑤.** This long sentence is divided into two halves by parentheses. The first half outside the parentheses talk about the Prime Minister’s calling off the power station and the reason for doing so, while the second half in parentheses proposes another possible reason for her actions. The participants not only need to adjust the sentence structures of both halves, but also need to consider whether or not to keep the parentheses. This translation problem is more demanding in its problem-identifying and solution-proposing stage. The peer translation has managed to rearrange the sentence structures without removing the parentheses.

h. **anti-Asian.** This might not look like a translation problem for many participants, as both “anti” and “Asian” are frequently encountered terms. The common translation of “Asian” in Chinese is 亚洲人 (Asian people). However, “Asian” in the U.S. has a broader connotation, referring to not only 亚洲人 (Asian people) but also 亚裔 (those of Asian descent). What the word “Asian” means in this text should be the latter rather than the former. The participants need to be sensitive to this cultural difference and translate the term in an appropriate way. This translation problem is more demanding in its problem-identifying and solution-proposing stage. The peer translation fails to identify and solve this problem.
i. **London.** It is a common practice for Western media to use the names of capitals to refer to governments, for instance, Washington referring to U.S. government. However, such use of metonym is not commonly seen in Chinese news writing. Although some translated news articles start to copy these terms in the translation, a more common way of dealing with them is still to add 方面 (part) after the names of capitals, for example, 北京方面 (the Beijing part). The participants need to be aware of the cultural difference and translates the term more appropriately. This translation problem is more demanding in its **problem-identifying** stage. The peer translation addresses this problem by translating it into 英国政府 (the U.K. government).

j. **succumbed to.** The literal meaning of this phrase is easy to understand, but how the app succumbs – shut down, paralysed or in other manner – is unclear. In order to translate it correctly, the participants will need to figure out what happened exactly. This translation problem is more demanding in its **solution-proposing** stage.

k. **Australia moved to block.** The whole sentence is simple to understand and translate. However, the participants need to be aware of their information gaps and search relevant background information in order to figure out whether “Australia” refers to Australian government or a certain Australian enterprise as well as to find out how Australia blocks the investment. It is only with a full grasp of the context that the participants are able to translate correctly and clearly. This translation problem is more demanding in its **problem-identifying** and **solution-proposing** stage.

l. **first new nuclear power station in 40 years.** When the participants search relevant background information online, they will find that many reports describe the nuclear power station as the first new one “in 20 years”, which is different from the “40 years” in the original text. The participants need to be sensitive to such differences in the statement of facts and go through more official information to make sure which information is correct and to take action accordingly. This translation problem is more demanding in its **problem-identifying** and **solution-proposing** stage.
m. The context. Having a good grasp of the context of the three events will greatly facilitate the participants in translating the text. In fact, as long as they have a full picture of the events in mind, the translation process will become much easier. This translation problem is more demanding in its problem-identifying and solution-proposing stage.

3.4 Analytical Method

Despite the limited size of participants, the longitudinal study was able to collect a great amount of rich and varied data in different forms. All the data were transcribed or processed for data coding and analysis, which will be introduced in the following sections.

3.4.1 Data sources

The main set of data came from the translation task-based interview. Four translation task-based interview sessions were conducted with each participant, which produced 24 screen recordings of the participants’ translation and revision processes, 24 audio recordings of the interview sessions and 24 observational notes. The translation processes lasted around 45 minutes to an hour and the revision processes lasted about 10 to 20 minutes. The interviews sections in each session lasted about 30 to 45 minutes. Apart from that, the data set also included each participant’s translation drafts and revision drafts in the interview sessions, which added up to altogether 48 translations.

Other data sources included the two questionnaires and the focus group. Among them, the audio recording of the focus group with three participants lasted about 2 hours. The audio recordings of the separate interviews with another two participants on the focus group topics lasted 30 minutes each. There was also a written response to the focus group questions from another participant, which, together with the written responses to the questionnaires, constitutes the rest of the data.

3.4.2 Analytical strategies

The collected data was first transcribed, and then coded in the qualitative data analysis software Nvivo 10. The proposed five translation problem-solving sub-activities were used as major analytical categories to conduct primary data coding, with a set of sub-categories developed in the process of in-depth data analysis. On the basis of the coded data subsets, an individual-focused data analysis and a group-focused data analysis were
conducted to reveal individual differences and identify shared patterns in the participants’
translation competence development paths.

Data transcription

The audio recordings and screen recordings were first transcribed before being processed
and coded in the Nvivo software. Since the focus of this research was on translation
problem-solving activities, the transcription of audio recordings also focused on the
contents of discussions on translation problem solving rather than on the presentation of
the discussions. In other words, short pauses, self-corrections and minor repetitions in
the discussions were not transcribed unless they were indicative of certain aspects of
changes in the participants’ translation problem-solving activities. The transcriptions
thus presented a focused set of data that could be processed and coded more efficiently.
(See Appendix 3 for an example of the transcription of audio recordings in the translation
task-based interview.)

The transcription of screen recordings was more complicated, as it involved the transfer
from visual presentation to written description. In other words, it was more of a
description than a transcription. There were two possible approaches to this descriptive
transcription: a problem-based description, or an activity-based description. A problem-
based description would be structured around the translation problems identified by the
participants. However, it would be difficult to categorise the contents of the screen
recordings under the different translation problems, and it would also be hard to tell from
the transcription the actual sequences of the problem-solving activities. Therefore, the
alternative activity-based approach was adopted, in which all the activities in the screen
recording were described in a plain but detailed way according to their original sequences.
For example, if the screen recording showed a participant conducting online research,
the descriptive transcription would be as follows:

Wang used keywords “China academy of Chinese medical science” to search on Google,
and read the quick result provided by Google Map that was displayed in the first place
without scrolling down.

In this transcription, the activities conducted by the participant – searching and reading
– were clearly described, with relevant information – the keywords, the quick result from
Google Map – also described in detail. The activity-based transcriptions thus produced
provided a full picture of the participants’ translation processes as shown in the screen
recordings. (See Appendix 4 for an example of the transcription of screen recordings in the translation task-based interview.)

**Analytical categories**

The transcriptions of the audio and screen recordings were then imported into Nvivo together with the participants’ translation and revision drafts for data coding. The translation problem-solving sub-activities were adapted into five major analytical categories for primary data coding. Text segments of the transcriptions reflecting or discussing different translation problem-solving sub-activities were identified and coded with the following analytical categories:

- **TPI** – translation problem identifying, used to code text segments related to the identification of translation problems.
- **TPR** – translation problem representing, used to code text segments related to the analyses of translation problems, discussions on solving strategies and reflections on problem-solving schemas.
- **TSP** – translation solution proposing, used to code text segments related to dictionary-consulting activities, online researching activities and alternative translation solutions.
- **TSE** – translation solution evaluating, used to code text segments related to the evaluation of alternative translation solutions and the peer translations.
- **TDM** – translation decision making, used to code text segments related to the final translation decisions, justification of the translation decisions and discussions on translation standards, principles and macro strategies.

The primary data coding with these major analytical categories divided the dataset into smaller data subsets related to different translation problem-solving sub-activities. This made it easier to have a rough idea of some changing tendencies, which facilitated more targeted data analyses. In the process of setting directions for more in-depth analyses, analytical sub-categories also emerged in response to the needs from the analyses.

**Analytical sub-categories**

The formulation of analytical sub-categories took both the theoretical framework and the needs from the analyses into consideration. Based on the predictions of competence development made in Section 2.4.2, a set of sub-categories were devised for each translation problem-solving sub-activity. In the process of data coding with these sub-categories, differences in the dataset also pointed to the need of further sub-categories.
With these different analytical sub-categories, the dataset was divided into various data subsets, on the basis of which the in-depth data analysis could then be conducted.

In the analysis of translation problem-identifying sub-activities, the following analytical sub-categories of identified translation problems were developed:

- Language-related problems, which included unfamiliar words, expressions, long and complicated sentences, comprehension, diction and other relevant problems.
- Culture-related problems, which referred to translation problems that resulted from cultural differences.
- Context-related problems, which referred to translation problems brought about by the lack of contextual knowledge.
- Situation-related problems, which included a variety of translation problems that were relevant to the commissioner, the source and target website/magazine/newspaper, the target readership, the censorship in the target culture and other problems that resulted from the very translation situation.
- Other problems, which included problems that were not covered by the sub-categories above.

In the analysis of translation problem-representing sub-activities, the following analytical sub-categories were devised to categorise the actions taken by the participants in relation to analogical problem solving and problem-solving schema acquisition:

- Analysis of problem, which referred to discussions on the categories, characteristics or causes of identified translation problems.
- Analogy between problems, which referred to the comparison of current problems with previous problems.
- Retrieval of strategies, which referred to the discussions on existing problem-solving strategies.
- Summary of strategies, which referred to the discussions on the summary of problem-solving strategies for certain categories of translation problems.

In the analysis of translation solution-proposing sub-activities, the following analytical sub-categories were formulated to describe the type of support and the source of information in the process of proposing translation solutions:

- Prior knowledge, which referred to the proposal of translation solutions without consulting any dictionaries or carrying out any online searching.
• Dictionary consulting, which referred to the dictionary-consulting activity in the process of proposing translation solutions.
• Online searching, which referred to the online-searching activity in the process of proposing translation solutions.
• Institutional/trustworthy source, which referred to trustworthy dictionaries, institutional websites, leading news portals and other reliable sources of information.
• Doubtable/unreliable source, which referred to machine translations, crowd-source websites, blogs, discussion boards and other sources of information that were less reliable and required credibility check.

In the analysis of translation solution-evaluating sub-activities, some analytical sub-categories were similar to those in translation problem-identifying sub-activities, but there were also other sub-categories that were related to the form of evaluation:

• Language evaluation, which referred to the evaluation of translation solutions in consideration of linguistic aspects, such as wording, syntax, information flow, sentence restructuring, paragraph arrangement and other relevant aspects.
• Cultural evaluation, which referred to the evaluation of translation solutions in consideration of the cultural differences.
• Translation context-related evaluation, which referred to the evaluation of translation solutions in consideration of the specific translation context.
• Translation situation-related evaluation, which referred to the evaluation of translation solutions in consideration of the translation situation such as the target website/magazine/newspaper, the target readership, censorship in the target culture, and so on.
• Intuitive impressions, which referred to the evaluation of translation solutions (in the peer translations) based on general impressions without articulating the strengths and weaknesses of alternative translation solutions.
• Critical judgement, which referred to the critical evaluation of translation solutions (in the peer translations) with clear reasons for the judgement.

In the analysis of translation decision-making sub-activities, the following analytical sub-categories were used to categorise the translation decisions:

• Uncertain decisions, which referred to the translation decisions that the participants were not sure about.
• Intuitive decisions, which referred to the translation decisions that the participants were not able to explain or justify.
• Reasoned decisions, which referred to the translation decisions that were explained, justified or defended by the participants.
• Macro strategies, which referred to the translation decisions that were governed or influenced by macro translation strategies.

**Data analysis**

On the basis of the coded data subsets, it was then possible to carry out more targeted data analysis. An individual-focused data analysis was conducted first. This analysis attempted to identify each participant’s changes in their translation problem-solving activities in the translation task-based interview sessions with the aim of mapping their individual translation competence development paths. The analysis of each participant’s translation problem-solving processes triangulated data from the observation of their translation processes, the interview sections on translation problems, the translation and revision drafts, the focus group responses and the questionnaire results so as to describe and analyse their changes and developments more comprehensively. In the process of conducting the individual-focused data analysis, some shared patterns also became evident, which laid the foundation for the ensuing group-focused analysis.

The group-focused analysis was structured around the translation problem-solving sub-activities. This analysis attempted to identify development patterns in each sub-activity that were shared by the majority or all of the participants. It aimed to identify not only prominent development trends but also emerging development tendencies in the different sub-activities. Similar to the individual-focused analysis, the group-focused analysis also triangulated data from all sources to give a fuller picture of these shared patterns. Findings from these analyses are presented in the following two chapters.
Chapter 4 Mapping individual competence development paths

The aim of this chapter is to discuss the participants’ individual translation competence development paths observed from their translation problem-solving processes. For each participant, a brief summary of their translation problem-solving activities in the four TTBI sessions is presented, followed by a detailed discussion of some prominent aspects of their competence development or stagnation as reflected in certain translation problem-solving sub-activities. In these discussions, the observed changes in different aspects of problem-solving activities are described, analysed and explained from a translation problem-solving perspective and based on data gathered from the translation task-based interviews, the questionnaires and the focus group. In this chapter, Sections 4.1 to 4.6 provide detailed analyses of each participant’s most prominent and distinctive competence development paths reflected in their translation problem-solving activities. Section 4.7 summarises the features and suggests the reasons for these individual differences.

4.1 Wang: from linguistics-oriented to translation-oriented

In the four TTBI sessions, Wang demonstrated steady and all-around progress in her translation problem-solving activities. She became more capable of identifying translation problems beyond the language level and better at analysing problems to retrieve problem-solving strategies. She gained confidence in proposing contextualised translation solutions more independently and took more aspects into consideration when evaluating translation solutions. In the meantime, she also showed an increased awareness of the importance of macro translation strategies and their influence on translation decisions. In general, Wang made considerable progress in her translation problem-solving activities and developed her translation competence to a large degree.

Previously a student of Language Sciences in France, Wang was new to translation at the beginning of the MATIS programme, with little confidence in her translation competence. However, towards the end of the academic year, she had become more confident and more competent in translation, transforming from a linguistics student to a translation learner. In this process, two aspects of changes were most prominent. One prominent change lay in Wang’s solution-proposing sub-activities, in which her regained
confidence in native language abilities enabled her to strike a better balance between internal and external support. The other was observed in her decision-making sub-activities, in which her expanded and updated perception of translation helped develop her own philosophy of translation and guide her translation decisions.

4.1.1 Regained confidence in Chinese writing

In Wang’s translation solution-proposing activities, her confidence in her own Chinese language abilities played a key role in her changing reliance on internal support and external support. In the first session, she constantly consulted dictionaries and searched online during her translation process. Her reliance on dictionaries was to some extent restrained. For most of the unfamiliar words, she was able to come up with her own – though very similar – solutions after reading explanations in the dictionaries. The reliance on online resources, however, was more excessive. In fact, she relied on websites to such a great extent that she was misled by online resources to propose incorrect translation solutions for a translation problem. When translating *Located on a shady street in the Old City*, the first few words of the second paragraph that described the location of the academy, Wang consulted the “About Us” section on the academy’s institutional webpage, which provided accurate information on the location. When she continued to translate *welcomes visitors with* in the same sentence, she went back to the webpage to look for translation solutions again. This time she found a similar phrase (welcomes all the patients), which in fact had nothing to do with the phrase in the source text. However, Wang simply copied the expression from the webpage and pasted into her own translation without further thinking, which resulted in an incorrect translation. When asked why she would copy the expression directly from the website, Wang explained that she did not trust her own Chinese language abilities and wanted to find more appropriate wording from online resources. In other words, her excessive reliance on online resources could be largely attributed to her lack of confidence in her own language abilities. As Wang further explained, she was worried about her degraded Chinese language abilities as she had been studying abroad since her undergraduate years. In the interview sections, she also complained a lot about her native language abilities and stressed that she needed to work on her mother tongue. This clearly demonstrated that in this session, Wang did not trust and therefore did not want to rely much on her internal support in solution-proposing sub-activities.
In the second session, Wang began to show less reliance on both dictionaries and online resources. Before starting to type any translation, she first looked up all the unfamiliar words and expressions in the dictionaries and wrote down brief annotations beside. When she started to translate, she rarely consulted dictionaries again, and proposed translation solutions that were different – in some cases vastly different – from previous annotations. This indicated that in this session, she consulted dictionaries in order to help to comprehend the source text rather than help to propose translation proposals for the target text. When asked why she did so, Wang explained that “what the dictionaries provide do not necessarily fit into the context”\(^4\) and pointed out that it was necessary “to adapt the meaning to the context and make changes”. In other words, she became more aware of the importance of internal support in solution-proposing sub-activities. In the meantime, Wang also showed reduced reliance on online resources. Unlike in the first session where she constantly went back to read and even copy from online resources, in this session she only did online contextual research at the beginning and did not resort much to websites in the process of translating. Although she still complained about her lack of Chinese language abilities, she was already able to depend more on her own language abilities than on online resources.

In the third and fourth sessions, Wang continued to demonstrate more restrained reliance on both dictionaries and online resources. In both sessions, she consulted dictionaries and searched online mostly at the beginning of her translation process to facilitate the comprehension of the source text. Once the barriers to comprehension were removed, she was able to rely on her own language abilities most of the time to propose translation solutions. In the third session, she already started to feel more at ease with her native language abilities. Although she was still dissatisfied with her Chinese language abilities, she did not complain about the issue that much. This was further improved in the fourth session, where Wang became more confident and efficient in proposing translation solutions on her own. She remarked that she has become “more capable of speaking Chinese”, whereas in the past she “had the obvious feeling that [she] could not express [herself] very clearly”. She attributed such a change to her several trips back to China.

\(^4\) The quotations from the participants were translated from Chinese by the present author. Note that the participants occasionally spoke English in the interviews, and in such cases, these English words were italicised to be distinguished from the English translations. In some cases, necessary explanations were also added in square brackets by the author to facilitate the understanding of the participants’ words.
during that period, where she got to practise her Chinese language abilities more often and thus regained confidence in her native language abilities.

To sum up, in the four sessions, Wang demonstrated an increasingly balanced reliance on internal and external support, in which her regained confidence in her own native language abilities played a major part. She was able to propose translation solutions more independently and more creatively, and the translation solutions thus proposed were also more likely to fit into the specific context of the translation. Dictionaries and online resources no longer served as a source of ready translation solutions but as a tool for proposing translation solutions on her own. It was in this process of balancing two sources of support that her translation solution-proposing sub-activities became more efficient and contextualised, which consequently facilitated other problem-solving sub-activities.

4.1.2 Towards a personal philosophy of translation

In the translation process, how translators perceive translation could have a great influence on their translation decision-making sub-activities. Through the four sessions, Wang was able to expand and enrich her perception of translation, which helped her formulate more reasonable macro translation strategies and make more justified translation decisions. In the first session, Wang only had a vague idea about what the final translation should look like. She stressed the importance of fluency, stating that “it should read 通顺” (tong shun, meaning clear and coherent). Reading the peer translation which had rewritten the original text to a large degree, she remarked that one should avoid “being too far away from the source text or adding too much of one’s own” and stressed that her task was “to translate, to transform a source text into a target text” and therefore she should be “忠实” (zhong shi, meaning faithful) to the process. It was clear from her words that, at this stage, she focused on the linguistic aspects of translation and regarded translation as merely the transformation of a text from one language to another. A most likely reason for this perception was that Wang studied language sciences in her undergraduate years, and was therefore prone to see translation as a transfer between languages.

In the second session, Wang continued to perceive a good translation as one that “reads 通顺” (tong shun). However, when she read the peer translation, she commented that
the peer translation was good not only in that its language was “通顺” but also in that “its register was suitable for the magazine, for the news article”, while hers was “relatively colloquial”. When she revised her own translation, she decided that the register of the revised translation should be between her “colloquial translation” and the “excessively literary” peer translation. Therefore, the revisions made by her were mostly related to the register and were aimed at a more “neutral” “news article language”. This indicated that towards the end of this session, Wang’s perception of translation already started to expand: she no longer perceived translation as a purely linguistic activity but began to see it as a more complicated activity that involved a translation situation and demanded a certain register.

In the third session, Wang demonstrated a further enriched perception of translation. In the post-translating interview, she pointed out that some expressions in the source text had “derogatory implications regarding China” that needed to be “adjusted” to “neutral” tones as a measure of “self-censorship”. This showed that she had developed a more comprehensive perception of translation at this time: translation was far from a purely linguistic activity but a complicated communicative activity that concerned not only the translation situation but also discourse and power relations. It was also based on such a perception that she made and justified some of her translation decisions. Moreover, in this session she also started to consider translation as a professional activity that needed to conform to translation conventions: she paid special attention to the format of the articles on the target website and accordingly adjusted her own format in dealing with the author name and the date of publication.

In the fourth session, Wang’s perception of translation became more dynamic. She recalled her reading experience of news translations and pointed out that “the on-going translation activities, the news translation nowadays” actually required the translators “not to lose themselves in pursuing 信达雅” (xin da ya, an ancient Chinese translation theory that called for faithfulness, expressiveness and elegance in translation) but to “be able to domesticate”. Therefore, in this session when she translated, she was no longer constrained by the source text but was able to adopt a more flexible translation strategy and to translate with greater freedom. In her own words, she was attempting to “cultivate [her] translation competence in rewriting and translating creatively”. This also indicated
that at this time, she had further expanded her perception of translation to regard it a complicated communicative activity that sometimes also involved editing and rewriting.

To sum up, in the four sessions, Wang demonstrated an increasingly expanded perception of translation. From perceiving it as a linguistic transformation, she gradually expanded and enriched her perception and finally perceived it as a complicated communicative activity that involved a particular translation situation, cultural communication, professional requirements, power relations, editing and rewriting. Such a change in perception influenced her thoughts on macro translation strategies. In the focus group she pointed out that in the past she was always trying to “be faithful to the source text” but now she was trying to “rewrite and translate creatively” with the final aim being that “finally [she] would be able to do whatever is demanded, to translate with greater freedom and more creatively or to be faithful to the source text and translate rigidly…just whatever is demanded by the commissioner”. Thus, in the process of constantly updating the perception of translation, Wang was also developing her own philosophy of translation, which would help her formulate macro translation strategies and make reasoned translation decisions in future translation activities.

4.2 Tang: checked progress

Among the six participants, Tang was the only one to have majored in translation and interpreting previously in her undergraduate years. At the beginning of the programme, this seemed to be an advantage for her, as most other participants had less or even no previous contact with translation. She was therefore quite confident in her translation competence. However, towards the end of the programme, she became less confident in her translation competence and remarked that she had much less confidence in her translation and pointed out that if she had scored 4 (fairly competent) at the beginning, she could only score 3 (moderately competent) at the end of the academic year. While most other participants believed that their translation competence had developed to varying degrees, Tang was the only one to believe that her translation competence had decreased rather than increased.

Tang’s translation competence had not necessarily decreased, however, if looked at from the perspective of translation problem solving. In the four TTBI sessions, she did demonstrate progress in some, if not all, of the translation problem-solving sub-activities. For example, she became more capable of identifying translation problems related to the
translation situation in later sessions. She also demonstrated a higher level of independence and creativity in solution-proposing sub-activities at first, though she later became less confident in doing so. Some progress was also observed in her solution-evaluating sub-activities as she took more aspects into consideration, but such progress was unsteady as she was sometimes reluctant to clear up doubts. In other words, positive changes in some of her translation problem-solving sub-activities were observed, but most of these emerging changes had not yet turned into established ones.

4.2.1 Sharpened awareness of the translation situation

The most prominent development in Tang’s translation process was found in her problem-identifying sub-activities, in which she not only became more aware of the importance of problem identification but also became more capable of identifying complex translation problems. In the first session, the translation problems identified by her in the pre-translating interview and in her translation process were all language problems. In the pre-translating interview, she used different labels to mark different types of language problems: unfamiliar words, collocation, phrases, proper nouns, terminologies, and sentence structure. In her translation process, she mainly focused on solving those translation problems identified in the pre-translating interview, without identifying further problems. In the post-translating interview, her discussion on translation problem-solving activities was also largely about language problems. It was in the pre-revising interview when she read the peer translation that she came to realise the existence of more complex translation problems. For example, when she read the translation of *six-foot* in the peer translation, she suddenly realised that it was an intercultural translation problem and she should have converted the measurement unit for the target readers. This indicated that Tang was already familiar with the problem type but had not yet developed enough problem awareness to identify such problems in her own translation process.

In the second session, Tang was able to identify more translation problems beyond the language level in her own translation process, though at a rather late stage. After she had finished her first round of translation problem-solving activities, Tang went back to scan-read the original news article on the *Economist* website, and suddenly turned to search for its Chinese localised website. She later explained that she was trying to “see the register of parallel texts”. The search for the Chinese localised *Economist* website
demonstrated that Tang had become aware of the problem of register, but the rather late appearance of this problem-identifying sub-activity indicated that either she was not aware of the problem until then, or she identified the problem early but did not attach great importance to it. No matter which was the case, Tang demonstrated sharper problem awareness from then on. When she read the translation of the news headline *Three Wise Men* in the peer translation, she realised that she should have visited the target website to find out about the conventions of news headlines. She thus browsed the *VISTA* website and read through several pages of news headlines before pointing out that the translation of the news headline was a major problem, because the news headlines in the *VISTA* magazine were mostly long ones.

In the third session, Tang continued to be sensitive to the translation situation and translation conventions, and was able to identify relevant translation problems at an early stage in her translation process. At the beginning of her translation process, she set out to search for the Chinese localised website of *Wall Street Journal* in order to find out “how they would translate the term *South China Sea*”, “how they would translate author names and dates of publication” and “whether they would provide original English names in parentheses after the Chinese translation”. This revealed that at this time, she attached great importance to the translation convention on the target website and regarded it as an important translation problem that needed to be tackled first. In her translation process, she was also able to identify *notorious* and *aggressive* as translation problems and point out their offensive implications to the target readers, demonstrating a stronger awareness of translation situation-related problems. Apart from that, she also identified her lack of background knowledge as a translation problem in the pre-translating interview, which did not happen in the first two sessions. However, she did not seem to treat it as a major translation problem, as she ignored this problem and started to translate without conducting any context research first. It was only when the translation process was blocked by a contextual knowledge gap that she finally began to find out more about the background of the topic.

In the fourth session, Tang demonstrated even sharper awareness of the translation situation and the translation convention. In the pre-translating interview, she pointed out that the news headline *China – Unwanted Investor* was problematic as it sounded offensive to Chinese readers. At the beginning of her translation process, she was also able to identify the translation convention of the target website as a major translation
problem and attempted to solve this problem first. In fact, she spent quite some time reading translated commentaries on the target website and even tried to compare a translated commentary with its original article in order to figure out to which extent the articles were adapted or rewritten on the target website. This indicated that Tang had become increasingly capable of allocating more cognitive resources to problem-identifying sub-activities and, even at the pre-translating stage, she was able to identify more complex translation problems. However, in this session, Tang did not identify her lack of contextual knowledge as a major translation problem in the pre-translating interview as she had done in the third session, although she admitted in the post-translating interview that she knew little about the topics under discussion. In her translation process, she also did contextual research only when the process was blocked. It seemed that she was not yet fully aware of the contextual gap as a potential major translation problem.

To sum up, in the four sessions, Tang demonstrated gradual progress in her translation problem-identifying sub-activities. She not only paid increasing attention to the translation situation and translation conventions, but was also able to identify these translation problems earlier in her translation process. Although the benefits of identifying these translation problems were not necessarily reflected in her translation product immediately, from the perspective of translation problem solving, she was making some progress in developing her translation competence. The turning point was observed in the second session, where Tang tried to find out about the register on the Chinese localised website, but then realised that she should look at the target website to find out the translation conventions. She attributed this increased attention to register to a course module she had been taking in the second semester, where the importance of register was emphasised. In some sense, this theoretical concept served as the trigger for her improved translation problem-identifying activities.

4.2.2 Motivation and confidence

The preceding section gave a sketch of Tang’s progress in problem-identifying sub-activities. In other problem-solving sub-activities, however, no such prominent progress was observed. In fact, even though Tang identified more complex translation problems, she did not always solve these problems successfully. There seemed to be some hindrance
in her translation problem-solving activities, which prevented her from achieving progress in translation competence development.

One observation from Tang’s translation problem-solving activities was that she was not very motivated to clear up doubts in her translation process. In other words, she knew that something was wrong with her translation or that some doubts needed to be clarified, but she just took no further action. For example, in the first session, she pointed out in the post-translating interview that she still felt uncertain about several translation decisions and that she “should have looked at more institutional websites to find the corresponding translations” of the terminologies. However, in the revision process when she had the opportunity to search further online, she did not really attempt to look at more institutional websites. Even when she discovered that the peer translation provided a different translation of a medical term, she chose to ignore it without further evaluating the solutions. In the post-translating interview in the second session, she also commented that the translations of some words and expressions, for example, diagnosis and in their real names, were quite “odd” and needed revising. Even so, she did not make further efforts in revising these “odd” translations into more appropriate ones. Similarly, in the third session’s post-translating interview, she pointed out that her translation of a United Nations court was probably incorrect as she had not yet found the right information online. When she was asked to revise her translation, however, she did not go on to search for the right information but just left the translation as it was. It was the same case in the fourth session, where she was not satisfied with her translation of the news headline and thought it would be better if turned into a sentence, but just gave up revising it in the revision process.

In most cases, Tang knew where further efforts should be made but just failed to take action in her translation and revision processes. This lack of motivation to clear up the doubts prevented her from proposing appropriate translation solutions or evaluating translation solutions more thoroughly, often resulting in uncertain and unsuccessful translation decisions. In fact, in the focus group when the participants were asked to discuss whether and when they wanted to have access to peer translations, Tang was the only one to answer that she wanted to read peer translations at the pre-translating stage so that many of her own translation procedures could be reduced and that she would be able to understand the source text without having to search for background information.

When other participants argued that Google search and parallel texts could easily provide
the information needed, Tang simply replied that “it would be too much trouble”, which explained her reluctance to take further actions even when she clearly knew what to do.

In the focus group, Tang also revealed that she was reluctant to reflect upon her translation problem-solving activities. When asked whether she would think about the translation task and her translation process after each session, she responded that she “would not think about it and would forget fast” and admitted that she had “basically forgotten the translation tasks done before”. When other participants pointed out that they had become more capable of categorising translation problems from reading books on specific translation strategies, Tang held the opposite opinion and claimed that she did not think she had become more capable of doing so and that she did not know much about general translation strategies for categorised translation problems, either. Moreover, when the participants were asked whether they would reflect upon or summarise the translation problems they encountered, Tang also gave a negative reply and said that she would probably not. Tang’s negative replies revealed that she did not make an effort to reflect upon her translation problem-solving activities, neither did she try to summarise or memorialise problem-solving strategies for specific problem types. This reflected her low motivation in learning about translation, which also explained her lack of progress in most translation problem-solving sub-activities.

In fact, at the beginning of the programme, Tang did not demonstrate such a low motivation in translation. This drop in motivation seemed to be related to her reduced confidence in her own translation. In the first two sessions, Tang was generally satisfied with her own translation, although she did feel that the peer translation had demonstrated a better mastery of language. From the third session onward, however, she began to feel dissatisfied with her own language abilities. In the post-translation interview of the third session when she was asked whether any new problems had been identified during the translation process, Tang did not answer the question but pointed out that she felt that “something was wrong with her Chinese writing”. She explained that it was because her tutor had commented that her writing did not read like Chinese writing but more like a translation. This was clearly a blow to her confidence. In the fourth session, she continued to talk about this issue, this time early in the pre-translation interview. When she noticed that there were some long sentences in the translation task that constituted translation problems, she became rather worried. She recalled that her tutor had remarked that she was not good at dealing with long sentences, as when she tried to break down
long sentences into short ones, she often shifted the original emphasis of the sentences and produced misleading translations. This comment obviously bothered her, as she struggled with the sentence structure for a rather long time in her translation process. In the focus group, she brought up the issue again and complained that she had little confidence in her translation at the end of the programme.

To sum up, low motivation, together with reduced confidence, had prevented Tang from improving her translation problem-solving activities in the four sessions. With low motivation, she did not reflect much upon translation problem-solving activities or make more efforts in proposing and evaluating solutions. With reduced confidence, she also had difficulty in proposing translation solutions and making reasoned translation decisions. Therefore, although she became more capable of identifying complex translation problems and demonstrated some progress in some other problem-solving sub-activities, the lack of motivation and confidence kept her from making more prominent progress in her translation competence development.

4.3 Shan: practice plus reflection equals progress

In the four sessions, Shan demonstrated fast and steady progress in her translation problem-solving activities. She became increasingly sensitive to translation problems beyond the language level and paid more attention to the translation situations and subsequent problems. She was also able to make analogies between new and old translation problems to facilitate the problem-solving process of new problems. She showed restrained reliance on dictionaries and online resources and became more capable of proposing viable solutions on her own. In the meantime, she also became more critical and more cautious in evaluating different translation solutions, able to take more aspects into consideration. Moreover, she also developed an increasingly stronger awareness of the importance of macro translation strategies to govern her translation decisions. In a word, Shan made significant progress in her translation problem-solving activities and developed her translation competence to a large degree.

Shan was not the only participant who had made prominent progress in translation problem-solving activities, but some changes and development observed from her translation process and captured in her interview sections were indeed unique. Compared with other participants, she seemed to have reflected more upon her own translation
problem-solving activities, learned more from reading and evaluating the peer translation and become more sensitive to the importance of a consistent translation strategy.

4.3.1 Towards a more defined translation strategy

From the first session to the fourth session, Shan’s changes in terms of developing a macro translation strategy were very prominent. In the first session, she did not have a clear translation strategy or the awareness of formulating one. The turning point was in the pre-revising interview in the second session, where she started to pay attention to the macro translation strategy adopted in the peer translation. From then on, she had grown the awareness to develop her own translation strategy, which was observed in the third and fourth sessions. In the fourth session, she even started to experiment with a new macro translation strategy in order to see what influence it would have on the final translation product.

In the first session, Shan did not really have a clear macro translation strategy. In the post-translating interview when she was asked about the reason for adding information and adjusting sentence structures, she explained that she wanted to make sure that the translation was easy to understand. However, later when she was asked to evaluate some translation solutions, she hesitated and pointed out that maybe she “should just follow the source text”. This indicated that in her translation process, she did not have a clear idea of what the translation product should look like or what macro strategies she should adopt. Although she did occasionally mention some macro translation strategies, she did not seem to have realised the role of such macro strategies in her translation process. In the pre-revising interview when she read the peer translation, she paid little attention to the macro translation strategies adopted by the peer translator, either. This indicated that in this session, Shan’s translation decisions were largely made on a case-by-case, unconnected basis.

In the second session, Shan began to show an increasing awareness of the importance of a macro translation strategy. In the post-translating interview, she reported that she was “constantly trying to recall how the authors of VISTA would write this article, and what attitudes the authors of the Economist would have”, which indicated that she was beginning to formulate a macro translation strategy in consideration of the translation situation. However, at this point, she was not yet able to develop a clear translation strategy. Shan was still hesitating about her translation decisions, as she pointed out in
the post-translating interview that if she had more time, she “would try to think from the perspective of the original author and adjust the wording and tone”. The turning point appeared when she read the peer translation. The difference between her translation and the peer translation reminded her of two different macro translation strategies: “foreignising” and “domesticating”. In the pre-revising interview, she evaluated and compared the peer translation with her own translation from the perspective of the two macro strategies, and concluded that the peer translation had “adopted a domesticating strategy in general although there was occasionally some literal translation”. She then realised that she needed to “have a direction before starting revising” and decided that she would “stay close to the original text” and “just follow the direction of foreignising”. It was clear that towards the end of this session, Shan had already started to pay great attention to macro translation strategies.

In the third session, Shan demonstrated an even stronger awareness of the importance of formulating a macro translation strategy. In the post-translating interview, she reported that at the very beginning of her translation process, she was already thinking about what strategy she should adopt in her translation. Recalling that in the preceding session she used “a more foreignised strategy”, she pointed out that in this session she “kind of combined both” as she “adopted [the author’s] position” and also “added some background knowledge” and “adjusted some sentence structure” for the Chinese readers. After some hesitation, however, she concluded that what she adopted was “a predominantly domestication strategy”. Her hesitation revealed that she was still not quite certain about the macro strategy in her translation process. Later, when she tried to justify a translation decision, she hesitated again and pointed out that her strategy was “at first to reflect the author’s standpoint” and “second, to domesticate, to make it read more fluently and at the same time to add some information”. It seemed that it was in the process of talking about her translation strategies that she gradually became more certain about the macro translation strategy she was adopting. In the pre-revising interview, she also paid great attention to the macro translation strategy reflected in the peer translation and even started to discuss what “domesticating” really meant as a macro translation strategy. It was clear that in this session, Shan was not only able to formulate and analyse her own macro translation strategies, but was also beginning to reflect more upon the strategies and their consequences.
In the fourth session, Shan not only demonstrated a sharpened awareness of macro translation strategies, but also became more capable of consistently following such strategies in her translation decision-making activities. At the beginning of the post-translating interview, she stated that her macro translation strategy was “to say things more explicitly” and “to add extra information”. This strategy was followed quite strictly in her translation process. When she needed to decide, for instance, whether to make the names of people and projects explicit, she followed the macro translation strategy and chose to provide all the additional information. Later, when she read the peer translation and found that some information could be made even more explicit, she decided to add such information in her own translation and explained that if she wanted to implement her macro strategy of making things more explicit, then such information should be provided. In this session, Shan was intentionally experimenting with consistently following a macro translation strategy and was also curious to find out what the final translation would look like when her translation decisions were governed by a macro strategy. This indicated that she had been thinking a lot about the role and function of macro translation strategies in the translation problem-solving process.

Shan was the only participant who had demonstrated constant progress and an obvious tendency towards a habit of developing macro translation strategies in her translation process. The awareness and formulation of a macro translation strategy facilitated her in making translation decisions with increased confidence and justification. It also enabled her to see the macro translation strategy adopted by the peer translation and evaluate more macro aspects of the peer translation. According to Shan, it was based on her “summary of previous experience” that she gradually paid more attention to macro translation strategies. However, considering that other participants did not make such prominent progress, it seemed that merely a summary of previous translation experience did not necessarily arouse the awareness. The reason for the progress was more likely to be due to her reflection upon her own translation problem-solving processes and analysis of the peer’s translation processes.

4.3.2 Curiosity and self-reflection

The interviews with Shan indicated that she was a self-reflective learner with a curiosity about both translation product and translation process. In the pre-revising interviews in all the four sessions, Shan demonstrated a high level of curiosity about the peer
translation. She not only paid attention to the different translation solutions provided by the peer translation, but also tried to analyse and figure out why the peer made the translation decisions. For example, in the first session, when she found that the peer translation reversed the information order of the latter part of the second paragraph, she tried to guess the reason and pointed out that it was probably because “the source text had longer description of the ancient statues, which could be placed first so that the brief introduction to the quotation would end the whole description”. She did not stop here but went on to summarise that, in Chinese writing, what was important should come last and in the paragraph under discussion, the quotation was indeed something that triggered the readers’ imagination. In the process of guessing and explaining translation decisions in the peer translation, she was also summarising translation strategies for her own future translation problem-solving activities. In other sessions, Shan was also interested in analysing the peer translator’s translation process most of the time. In fact, in the focus group when the participants were asked whether they wanted to have access to others’ translation process, Shan replied that she would very much like to see the entire translation processes of good translators. It was also in this process of trying to analyse how the peer translator considered and solved translation problems that she learnt to take more aspects into consideration in her own translation problem-solving process.

Apart from showing curiosity about the peer’s translation process, Shan was also highly reflective when she read the peer translation. Unlike some other participants who merely talked about the peer translation in the pre-revising interview, Shan took the initiative in comparing her own translation solutions with those in the peer translation. In most cases, she would comment on the solutions provided in the peer translation first, and then reflect upon her own translation solutions and point out what aspects she failed to consider or why she was not able to think of similar solutions. For example, in the pre-revising interview in the second session when she compared the translation of the news headline, she commented that she just translated Three Wise Men directly into 三智者 (three wise men) without further thinking and the readers would not be able to tell from the headline what the article was talking about. The peer translator’s translation of the headline, however, was “quite bold” and she herself “could not think of such a way [to translate] at first”. Shan went on to comment that the peer translator adopted the strategy of “domesticating” in translating the news headline, but she “was simply not able to think of this”. In the process of making such an analysis, she was actually reflecting upon her
own translation process, which enabled her to become more aware of what she could have done in her own translation. In fact, in the interview sections Shan was often talking about what she should have done in her translation processes, which was a clear indication that she was actively thinking about what improvements could be made in her translation problem-solving activities. In doing this, Shan had turned the activity of reading a peer translation into the activity of learning about alternative translation problem-solving processes. This was probably one of the mains reasons why she was able to demonstrate more prominent progress in translation problem-solving activities than other participants did.

In some cases, Shan was also prompted by the translation task and the peer translation to reflect upon her translation practice beyond the TTBI sessions. In the post-revising interview in the second session, she reflected upon her own translation style and realised that she tended to “foreignise” in her translations. She explained that as she was only a translation beginner, she “tended to follow the original style” and “even if the target text was intended for a [writing] textbook, [she] would probably still adopt the strategy of foreignising”. In the post-revising interview in the third session, she pointed out that the reason she was able to make the revisions was that she had read the peer translation and “discovered the shortcomings in [her] own translation”. She went on to reflect upon her general translation practice and remarked that if she translated on her own and wanted to spot these shortcomings, she would need to “be more patient”, and otherwise those points she used to neglect in her own translation process would “become real problems”. Similarly, in the pre-revising interview in the fourth session, she also reflected upon her own translation style when reading the peer translation. Speaking highly of the wording in the peer translation, she pointed out that she “would not immediately think of these popular words but would usually think of more literary, rigid words or words from dictionaries”. It was in this process of comparing and self-reflecting that Shan was able to internalise what she had learnt from the peer translation and the interview sessions, which would also help improve her future translation problem-solving activities.

Furthermore, Shan also reflected upon the theoretical concepts learnt from translation course modules. In the interviews, she often reflected upon the latest theoretical translation concepts she had learned about and thought about their application in the current translation task. For example, towards the end of the second session, she mentioned that she had just learned about “the concept of commissioner” and realised
that she “should have asked [the researcher] which macro translation strategy was more appropriate”. In the third session after she had talked about the strategies of domesticating and foreignising and justified her own translation strategy, she also began to reflect upon the translation strategies and to think more deeply about what the translation strategies exactly meant and what influence they would have on the translation product. In fact, she had learned about some of these theoretical concepts in her undergraduate years, but she had not reflected upon these concepts or associated them with her translation practice until in the second session. According to her, it was in the postgraduate programme that she got to discuss the concepts more thoroughly and apply them to her own practice. Learning about theoretical concepts, when combined with active reflection, had become an effective tool for Shan in improving her translation problem-solving activities.

4.4 Gong: the plateau period

As a self-learner in translation, Gong, though he majored in electrical engineering, had already managed to pass a translation qualification exam in China and had also done some freelance translation before starting the MA programme. Therefore, at the beginning of the programme, he was more experienced in translation than most other participants. However, towards the end of the programme, he did not seem to have made as much progress as other participants had. In problem-identifying sub-activities, he was sensitive to problems related to languages and cultures, but paid little attention to specific translation situations or translation conventions. In problem-representing sub-activities, he was able to analyse translation problems and retrieve solving strategies from previous experience, but did not reflect much upon or summarise recent translation problems. In solution-proposing sub-activities, he was capable of proposing translation solutions based on his own knowledge in most cases, showing less reliance on dictionaries and online resources than other participants. In solution-evaluating sub-activities, he was usually able to give detailed evaluation of translation solutions but tended to ignore the translation situation. In decision-making sub-activities, he also largely relied on his own perception of what a good translation should be, sometimes irrespective of the specific translation situation.

In the four sessions, Gong maintained a high level of translation competence and produced high-quality translations. He translated at a quick pace, identifying and solving translation problems without much deliberation. In the interview sections, he was able to
evaluate translation solutions in detail and justify his translation decisions in his own judgement. However, in many aspects where other participants had made progress and developed stronger awareness, Gong seemed to have remained the same. The observation of his translation process revealed that many of his translation problem-solving activities seemed to have become automatised and routinised, which guaranteed his translation speed and quality but also impaired his improvement in translation problem-solving activities.

4.4.1 Practice, experience and accumulation

In order to prepare for the CATTI translator qualification exam, Gong had done a lot of translation exercises provided by relevant reference books. In this process, he was constantly encountering and solving new translation problems, which later became familiar problems or even ceased to be problematic after repeated practice. The mechanism behind repeated practice, as was already pointed out in Section 2.4.2, was a process towards automatisation and routinisation. Through repeated practice, Gong was able to solve familiar translation problems without causing too much cognitive burden and to allocate more cognitive resources to solving unfamiliar and complex translation problems. In the pre-translating interviews, he identified fewer translation problems (usually two or three unfamiliar words only) and perceived the translation task to be less difficult than other participants did. In the translation processes, he also translated more fluently than others did, demonstrating far fewer deliberate translation problem-solving activities. Meanwhile, he had also accumulated specific solving strategies for different categories of translation problems from reading relevant books on translation strategies. This to some extent facilitated him in analysing translation problems and retrieving corresponding solving strategies. In the focus group, he also acknowledged that he usually had a general idea of how the identified translation problems should be solved and that those problems he did not know where to start with were very few.

A prominent feature of Gong’s translation process was that he relied predominantly on his own prior knowledge in his translation problem-solving activities. In the pre-translating interview of each session, he was able to give a sketch of the background information and even comment on the topic. In the first session, he was so familiar with the topic that he simply translated the medical terms Artemisinin and Artemisia annua without resorting to dictionaries or online resources. In the second session, he pointed
out the relation between the real names and nicknames of the three economists after just a glimpse of the news article. In the third session, he was capable of talking about the South China Sea dispute and its implications although he was not that familiar with the presidential election. Even in the fourth session where most participants knew very little about the ongoing events, Gong remembered having read about the topic before. With a good or at least basic knowledge of the context, Gong usually started to translate directly without having to search for the background information beforehand. This was probably also a reason why he perceived the translation tasks to be rather easy.

In the meantime, Gong’s rich general knowledge also enabled him to propose and evaluate translation solutions on his own. In the four sessions, he consulted dictionaries and searched online resources much less than other participants did. When he did look up words and expressions in dictionaries, he only glanced quickly at the translation result and then turned to think of his own translation solutions. Similarly, he occasionally searched online for the translations of institutes and names but rarely searched for specific translations of words or expressions. It was clear that his prior knowledge sufficed to support his translation solution-proposing and solution-evaluating activities most of the time. In some cases, he was even capable of drawing relevant knowledge from other disciplines to help him propose translation solutions. For example, in the fourth session, he proposed to translate moment in *It seems a good moment* into 契机 (opportunity) because he remembered that in Japanese it was common to express similar meanings with this word. In this case, his knowledge of Japanese grammar, which seemed to have little to do with the current English-Chinese translation task, inspired him to propose the translation solution.

Gong’s problem-solving activities also reflected his perception of what a good translation should be. In the first session, he pointed out that he had read “too many 生硬的 (*sheng ying de*, meaning “stiff”) translated articles” and remarked that “about 70% of the translated works [he had] read had that kind of feelings, they read so unnatural”. His unpleasant personal experience as a translation reader in China had urged him to produce more natural translations that read more fluently. This influenced his solution-evaluating and decision-making activities. He paid a lot of attention to the readability of the translation solutions when he evaluated his own translation solutions and also the peer translation. The macro translation strategy reflected in his translation problem-solving
activities was also a pursuit of more fluent and natural translations that read more like original Chinese writings than translated articles.

To sum up, repeated practice, together with accumulated knowledge, skills and experience, enabled Gong to translate fast and well. In the four sessions, he showed very similar patterns of translation problem-solving activities and few prominent changes were observed in his translation process. His translation problem-solving activities seemed to have become automatised to some degree, with his own translation routines developed. Prominent changes and development thus became less likely unless he took deliberate practice to improve his own translation competence.

4.4.2 The stagnation of competence development

Although Gong was able to deliver translations of good quality and at a good speed, it did not mean that his translation problem-solving activities required no improvement. In fact, some of his personal advantages in the translation process were also potential – and in some cases real – disadvantages to his translation problem-solving activities. In the four sessions, there were several aspects where Gong could have made progress.

In the four sessions, Gong seemed to pay little attention to the specific translation situation and the translation problems thus caused. Unlike other participants who gradually paid more attention to translation problems related to the translation situation (e.g. translation convention, register, format) and also devoted more efforts to solving these translation problems, Gong was mainly focused on identifying and solving language and intercultural problems in all the four sessions. In fact, he was able to spot and comment on further problems when the peer translations showed consideration of the specific translation situation, but in the following sessions he continued not to take the translation situation into account in his own translation process. In the focus group, Gong also mentioned that they were asked to write translation briefs for some coursework, but in the sessions, he did not demonstrate much awareness of the translation commissioner or the target magazine/website. It seemed that he had developed awareness of the importance of the translation situation but had not really incorporated it into his translation process unless he was reminded of it. One possible reason for this could be found from his discussion on his personal translation style in the focus group, where he said that he preferred “to express the opinions of the source text faithfully but to use more sentences and structures that read more naturally to Chinese readers”. This macro
translation strategy had become a fixed strategy for almost all of his translations regardless of the specific translation situations. Even when he was indeed aware of the translation situation, he still opted to follow his own macro translation strategy. For example, in the post-revising interview of the third session, he admitted that “to translate for domestic books and magazines, one might need to revise the political stance” but insisted that he “personally believed it was the fact irrespective of how [the readers] would feel about it”. Therefore, although he was aware of the translation situation and its implications, he just did not want to attach much importance to it.

Gong’s prior knowledge facilitated him in proposing and evaluating translation solutions, but sometimes also prevented him from identifying potential knowledge and contextual gaps. For example, in the first session, he believed that there was no need to search for further background information as he already knew enough about the topic under discussion. However, if he had done a little more contextual research to familiarise himself with Western perspectives on the topic, he would have understood why the academy felt elevated, or bewildered. Similarly, in the fourth session, he also could have translated the last sentence correctly if he had found out more about the power-purchase contract. However, it was only when he read the peer translation that he realised the contextual gap and admitted that he did not know that France and China were participating in the same project. Compared with other participants who knew nothing at all about the topic but were able to find necessary background information, Gong already knew something about the topic but unfortunately failed to propose appropriate translation solutions due to a lack of sufficient contextual knowledge. It seemed that in order to translate more correctly, he needed to achieve a better balance between internal support and external support in his translation problem-solving processes.

Gong’s perception of what a good translation should be like sometimes prevented him from formulating more flexible macro translation strategies, as well. In the four sessions, his macro translation strategy remained the same regardless of the specific translation situation. Where other participants attempted to incorporate theoretical concepts of translation into their macro translation strategies in later sessions, Gong’s translation strategy was mostly focused on the language of the translation. Although he also talked about the peer translation’s macro translation strategies in theoretical terms, he seldom mentioned these concepts when discussing or justifying his own translation decisions but
resorted to his sense of language most of the time. In the focus group, he also confirmed that “intuition played an important part” in his translation decision-making activities.

To sum up, the four translation tasks provided some room for improvement to be demonstrated in Gong’s translation problem-solving activities. In most cases he had already come to be aware of the gaps and shortcomings, but more time was needed for him to turn such awareness into real action. One possible reason for this stagnation of competence development was that the translation tasks were relatively easy for Gong, who did not need to allocate many cognitive resources to addressing these translation problems. In other words, for other participants the translation tasks could be regarded as a form of deliberate practice, in which they encountered and solved new translation problems and developed their translation competence, whereas for Gong there was not enough deliberate practice in the translation tasks. It could therefore be assumed that at the current stage, he was more or less in a plateau period. In order to move on from the period and truly develop his translation competence, Gong needed to take more deliberate practice and reflect more upon his translation problem-solving activities.

4.5 Wu: the (waning) influence of interpreting

Wu had a strong interest in translation and interpreting, planning to become a freelance translator and interpreter since her undergraduate years. At the beginning of the MA programme, she showed great enthusiasm in learning practical translation and especially interpreting. In fact, she was so preoccupied with interpreting that she kept practising interpreting for several hours almost every day for a long period, which to some extent directed her attention away from practising translating and also exerted influence on her translation practice. The existence of such an influence could be clearly observed from Wu’s translation problem-solving activities in the four sessions, especially in the first two sessions.

In the first two sessions, Wu translated in a way rather similar to (sight) interpreting, where she started to translate almost immediately without conducting contextual research and finished translating very quickly without much revision. It was only in the latter two sessions when she had ceased to practise interpreting frequently that she began to slow down her translation process, showing more deliberation in her translation problem-solving processes. In these final two sessions, she expressed dissatisfaction with her translation speed, complaining that she was translating so slowly and interruptedly.
However, from the perspective of translation problem solving, in these two sessions she was in fact making progress in some translation problem-solving sub-activities. More specifically, in the final two sessions, Wu showed an increased awareness of translation problems beyond the language level and was more willing to analyse identified translation problems. She resorted to online resources more often, which improved her solution-proposing and solution-evaluating activities. In addition, she also displayed more creativity in her translation decisions, although there was still an absence of clear macro translation strategies.

4.5.1 From prior knowledge to online resources

Like Gong, Wu also relied primarily on her prior knowledge in her translation problem-solving activities. She showed a restrained reliance on dictionaries in the sessions and searched online resources only in the latter two sessions. This partly explained why she spent less time than most other participants in completing the translation tasks. However, unlike Gong, there was often gap in Wu’s prior knowledge that undermined her translation problem-solving activities. Sometimes, her inadequate knowledge of languages and backgrounds impeded her from proposing appropriate translation solutions or making comprehensive solution evaluations. At other times, her lack of knowledge about the context also led to failure in comprehending the source text or representing the translation problems.

In the first two sessions, Wu showed obvious reluctance to search online in her translation solution-proposing and solution-evaluating activities. In the first session, where other participants (including Gong) used search engines to find the Chinese name of China Academy of Chinese Medical Sciences, Wu opted to translate it on her own without consulting dictionaries or searching online. She explained that she just translated the name based on her understanding of its meaning as she thought it should be “similar to 中国社科院, the Chinese name of the China Academy of Sciences”. Therefore, feeling that there was “no need to bother to find it online”, she translated the name into 中国医科院 (China Academy of Medical Sciences), which in fact referred to a different institute. Similarly, in the second session, she translated octogenarian incorrectly into 花甲 (in one’s seventies), which she felt uncertain about but did not attempt to search online. In the post-translating interview, she pointed out that she did not know whether 花甲
referred to one’s seventies or one’s eighties. In the pre-revising interview, she found that the peer translation used the word 耄耋 (in one’s eighties or nineties), which confused her more as she was not sure about whether this was correct, either. Even so, when she set out to revise her own translation, she simply changed 花甲 into 耄耋 without looking them up dictionaries or searching online explanations. When asked if she was sure about the revision, she simply questioned whether it was that important to say 花甲 or 耄耋, and ended the discussion impatiently, saying, “forget it, I shall just let it be”. In the same session, she also translated “central planning” wrongly into 中央集权 (centralised power) instead of 计划经济 (planned economy), also due to the lack of adequate knowledge about the term. It was obvious that at this stage, Wu did not want to devote time or efforts to searching for extra information even when there was great uncertainty in her translation problem-solving activities.

In these first two sessions, Wu’s reluctance to search online also prevented her from acquiring enough knowledge about the context to understand the source text or analyse translation problems. In the first session, she lacked enough knowledge about Western media’s perspectives on the topic to understand elated, or bewildered in the first sentence, and was therefore unable to grasp the core structure of the sentence. In the post-translating interview, she pointed out that she was doubtful about the first sentence as she did not know the relation of the two adjectives, which in her view should not be in juxtaposition. Even so, she just proceeded with the translation without looking for more background information to help her understand the sentence more clearly. Similarly, in the second session, she was unable to see the relation between the nicknames and the real names of the economists, also due to her lack of enough knowledge about the three economists. In the pre-translating interview, she acknowledged that she only knew one economist’s name from reading the Chinese pinyin in the source text. However, in her translation process, she simply used the smart Chinese input method (which suggests several possible Chinese characters for the pinyin typed) to type the other two economists’ names without further online search. Consequently, she translated the name Li Yining (厉以宁) wrongly into 李一宁, the name of a famous athlete with the same pinyin. It was only when she felt increasingly odd about the name that she searched 李一宁 and 厉以宁 on Google and then changed the translated name into the correct one. Even so, she just glanced at the search results without reading more information about the economists.
As she had little prior knowledge about these economists and had neither read the whole original article nor searched their information online to learn about the nicknames, it became impossible for her to detect the relation between the nicknames and the real names. In fact, in the post-translating interview, she also expressed doubts about her translation of the nicknames, pointing out that she was unsure about market, shareholding, liberal and did not know to what these were referring.

In the last two sessions, Wu began to show more willingness to resort to external support when she proposed and evaluated translation solutions. For example, in the third session, after reading relevant news articles and websites, she translated admired but checkered past into 政绩卓然但争议不断 (with outstanding political achievement but constant controversies), which was an interpretation of the original expression. In the post-translating interview, she explained that at first, she did not think of expressions like 政绩卓然, but as she read relevant Chinese reports online, she was able to summarise the meaning of the expression and propose appropriate solutions. In this case, it was the extra information provided in online resources that enabled Wu to propose more contextualised translation proposals. Similarly, in the fourth session, when she translated “slammed the brakes on”, she first proposed 喊停 (call stop) and then 紧急喊停 (call an emergent stop), but later changed it into 紧急进行干预 (conduct urgent intervention). In the post-translating interview, she explained that it was in the process of reading relevant online reports that she realised the prime minister did not directly decide not to sign the contract but just delayed it at that time, so 干预 was more appropriate than 喊停 as it was more of intervention than cancellation. It was also with the help from online resources in this case that Wu was able to evaluate existing translation solutions and propose alternative ones.

In these last two sessions, Wu’s online search activities were not merely prompted by difficulties in proposing or evaluating translation solutions. Instead, she was able to identify her lack of knowledge about the background as a major translation problem and to tackle it at an early stage of her translation process. In the third session, she spent quite long time looking for background information online, trying keywords like “南海争端” (South China Sea conflict), “2016南海争端Trump”, “Duterte South China Sea”, “Rodrigo Duterte populist outsider” and so on. When she had already had a general picture of the topic in mind, she finally started to translate the article. Likewise, in the
fourth session, Wu also began to search for background information shortly after she finished looking up unfamiliar words in the dictionaries. She searched all the three events with keywords like “snapchat 亚洲” (Asia), “澳大利亚中国电网” (Australia China power grid) and “英国中国核电站” (UK China power plant) on Google and read relevant reports carefully. With a clearer idea of the different events mentioned in the commentary, she was then able to proceed with her translation with more confidence.

A prominent difference between Wu’s translation problem-solving activities in the first two sessions and the last two sessions was thus the extent to which she relied on external support. She gave several reasons for this sudden increase in her reliance on online resources. In the post-translating interview in the third session, she explained that it was because she knew nothing about the political topic and that she was used to translating in a way similar to sight interpreting in the first two sessions. The latter seemed to have played a more important role in the change, as in the first two sessions her insufficient background knowledge (which was also admitted by her in the second session) did not prompt her to search for contextual information. She also pointed out that she “probably developed a habit [of translating immediately without contextual research]” when she attended the first two sessions, because she had been practising interpreting more frequently during that period. Although she felt doubtful sometimes in the translation process, the habit of translating in a way similar to interpreting prevented her from pausing the translation process to search for more background information. In the third session, however, she confessed that she had stopped practising interpreting for quite some time due to heavier burdens from other course modules. When the influence from interpreting began to die down in the third session, she began to translate with more deliberation and to take time to find background information. The influence from interpreting was further reduced when she worked on her dissertation. As she pointed out in the post-translating interview in the fourth session, her dissertation focused on culture-specific items and she needed to search for a lot of background information to find out the causes of the problems. In this process, the influence from interpreting was taken over by the influence from her practical translation experience in her dissertation, which helped her understand the importance of context research in translation problem-solving activities.
4.5.2 Reduced speed and increased potential

When Wu, under less influence from interpreting, slowed down her translation process, changes emerged not only in her reliance on online resources but also in other aspects. One prominent aspect was that she showed more creativity and flexibility in her translation process in the latter two sessions. In both the third and the fourth sessions, she rearranged the paragraphs in her translation based on her own understanding of the source text. In the third session, she combined the first paragraph (which described the populist outsider) and the second paragraph (which introduced Duterte) as she believed that it would be “more coherent” to put the questions and those who ask the questions closely together, otherwise there would be an “interruption in understanding”. She also adjusted the order of the sentences in the original second paragraph for she did “not consider its original order” but “understood its meaning and then wrote the sentence based on [her] own comprehension”. Similarly, in the fourth session, she also combined the second paragraph and the third paragraph into one, as she thought that it would read “more comfortably” if the three cases were brought together in the same paragraph. When translating at a lower speed, Wu was able to display more subjectivity in her translation and to consider more aspects when she identified and solved translation problems.

Another change was that Wu devoted more time and efforts to evaluating translation solutions before making final translation decisions in the fourth session. In the first three sessions, she finished her translation processes as soon as the last sentence was translated and never went back to read the translation or make revisions. However, in the fourth session, she went through the translation and evaluated the solutions after the draft translation was produced, and even looked for more background information in order to evaluate the appropriateness of the translation solutions. When asked why she did so, Wu explained in the post-translating interview that she did not feel that “smooth in the translation process, with remaining doubts in some places” and wondered whether this was a good or bad phenomenon. This indicated that Wu’s increased solution-evaluating activities observed in this session were more prompted by her doubts than initiated by her determination to evaluate translation solutions more thoroughly. Nevertheless, it should still be regarded as a form of progress. As she continued to treat translating as translating rather than interpreting and to have more deliberation in her translation problem-solving processes, it was very likely that more changes were yet to emerge.
4.6  Liu: moderate progress

Like Wang, Liu also majored in applied foreign languages in her undergraduate studies. However, unlike Wang who had no previous practical translation experience, Liu had taken translation course modules and also had the opportunity to do 10,000 words of translation before starting the MA programme. Therefore, Liu shared some of Wang’s progress in translation problem-solving activities but also differed from her in some aspects. In the four TTBI sessions, Liu had made moderate progress in most of her translation problem-solving activities. In problem-identifying sub-activities, she was able to identify more varieties of translation problems and with increased attention to the translation situation. Few problem-representing sub-activities were observed from her interview sections, but in the focus group she reported that she had started to think more reflectively on her own translation processes. In solution-proposing sub-activities, she became more capable of proposing translation solutions based on the specific context. In solution-evaluating sub-activities, she was able to take a wider range of factors into consideration so as to see the appropriateness of translation solutions. In decision-making sub-activities, she also showed awareness of macro translation strategies occasionally and became more confident in her translation decisions.

The most prominent progress observed from Liu’s translation problem-solving activities was her growing awareness of the translation situation and the possible translation problems thus caused. In the meantime, she also became more confident and more satisfied with her translation decisions, which was reflected both in her translation process and the interviews.

4.6.1  Increased attention to the translation situation

In the first two sessions, Liu was mainly focused on language problems. In the first session, she only identified unfamiliar words and proper nouns as translation problems in the pre-translating interview, and mostly talked about language and comprehension problems in the post-translating interview. It was in the pre-revising interview when she read the peer translation that she discovered more translation problems related to culture and translation situation. In the second session, she began to show more variety in the translation problems she identified. In the pre-translating interview, she not only identified unfamiliar words and expressions, but also pointed out that the news headline
*Three Wise Men* constituted a problem as it might have some cultural implications and that the humorous writing style was also a problem as the source text “seemed to be funny on purpose”. However, even though she identified the writing style as a translation problem, it seemed that she treated it more as a language problem than as a translation situation-related problem that involved both the source magazine and the target magazine. In fact, in these two sessions she never mentioned the target magazine or the target readership, which indicated that these theoretical concepts had not yet aroused enough attention from her or entered her translation practice.

In the third session, Liu began to show awareness of the translation situation in her problem-identifying activities. Apart from unfamiliar words, expressions and structure of paragraphs, she also pointed out that one thing “vitaly important to the translation” was the viewpoint of the news article, which was “to a large extent from an American perspective”. In the post-translating interview, Liu continued to ponder over the viewpoint. At the beginning of the interview, she remarked that she “doubted whether this translation could be published” as she was “wondering who the target readers would be”. In fact, if she had paid attention to the translation situation specified in the task requirement, she would be able to have a general idea of the target readership. Although she became aware of the existence of the translation situation in this session, she was not yet able to analyse the specific translation situation and thus failed to find out about the target website or its target readership.

In the fourth session, Liu paid more attention to the translation situation when she identified translation problems. At the beginning of the pre-translating interview, she was curious about the target website. When she started translating, the first thing she did was to visit the target website and read several articles on the website. In the post-translating interview, she pointed out that what “bothered” her most in her translation was the target website guancha.cn, as she was not sure about “the intention of translating this commentary – to be quoted in an [original Chinese] commentary or to be posted as a translated commentary on the website”. This showed that Liu not only paid more attention to the target website, but also analysed the translation situation carefully and regarded it as an important problem that would influence her other translation problem-solving activities.
From the first session to the fourth session, Liu’s change in identifying translation situation-related problems was obvious. According to her, this growing awareness of the translation situation mainly came from two course modules she attended, where concepts like the commissioner and the target readership were stressed. Although she was not necessarily capable of solving these translation problems at the moment, being able to identify these problems served as a good starting point for her to improve her translation problem-solving activities.

4.6.2 Strengthened confidence in translation decisions

From the first session to the last session, Liu became more confident in her translation decisions, which was reflected both in her translation processes and in the post-translating interviews. In her translation process, Liu had a habit of highlighting uncertain translation decisions in the translation draft. In the first session, she highlighted words and expressions from almost every sentence of her translation during her translation process. When she finished translating, she was still not able to make the final decisions, keeping most of the highlights in the translation. In the post-translating interview in this session, she was also doubtful about most of her translations. When asked why she made a certain translation decision, she often replied that she was actually not sure about it. In the second session, much fewer highlights were left at the end of her translation process. In the post-translating interview, she was also more willing to explain and justify her translation decisions rather than question them herself. In the third session, she only highlighted a few words during the process and then removed all the highlights after the solutions were re-evaluated and final decisions were made. In the fourth session, no more highlights were seen in her translation (although she did highlight a sentence in the source text which was deleted in her own translation). She became more decisive in her translation process, with less hesitation in the decision-making sub-activities.

Liu also demonstrated a changing pattern in her perception of the peer translation, which further indicated that she became more satisfied with her own translation decisions in the four sessions. In the first session, she spoke highly of the peer translation, commenting that the peer translation was “more fluent” and “more readable” with “more literary rhetoric” while her own writing was “not that good” with “relatively simple diction”. When she noticed differences between her translation and the peer translation, she tended to praise the peer translation and criticise her own translation decisions. In the second
session, however, she began to be able to see some inappropriate translations in the peer translation. For example, she pointed out that the peer translation’s 摇动中国摇摇欲坠的经济体系 (shake up China’s teetering economic system) was inappropriate as it created a picture of “a building on the verge of collapse” and “how come one would ever think of shaking it”. In the third session, she became more capable of commenting on the peer translation from a broader perspective. Summarising that the peer translation adopted a “domesticated” translation strategy, she attributed the differences to the different macro translation strategies they adopted. She also justified her translation decisions by pointing out that she preferred to convey the original author’s standpoint for it was a political commentary and that the peer translator’s domesticating strategy was not necessary unless the task was trans-editing. In the fourth session, she continued to be critical of the peer translation, commenting that “the sentences before the parentheses were quite clear but those within the parentheses were just too lengthy”. Unlike in the first session where she was merely looking for what was good in the peer translation and what was bad in her translation, in the later sessions Liu was able to have a more balanced view of the peer translation and to criticise her own translation less.

There could be several possible reasons for such a change in Liu’s confidence in her own translation decisions. One reason could be that she was more capable of making her translation decisions under a macro translation strategy (e.g. to convey the style in the second session and to foreignise in the third session), which in turn gave her more reason to justify her translation decisions. Another possible reason was that she translated in an increasingly relaxed state, which to some extent reduced her strictness with her translation decisions and consequently raised her satisfaction with and confidence in her own translation.

4.7 Individual differences in competence development: summary

The preceding sections have presented a general picture of each participant’s translation problem-solving activities and discussed in detail their prominent changes and developments through the four sessions. It is evident that in translation competence development, individual difference does exist and does matter. How different are these competence development paths? What are the possible reasons for these differences? These two questions will be discussed and answered in this section.
4.7.1 Describing individual differences

A glance at the titles of the sections and subsections in this chapter shows that they pointed to very different competence development paths. The differences were manifested in several aspects. They were first reflected in the different translation problem-solving sub-activities. Some participants showed more prominent developments in their problem-identifying sub-activities; both Tang and Liu sharpened their awareness of the translation situation. Some participants demonstrated more interesting changes in their solution-proposing and solution-evaluating sub-activities; Wang and Wu both struck a new balance between their reliance on internal support and external support. Some participants made more distinctive progress in their decision-making sub-activities; Shan developed a stronger awareness of the macro translation strategy. Other participants encountered stagnation of development in most of the translation problem-solving stages; Gong seemed to be in a plateau period, making no prominent progress through the four sessions.

Even in the same translation problem-solving sub-activities, the development paths varied. For example, in translation solution-proposing sub-activities, Wang became more capable of proposing translation proposals on her own instead of excessively relying on external support. Meanwhile, Wu learnt to resort more to external support to clear up doubts and supplement relevant contexts rather than predominantly relying on her own prior knowledge. In translation problem-identifying sub-activities, Tang started to pay attention to the target magazine and its translation convention from the second session, while Liu showed an increased awareness of the translation situation and the target website only from the third session and paid no attention to translation conventions until the final session. The trends and destinations of their developments might be similar, but their paths were clearly different.

The different development paths were not necessarily consistent throughout the four sessions, either. Some changes happened only in the latter sessions. For example, Tang did not lose confidence in her translation solution-proposing activities until the third session and a check in progress could thus be observed from her final two sessions. However, Wu’s prominent progress was found in the last two sessions, where she was less influenced by interpreting and was thus able to devote more cognitive resources to
identifying and solving translation problems more successfully. Similarly, Liu also showed an increased awareness of the translation situation only in the last two sessions.

4.7.2 Possible reasons for individual differences

There could be many possible reasons for these differences in competence development paths. One important reason was the participants’ different academic backgrounds and previous practical translation experience. Their academic backgrounds influenced their perceptions of translation to some extent, while their previous experience in translation might also have helped them develop some habits and routines that could be difficult to change. For example, Wang studied linguistics in France in her undergraduate years with no previous experience in translation, which influenced her problem-identifying and solution-proposing activities. As she was new to translation with no relevant experience but only a good knowledge of linguistics, she tended to focus on language problems without paying attention to other translation problems at first. She also lacked confidence in her Chinese language abilities, for she had been studying abroad for several years with very few chances to practise writing in Chinese, which resulted in her difficulty in proposing translation solutions on her own in the first two sessions. Gong had not studied in a translation or language-related undergraduate major but had learnt to translate by himself by reading Chinese textbooks on translation, preparing for translation qualification exams and doing some freelance translation. However, his lack of knowledge about theoretical concepts on translation results in his failure in identifying some macro-level translation problems, for example, related to the professional aspects of translation. He had formed his own perception of what a good translation should be, which led to his consistent macro translation strategy regardless of the specific translation situation. Moreover, he had developed his own translation routine to some extent, which also impeded him from identifying subtle translation problems or making more reasoned translation decisions.

Another factor that matters in the participants’ competence development paths was their learning motivations. Learning motivations to a large extent influenced their learning attitudes and consequently learning outcomes. For example, Shan was a highly motivated learner. She was interested in nearly all the course modules and treated the course modules she had taken rather seriously, reflecting a lot upon what she had learnt and giving positive comments on the modules. She also demonstrated a very earnest and
reflective attitude throughout the four sessions. In each session, she tried her best to
complete the translation task and was willing to share her opinions and doubts in the
interviews. When she read the peer translation, she not only saw the advantages and
disadvantages of the peer translation, but also actively reflected upon her own translation
problem-solving activities and summarised what she could have done better. These
reflections were often turned into improved translation problem-solving behaviours in
the following sessions, indicating that she had truly internalised the reflections to develop
her translation competence. By contrast, Tang had a relatively low motivation from the
start. As she had studied translation before, she did not seem to be as enthusiastic about
the MA programme as other participants. She was not interested in many of the course
modules and even for those she had taken, she gave negative comments and claimed that
she had not learnt much from these modules. Her motivation further dropped when her
translation was criticised by her tutor as unnatural and her Chinese language abilities
were judged as not good enough. She began to doubt herself and lost confidence in her
translation problem-solving activities, especially solution-proposing and solution-
evaluating sub-activities. She lacked the motivation to clear up doubts and it also became
more difficult for her to make reasoned translation decisions.

The participants’ different learning methods also contributed to their varied competence
development paths. For example, Wang was a theory-oriented learner who liked to
summarise personal strategies and theories from current practice and then to apply and
test them in future practice. In the first session, she knew little about theoretical concepts
on translation and therefore mainly applied theoretical linguistic concepts to her
translation problem-solving activities. During the intervals between the sessions,
however, she took theory-oriented course modules and also read some Chinese
theoretical discussions on translation, which assisted her in gradually developing her
personal strategies and theories about translation. In applying them to her translation
process in the latter sessions, she was then able to update her personal strategies and
theories. It was in this process of applying theories to practice and summarising theories
from practice that Wang improved her translation problem-representing activities and
developed her translation competence. Compared to Wang, Wu’s learning methods
appeared to be more arbitrary. She was particularly interested in interpreting and spends
most of her time practising interpreting only, which led to her interpreting-style
translation problem-solving activities. She did not summarise or reflect much upon her
translation practice, nor did she read extra articles or books on translation strategies and theories. When she began to show more deliberation in her translation problem-solving activities, it was only because she had stopped practicing interpreting for some time and found it difficult to translate as fast as before.

The different translation practice-oriented course modules taken by the participants also influenced their competence development paths, although the extent of such influence could be affected by other factors such as their learning motivations. For example, according to Wang, the Literary Translation: Contexts and Challenges course module enabled her to perceive translation as a more professional practice, which in turn helped her identify more macro-level translation problems in her translation process. Similarly, Tang learnt about the importance of the commissioner from the Literary Translation: Contexts and Challenges course module and was therefore able to sharpen her awareness of translation problems related to the translation situation. Liu’s increased attention to the translation situation came from the Literary Translation: Contexts and Challenges and Translation Project Management and Professional Ethics course modules, where the concept of target readership was repeatedly discussed. Shan reported to have benefitted a lot from Translating for International Organisations, where concepts like the commissioner, the context and the parallel text are introduced and the importance of the format were stressed. Consequently, a growing awareness of these concepts and aspects was observed in her translation problem-solving activities. Interestingly, the compulsory theory-oriented course modules were seldom mentioned by the participants, although many of the concepts they learnt from the practical course modules were also discussed in the theory-oriented ones. This indicated that at least in the participants’ perceptions, they learnt more from practice than from theoretical discussions.

Apart from the reasons discussed above, there could also be other possible reasons for the different competence development paths. The participants’ reading experience could play a role in the differences. Those who had the habit of reading news articles would probably have a better idea of the conventions of a translated news article and find it easier to propose some frequently used news vocabularies as translation solutions. The participants’ moods and energy levels might also affect their translation problem-solving activities in certain sessions. For example, if they attended the sessions in a good mood with no preoccupations on their mind, they were more likely to stay focused and active in their translation process, otherwise they tended to be easily distracted and tired.
To sum up, this chapter has mapped the participants’ different individual competence development paths. It is perhaps surprising to find that even among this small group of translation learners, the individual differences are too prominent to be ignored. However, if the proposed theoretical framework of translation competence and its development is taken into consideration, such differences are easier to understand. As is pointed out in Section 2.4.2, in the development of translation competence, the translation problem-solving ability and the KSAs do not develop at the same pace. Even within the development of the translation problem-solving ability alone, the progress in various translation problem-solving sub-activities can be uneven and inconsistent. Furthermore, the participants in this research had different previous experience and attended different course modules with different learning motivations and approaches. All these differences inevitably resulted in the vastly different translation competence development paths. However, it did not mean that there would be no similarities in the participants’ competence development paths. In fact, there were also some shared patterns in their translation competence development, which will be discussed in detail in Chapter 5.
Chapter 5 Identifying shared patterns in translation competence development

The preceding chapter has mapped the participants’ individual development paths of translation competence, which showed prominent individual differences. Despite these individual differences, there are also some similarities among the participants that transcend the differences and demonstrate shared patterns. In this chapter, these shared patterns in different translation problem-solving sub-activities will be identified and discussed. Sections 5.1 to 5.5 present a detailed discussion of one or more shared patterns in each translation problem-solving sub-activity. Section 5.6 summarises the features of these shared patterns and offers tentative explanations for these similarities.

5.1 Towards an expanded perception of translation problems

From the first TTBI session to the final TTBI session, one change that was shared by the majority of the participants in their translation problem-solving activities was that they became more capable of identifying a broader range of translation problems before or during their translation processes.

In the first session, the majority of the participants only identified language problems – unfamiliar words and expressions and complicated sentence structure – in their pre-translating interviews. Two participants even believed that as long as the unfamiliar words and expressions were looked up in the dictionaries and the complicated sentences were comprehended, there would be no problem in translating the source text. Later in the post-translating interview, most of the participants identified further translation problems. However, most of these further identified problems were still language problems that were related to either the comprehension of the source text or the wording of the target text. Occasionally, some participants were able to identify problems beyond the language level. For example, four participants identified their lack of contextual knowledge as a translation problem in their translation processes, although only one participant explicitly pointed out this problem in the post-translating interview. Two participants mentioned the readership as a translation problem, but they only considered general Chinese readership rather than the specific target readership for the translation task. The difference in measurement units in the two cultures was also identified by two
participants as translation problems in their translation processes. Apart from these, the identified translation problems were all limited to language problems.

In the final sessions, however, the translation problems identified by the participants in the pre-translating interviews became quite different. Most of the participants identified not only language problems but also other problems related to the context, the translation situation and the translation conventions. Even those who did not identify their lack of contextual knowledge as a translation problem in the pre-translating interviews later identified and tackled this problem at an early stage of their translation processes. The translation situation (e.g. the source website and the target website) was identified as a translation problem by three participants in the pre-translating interviews and further identified by another two participants – although one of them only paid attention to the source website – in the post-translating interviews. The translation problems identified by the participants in the post-translating interviews were more diverse. Two participants identified the translation conventions on the target website as a translation problem that required attention. One participant identified the information accuracy of the source text as a translation problem while another participant pointed out that the skopos of the translation assignment also constituted a major translation problem. It was evident that in the final session, the majority of the participants identified a greater variety of translation problems than they did in the first session.

If only the first session and the final session were considered, the changes in problem-identifying sub-activities seemed to be rather abrupt. However, these were in fact gradual and progressive changes from the first sessions through the second and third sessions to the final sessions, and many of the changes emerged in the second or the third sessions. The identification of the lack of contextual knowledge as a translation problem served as a good example. In the second session, no participant identified their lack of contextual knowledge as a translation problem in the pre-translating interview. However, two participants identified and set out to solve this problem at the beginning of their translation processes and another participant noticed this problem in the middle of her translation process. In the third session, the situation was further improved. In the pre-translating interview alone, three participants pointed out that their lack of contextual knowledge constituted a major problem to understanding and translating the text. Another two participants were not able to identify this problem in the pre-translating interview but immediately conducted context research when they started to translate,
which indicated that they also regarded it as an important translation problem that needed to be tackled first.

The changes in the participants’ problem-identifying sub-activities emerged not only from their translation processes but also from the revision processes. In the pre-revising interviews and sometimes even the post-revising interviews, further translation problems were identified by the participants from reading the peer translations and revising their own translations. For example, Tang did not pay much attention to the target magazine/website in the first session. It was in the pre-revising interview of the second session when she read the peer translation that she suddenly realised the need to check the target website to find the conventions of translated news headlines. From then on, she became more capable of identifying translation conventions as a major problem. In the third and fourth sessions, she was able to identify the translation conventions as a translation problem at the beginning of her translation processes. In this case, the change first emerged in the pre-revising stage in the second session before it became more prominent in the pre-translating stage and translation processes in the third and fourth sessions. In other words, it was likely for emerging traces of a change to be found in the current session, but the change itself might only become more evident in the following sessions.

In the focus group, all the participants agreed with the statement “I am capable of identifying a broader range of translation problems now than one year ago”. The additional comments some participants provided on this statement, however, pointed to two different perceived reasons for such a change. Some participants believed that it was brought about by their increased theoretical knowledge about translation; other participants attributed it to accumulated practical translation experience. Wang and Shan both believed that their enriched knowledge about translation theories and the translation profession enabled them to identify more complex translation problems. Wang pointed out that she became more capable of identifying translation problems from a “professional [translator’s] perspective”. Shan remarked that she translated with “major attention to language problems” prior to the MA programme, but the increased knowledge about “different translation strategies, different translation decisions, and then the format of translated texts and the background knowledge” enabled her to identify more translation problems at the end of the programme. Wu and Liu attributed this change to their accumulated translation experience during the academic year. Wu
indicated that it was from the translation mistakes she made in previous translation tasks that she came to realise that the lack of background knowledge could be a major translation problem. Liu also argued that the change did “not come from the course modules but from the translation assignments”, and it was in the process of completing the assignments that she was able to “discover increasing [varieties of] translation problems”.

Whether the change came more from theoretical input, practical experience or other factors might depend on individual circumstances, but they could all be boiled down to a broadened understanding of “translation problems”. It was with an expanded and enriched perception of translation problems that the participants were able to identify more categories of translation problems in the later sessions. A major reason that the participants were not able to identify the translation situation as a translation problem in the first session was that back then, they did not know that the translation situation would constitute a translation problem. The language problems were easy to identify, as the unfamiliar words, expressions and complicated sentences created obvious barriers to their translation process. The problems beyond the language level, however, were more difficult to identify, for they did not necessarily block the translation process. It was therefore understandable that the participants were not able to identify other problems beyond language problems. When it came to the final session, the translation problems identified by the participants indicated that they had expanded their understanding of translation problems. The translation situation was identified by five participants to be a translation problem and three of them were able to do so in the pre-translating interviews. This revealed that the translation situation as a translation problem had already entered most of the participants’ general perceptions of potential translation problems. In fact, in the second, third and final sessions, some participants’ expanded perceptions of translation problems also included the translation conventions, the general style of the source/target magazine/website, the translation skopos and other macro-level aspects of the translation tasks that brought potential translation problems.

5.2 Analogue problem solving: emerging awareness

In the four sessions, the majority of the participants did not talk much about their problem-representing sub-activities in the interview sections. Few explicit analogue problem-solving sub-activities were captured in the interviews. However, most of the
participants occasionally attempted to analyse translation problems, to refer to general solving strategies or to reflect upon their problem-solving processes, which indicated an emerging awareness of analogical problem solving.

Although the four translation tasks contained similar translation problems, most of the participants seldom referred to the old problems they had encountered in previous translation tasks when similar problems were identified in the current translation tasks. For example, both the second and the fourth translation tasks required the participants to translate a news headline. In the second session, some participants realised from reading the peer translation that they needed to conform to the conventions of writing news headlines on the target website/magazine. However, when they were translating another news headline in the fourth session, no one compared it with the translation of the news headline in the second session, let alone retrieving solving strategies from the previous headline translation to translate the current headline. It was the same with other repeated or similar translation problems such as measurement units, time references and sentence structures. Few participants made analogies between current problems and previous problems to retrieve corresponding translation problem-solving schemas.

The stagnation in analogical problem-solving behaviour was in a way understandable. The four translation tasks were conducted at intervals of two or three months, which made it difficult for the participants to recall translation problems in preceding tasks unless they had made an effort to memorise the problems. Given that news translation was not part of their course modules and that most participants were translation novices, it was likely that they had not solved enough similar translation problems to develop problem-solving schemas for certain categories of translation problems. It was also likely that even though the participants had encountered similar translation problems elsewhere, they either lacked the awareness to construct problem-solving schemas or failed to draw analogies between translation problems to retrieve problem-solving schemas.

Although the participants did not talk much about explicit analogical problem-solving activities, some of them did occasionally demonstrate an awareness to analyse the nature of translation problems, which could be regarded as a sign of emerging analogical problem-solving activities. For example, in the first session when Wang was discussing the restructuring of the long sentence in the second paragraph, she pointed out that the problem lay in “the syntactical difference between English and Chinese, as English
writing prefers to place the head-word ahead while Chinese writing usually places the important words behind”. Tang also noticed this difference when she read the peer translator’s translation of the sentence and remarked that it was where the difference between English and Chinese lay, for “the Chinese people like to put the important words behind as conclusion”. In this case, understanding the syntactical differences between the source language and the target language made it easier to come up with strategies for restructuring the long sentence.

At times, some participants also referred to general translation strategies they had read from relevant books or articles, which was also indicative of emerging analogical problem-solving behaviours. For example, in the third session, Wang pointed out that she had been reading some Chinese books and articles on translation strategies and had realised that when translating long sentences, the “sense-groups should be kept as close as possible”. It was with this strategy that she proposed solutions for the translation of long and complicated sentences in the translation task. Although she was not yet able to summarise her own problem-solving strategies for translation problems she had solved, she was capable of applying general strategies acquired from elsewhere to solving translation problems in the current task. This was already one step forward in analogical problem solving.

Moreover, some participants demonstrated reflective thinking sometimes about what they should have done to solve the translation problems, which could also be regarded as progress in analogical problem solving. These reflective thoughts were more often found in the pre-revising or post-revising interview sections, where the participants were prompted by the peer translations to reflect upon their own translation problem-solving processes and sometimes even to summarise problem-solving strategies. For example, in the second session when Shan was discussing the translation of the news headline in the peer translation, she first remarked that the translated headline in the peer translation “more explicitly revealed the topic of the news article”. And then she went on to point out that she should have checked the style of news headlines on the target website before proposing translation solutions. In this case, Shan not only analysed the strength of the peer translation but also summarised a solving strategy for translating news headlines. If such solving strategies were enhanced and improved, it is likely that she would become more capable of translating news headlines appropriately in future translation problem-solving activities.
Although the analysis of the data gathered from the interview sessions only identified occasional progress in the participants’ translation problem-representing sub-activities, the participants themselves seemed to be more optimistic about their progress in this aspect. In the focus group, five participants agreed or strongly agreed with the statement that “compared with last September, when I encounter new problems now, I am more capable of recalling similar translation problems identified and solved before in order to solve the current problems more efficiently”. Among those who agreed with the statement, Wu added that “especially after the discussions on the translation problems in the interviews”, she was able to evaluate or even re-understand her own translation problem-solving process, which helped her “develop a set of matching strategies for certain types of translation problems”. Shan was the only participant who disagreed with the statement and explained that she had been doing this since her undergraduate translation course modules. Another statement in the focus group, “compared with last September, I am now more capable of analysing identified translation problems and retrieving relevant solving strategies”, was also agreed by five participants. Wang strongly agreed with this statement and reported that she had learnt “to think about the type of the problem and the common solving strategies for this type of translation problem”. Most other participants also felt the same way. The only disagreement came from Tang, who explained that she was bad at memorising all those solving strategies and previous translation problems.

The analysis of the participants’ problem-representing sub-activities in the four sessions and their perception of their own behaviours in the focus group were quite contradictory. The analysis found that few participants had made much progress in their problem-representing sub-activities, but the participants’ responses in the focus group suggested that the progress was quite prominent. There could be many possible reasons for such divergence between the analysis and the participants’ responses: the problem-representing sub-activities were often implicit and therefore difficult for the researcher to observe from the translation processes; the participants might not have the awareness to articulate their problem-representing thoughts; the participants did not necessarily have objective perceptions of their own translation problem-solving activities; the participants’ self-perceptions could also diverge from their actual behaviours. Unfortunately, to determine the major reason for the observed divergence, future research would be required.
5.3 Cultivating information literacy and creative independence

In their translation solution-proposing sub-activities, the participants relied on both prior knowledge (internal support) and dictionaries and online resources (external support) to propose translation solutions. Different participants relied on different sources of support to different extents, but some common trends were still observed from the four sessions. Most of the participants demonstrated a higher level of information literacy when they resorted to external support. They became increasingly aware of the need for further information and the need to examine the credibility of online resources. In the meantime, the majority of the participants were also able to propose translation solutions more independently, regarding dictionaries and online resources more as a source of inspiration than as a reference for ready solutions. The translation solutions thus proposed were also more contextualised and more creative sometimes. In other words, the majority of the participants demonstrated a tendency to utilise external support more efficiently and to strike a better balance between external support and internal support.

5.3.1 Enhanced information literacy: the need for further information

In previous discussions on the participants’ problem-identifying sub-activities in Section 5.1, it was already pointed out that the majority of the participants became more capable of identifying the need for background information. This improvement in information literacy could also facilitate the solution-proposing process. However, merely knowing that there was a need for background information was not enough. In order to acquire sufficient information for appropriate translation solution proposals, the participants also needed to know when there was a need for further information in their solution-proposing sub-activities. To put it simply, the participants needed to be able to judge the need for further information. In the four sessions, the majority of the participants demonstrated a positive tendency to become better at identifying and evaluating the need for further information.

In the first session, most of the participants did not demonstrate much determination to find further information to clarify arising doubts. For example, the terminology the plant Artemisia annua was identified as a translation problem by the majority of the participants. Two Chinese equivalents could be found from dictionaries and online resources: 黃花蒿 and 青蒿. The former was used to refer to the plant that could become
a traditional Chinese herbal medicine and the latter was the name of the herbal medicine. It would not be difficult to figure out this subtle difference in terms of usage as long as the participants tried to search it online. However, none of the participants became aware of this subtle difference. Most of the participants just took it for granted and adopted whichever term they first heard of or found about in the dictionaries and online resources. Three participants were fortunate to have found the correct term from the dictionaries, the Chinese institutional website and the Chinese Wikipedia website. The other three participants were misled by dictionaries and online news articles to adopt the inappropriate term. In fact, some participants also noticed the existence of different Chinese terms when they searched online or read the peer translation, but none of them attempted to search further. For example, Shan pointed out in the post-translating interview that she was confused about whether it was 黄花蒿 or 青蒿 after she consulted the dictionaries. However, when she found that a website on traditional Chinese medicine used the term 植物青蒿, which seemed to match the plant Artemisia annua, she gave up searching further and simply used 植物青蒿 in her translation. In the pre-revising interview when she was commenting on the peer translation, she also pointed out that the peer translator used the other term 黄花蒿. Even so, she did not attempt to search online to find out more about the two terms in her revision process. It was the same with other participants, some of whom demonstrated even less awareness of the need for further information and were satisfied with the first explanation they found on Youdao Dictionary. It was quite evident that in this session, the majority of the participants conducted online search only to find a translation proposal for a certain translation problem and as soon as such a translation proposal was discovered, the online search activity was terminated.

In the second session, some of the participants began to show stronger determination in finding more information to clear up the doubts. For example, the two names Mr Market, Mr Shareholding were identified by all the participants as major translation problems. If they carefully read the biographical online information about the three economists discussed in the article, they would find that the names were actually the nicknames for two economists. Three participants successfully identified this link, as they did not simply glance at the webpages but carefully read the contents until they found the information they were looking for. Among the rest of the participants, one participant was aware that the terms referred to the economists but without realising that they were
adapted English translations of their Chinese nicknames. The other two participants did not even realise that the first paragraph and the second paragraph were talking about the same economists. They were in fact confused about the link between the first and second paragraphs and the seemingly strange nicknames, but just did not have enough awareness to search further information online to facilitate their comprehension and translation of the terms. The same went for many other translation problems in this session, where some participants searched further online while other participants were not even aware of the need for further information. For example, Shan looked for information on the birth dates of the three economists to see whether they were born in the same order as their names appeared in the second paragraph, but some other participants proposed incorrect translation solutions due to the lack of relevant background information. Similarly, Liu attempted to find out more about the terminology of capitalism to come up with a more appropriate translation solution, while most other participants proposed inappropriate translation solutions without further thoughts. To sum up, in this session, some participants began to conduct further information mining in their solution-proposing sub-activities, but such behaviours were still occasional and inconsistent at this stage.

In the third session, more participants began to demonstrate in-depth information mining behaviours. The first paragraph used a *he* to refer to a presidential candidate without revealing the real name, and the participants needed to find the similarity between Donald Trump and Rodrigo Duterte to figure out who *he* was. This similarity was identified by three participants, who carefully read online articles and reports on Duterte and discovered that he was regarded by the press as the Philippine Duterte. When translating the term *populist outsider*, most of the participants also attempted to search for more online information to understand the description. For example, Wang did a lot of online research to figure out the connotation of *populist*. Liu read through the biographical online information of Duterte and other Philippine political leaders to find out whether Duterte was an outsider to politics or other circles. Similarly, when proposing solutions for other translation problems, most of the participants also searched for further background information to clear doubts that arose.

In the fourth session, the participants continued to demonstrate increased awareness of the need for further information to address the doubts in their solution-proposing sub-activities. For example, in order to understand and translate *sucumb to* correctly, three participants spent rather some time reading relevant news articles to find out how
SnapChat responded to the public outrage. The phrase *Chinese consortium of state and private interests* was not difficult to translate, but three participants tried to search for more online information about the members of the consortium. In the process of proposing translations for *power-purchase contract*, two participants also searched a lot of relevant websites to figure out what the contract was and which parties were involved. When asked why they would conduct further online research in their solution-proposing sub-activities, most participants explained that extra information was needed for them to better understand the source text and to propose appropriate translation solutions. In this session, although the participants did not necessarily devote the same time and efforts to searching further information about the same translation problems, they generally demonstrated more curiosity about doubts that came up than they had done in previous sessions.

5.3.2 Enhanced information literacy: the credibility of online resources

In the process of searching for further information to address doubts in their solution-proposing sub-activities, the participants also became more selective about the source of information. In the four sessions, they demonstrated a tendency to consult more institutional and leading news websites and also to double-check the information they found online more often.

In the first session, most of the participants seemed to lack a critical attitude towards online dictionaries. They mostly read whatever information was available in Youdao Dictionary and Google search results, and were usually satisfied with the first piece of information that came into their view. Some participants were even misled by incorrect online information to propose inappropriate translation solutions. For example, Wang showed such a great reliance on the Chinese institutional website of the academy that she attempted to copy a phrase from the website, which was irrelevant to the source text. When Tang was translating the name of the academy, she simply looked it up in Youdao Dictionary, and the quick search result suggested an incorrect translation that looked similar to the Chinese name of the academy but was in fact referring to a different institute. However, she did not question the credibility of the quick search result but simply adopted the suggested translation proposal. Most other participants held similar attitudes towards dictionaries and online resources in this session. They depended on
dictionaries and online resources to propose possible translation solutions most of the time.

In the second session, some participants began to show a more critical attitude towards online resources in their solution-proposing sub-activities. They were no longer easily satisfied with the handiest translation solution proposals. Instead, they tended to read more of the explanations provided by Youdao Dictionary and more relevant webpages to have a more comprehensive idea of available translation solutions. For example, when Wang looked up Soviet-style central planning in Google Translation, the suggested translation was 苏联式的中央计划 (Soviet-style central planning). She then searched 苏维埃 中央计划经济 (Soviet central planning economy) on Google and then further modified the keyword into 苏联 中央计划经济 (USSR central planning economy). It was in this process of repeatedly checking proposed translation solutions that she was able to modify existing solutions into more appropriate ones. The same went for some other participants, who also became aware of the limitation of dictionaries and online resources and opted to read more and check more about what they had already found.

In the third session, more participants began to show a more critical attitude towards the credibility of online resources. Some participants preferred to read relevant translated news articles from the target website. Other participants chose to read not only Wikipedia webpages but also news articles from the Chinese websites of some leading Western media such as BBC, CNN and New York Times. Although in some cases some participants still read articles from small localised websites, most of the participants tended to resort to more internationally renowned websites and to read more news articles on the same topic. For example, in translating populist outsider alone, the participants resorted to Youdao Dictionary, Google search (with different key words including: populist outsider, populist outsider 人民党，民粹主义局外人，罗德里戈・杜特蒂 populist outsider, populist outsider 川普), Chinese and English versions of Wikipedia (on the entry of populist), 纽约时报国际生活 (cn.nytimes.com), an academic paper on the term, 新华网 (an authoritative Chinese news portal), 百度贴吧 (Baidu post bar, a popular Chinese online community) and 纽约时报中文网 (cn.nytimes.com). Although some information sources were still informal and local, it was evident that the participants had become more determined to double-check acquired information in their solution-proposing sub-activities.
In the fourth session, most of the participants continued to demonstrate a critical attitude towards online resources. When they search for certain keywords on Google, they did not just open whichever website was displayed first but chose to acquire information from institutional websites and leading news portals. At the same time, most of them often read several articles or reports on the same topic from different websites to compare and select the information. Some participants even tried to limit the source of information within certain scope by using combinations of keywords. For example, when Liu searched for news articles on the Chinese investment in Australia, she used a combination of three keywords 澳洲 中国 BBC中文 (Australia, China, BBC Chinese) to look for related articles from the BBC Chinese website only.

In the focus group, the participants mostly agreed with the statement “now I have a more critical attitude towards the credibility of online resources and tend to read information from more reliable sources”. Shan and Gong pointed out that they learnt to be more critical about the sources of information from writing academic papers, as they are required to quote from reliable sources in their academic papers. When examples of reliable sources were further discussed, they both emphasised that even Wikipedia could be regarded as a credible source of information in their academic writing. Tang remarked that unlike the Chinese search engine Baidu which displayed search results according to sponsorship, Google (which was not accessible in China) usually displayed more reliable sources of information at the top, which also made it easier for her to find reliable information. Wu partly agreed with the statement and pointed out that she still preferred to read online discussions from forums like Quora, where she was more likely to get a comprehensive view of existing opinions on the topic but the information thus acquired might not be always reliable. Wang and Liu seemed to be quite satisfied with their online search behaviours and claimed that they had always been critical about online resources.

It should be pointed out that this changing attitude towards the credibility of online resources also indicated that the participants were more capable of carrying out solution-proposing and solution-evaluating sub-activities spontaneously. After all, it was on the basis of constantly evaluating the appropriateness of proposed translation solutions that they were able to know whether there was a need for further information mining or credibility check. This will be discussed in detail in Section 5.4.
5.3.3 From reference to inspiration

Apart from displaying similar patterns of improvement in information literacy, most participants also demonstrated an increased level of independence and creativity in their solution-proposing sub-activities. They became more capable of proposing their own translation solutions within specific translation contexts, and the dictionaries and online resources were no longer sources of ready translation solutions but sources of inspirations. The translation solutions thus proposed also reflected more creativity and flexibility.

In the first session, most of the participants relied extensively on dictionaries and online resources when they proposed translation solutions. They tended to adopt the suggested translations provided in the dictionaries and online resources with little modification. For example, when translating *juxtaposition*, five participants consulted Youdao Dictionary and one participant consulted Wiktionary. The most common translations suggested in these dictionaries were 并置；并列 (put together, in parallel). These expressions did not really fit into the translation, as they were more often used in specialised technical texts or formal texts rather than in ordinary news writing. However, two participants adopted the suggested translations with little modification. Another two participants made slight alteration and proposed to translate it into 对比 (contrast), which was less awkward than 并置；并列. The other two participants creatively proposed 画面 (scene), which added to the readability of the translated text.

Similarly, in this session, when translating *elated, or bewildered*, all the participants consulted the dictionaries and found similar suggested translations. Four participants adopted the suggested translations with slight or no modification, and only one of them came up with another translation solution later. It was the same case with the translation of quite a few other words and expressions. It happened a lot that several participants proposed rather similar or even the same translation solution proposals for a certain translation problem, because they all chose to adopt the suggested translations in the dictionaries and online resources. This lack of creativity was even more obvious in the translation of long and complicated sentences. Although most participants recognised that the second paragraph was long and complicated and would be awkward if translated directly, few of them truly attempted to restructure the sentence or rearrange the information flow.
In the second session, most of the participants began to show increased independence when they proposed translation solutions for unfamiliar words and expressions. For example, when translating *creaking*, five participants consulted Youdao Dictionary and one participant consulted Google Translate and Yahoo dictionary, in which the suggested translations were more or less the same: 发出咯吱咯吱声; 勉强运转 (make a crunching sound; operate with difficulty). However, all the six participants managed to propose their own unique translation solution proposals: 岌岌可危 (in imminent danger of falling down), 面临崩溃 (on the verge of collapse), 脆弱 (fragile), 摇摇欲坠 (shaking as if about to fall), 颓势 (declining tendency) and 龟速爬行 (crawl at a turtle’s pace). These proposed translations were quite different from the translations suggested in the dictionaries. It indicated that the participants, with some help from dictionaries and online resources, preferred to come up with their own translation solution proposals based on their understanding of the context and in consideration of the whole translated sentence. Likewise, in this session, when they translated other less familiar words such as *octogenarian*, *ominous* and *sobering*, most participants also proposed their own translation solutions after consulting dictionaries or online resources.

In terms of sentence restructuring in this session, however, most of participants still lacked flexibility and creativity. For example, the first sentence of the first paragraph, if directly translated into Chinese, would be awkward, but only Tang and Liu attempted to rearrange the sentence structure. Other participants chose to retain the sentence structure although they mostly pointed out in the post-translating interviews that they were not satisfied with their translations of the sentence. Tang demonstrated more creativity than other participants in this session. When she was translating *who fiddle with their hearing aids and take afternoon naps*, the description of the octogenarians, she proposed to translate it into a simple description 怡享天年 (enjoy one’s elderly life happily) for she believed that a direct translation of the original description would be awkward and unnatural in Chinese news writing. Regardless of the appropriateness of this translation proposal, the boldness and creativity in her solution-proposing sub-activities was quite striking among the participants.

In the third session, most of the participants demonstrated increased creativity in proposing translation solutions for unfamiliar words and expressions. For instance, in translating the combination of two adjectives *admired but checkered*, the participants
proposed very different translation proposals. Most participants came up with creative translation solutions based on their understanding of the two adjectives acquired from reading relevant online articles and reports. Shan’s translation proposal was especially different, as she proposed to translate the adjectives into 让人又爱又恨 (make people love and hate at the same time), which was very different from the original expression. She explained that she first tried to understand and summarise the implications of the two adjectives by reading relevant online reports and articles, and then attempted to propose a translation solution accordingly. It was more or less the same with most other participants: they became more capable of analysing and summarising acquired information to generate their own understanding, based on which their own translation solutions were proposed, often with more independence and increased creativity. When translating many other words and expression, for instance, macho persona, moderate, tough-talking and accommodate, the participants also demonstrated a general tendency towards proposing translation solution proposals more independently and with more creativity.

Moreover, the majority of the participants also displayed more flexibility in restructuring and rearranging sentence structure in this session. For example, when translating the first sentence of the second paragraph, five participants attempted to break down the long sentence into shorter ones and to shift the flow of the information. Among these five participants, three participants proposed to move the name of the ally ahead, another moved the time of the election ahead, and the other moved the latter half of the sentence to the end of the paragraph. It was evident that most participants became more flexible in restructuring the sentences, although the extent of such flexibility might still be limited.

In the fourth session, the majority of the participants continued to demonstrate some degree of flexibility and independence in their solution-proposing behaviours. When translating it seems a good moment, most of the participants were able to propose translation solutions that were slightly or very different from the original expression. Similarly, when translating other words and expressions such as a wave of online outrage, ludicrously high and unwanted, the participants also proposed creative translation solutions that were different from suggested translations in the dictionaries and fitted more with the specific translated text. In terms of sentence restructuring, more creative translation solution proposals could also be found in this session. For example, when translating the sentence in parenthesis in the third paragraph, both Tang and Wu proposed
to translate it into a separate sentence for increased readability and naturalness. Wu even proposed to reorganise the paragraphs of the commentary by combining the second and third paragraphs together.

Comparing the first two sessions with the final two sessions, it was quite obvious that the participants had mostly become more capable of proposing translation solutions on their own within specific translation contexts. From the second session onward, most of the dictionary-consulting and online-searching activities were carried out at a very early stage of the translation process. When the participants set out to translate, they proposed their own translation solutions without further consulting dictionaries or online resources most of the time. The translation solutions proposed by them also became more flexible, often demonstrating an increased level of creativity.

5.4 Evaluating solutions: considerations beyond the language level

In the four sessions, the majority of the participants made some progress in solution-evaluating sub-activities. They not only provided increasingly detailed and reasoned evaluation of translation solutions in the post-translating interviews, but also took into account the specific translation contexts and other extra-textual factors. In the meantime, they also became more capable of evaluating translation solutions in the peer translations from a more comprehensive and objective perspective.

5.4.1 Increased attention to extra-linguistic factors

In the first session, the majority of the participants talked little about their solution-evaluating sub-activities. Even when they were asked to explain some adjustments they had made during their translation process, they did not give detailed evaluation of the translation solutions. Most of the participants attributed their adjustment of translation solutions to their general impressions of the solutions – this “felt better” or that “seemed weird” – without articulating what they meant by “better” and “weird”. For example, when translating the long sentence in the second paragraph, most participants attempted several times to restructure the sentence or rearrange the information flow, but few explained the adjustment in detail. It was perhaps natural that, with few utterances about translation solution evaluations, the participants also seldom mentioned the translation context or other extra-textual factors. Considering that in this session, most of the participants did not identify the translation situation as a translation problem, it was
understandable that they failed to consider the translation situation in their solution-evaluating sub-activities.

In the second session, the participants continued to give brief discussions about their evaluation of translation solutions most of the time, but occasionally revealed more details about their solution-evaluating thoughts. Some participants also demonstrated consideration of extra-linguistic factors in their solution-evaluating sub-activities. For example, when discussing their translation solutions for *creaking*, Shan and Wu both gave detailed evaluation on 摇摇欲坠 (shaking as if about to fall), the translation suggested in dictionaries, and pointed out that this Chinese term exaggerated the adverse situation of Chinese economy. Liu explained that she changed her translation of *creaking* from 增长缓慢 (grow slowly) to 龟速爬行 (crawl at turtle speed), for the latter was more “funny [humorous]” and more “in line with the original writing style”. Similarly, when Wang evaluated her translation proposals for *Soviet-style central planning*, she explained that the Chinese readers all knew that the central planning economy was introduced from the Soviet Union and it was therefore unnecessary to mention this in the translation. This showed that she thought of the target readership in her solution-evaluating sub-activities. In this session, at least from the participants’ utterances about their solution-evaluating sub-activities, it was clear that some participants were taking more aspects of the translation situation into consideration.

In the third session, the majority of the participants gave more detailed discussions on their evaluation of different translation solutions. In the post-translating interviews, most participants evaluated their translation solutions in detail. Instead of attributing their translation choices to general impressions, they explained why they believed one solution was better than another. Their discussions also revealed that more attention was paid to broader aspects in their solution-evaluating sub-activities. For example, Wang explained that 平民主义 was a more appropriate translation for *populist* than 民粹主义, as it was commonly used in general texts for general readers, while the latter was more often used in specialised political texts. When she evaluated her translation proposals for the long sentence in the second paragraph, she also pointed out that she was evaluating from the readers’ perspective and did not want the readers to have trouble in “digesting a very long sentence”. It was evident that Wang gave much consideration to the target readership in her solution-evaluating sub-activities. Similarly, most other participants
also mentioned different extra-linguistic factors in their discussions on translation solution evaluation, including the standpoint of the original author, the target readership, the conventions of news writing and many other aspects.

In the fourth session, most participants continued to discuss their solution-evaluating thoughts in detail in the post-translating interviews and take into consideration a wide range of aspects related to the translation context and the translation situation. From a general view, the majority of the participants did not show much significant progress compared to the third session. However, some participants took further aspects into consideration in their solution-evaluating sub-activities. For example, when Gong evaluated his translation solutions for *a wave of outrage*, he tried to count the syllables of the proposed translations and concluded that 一场公愤 (a round of public outrage) was better than 一波公愤的浪潮 (a wave of public outrage), as it had similar number of syllables to the original expression. This indicated that in his solution-evaluating sub-activities, Gong began to also take aesthetics into consideration.

To sum up, from the first session to the final session, the majority of the participants provided increasingly detailed discussions on their solution-evaluating sub-activities and took more consideration of aspects of the translation situation. From the second session on, an increased variety of aspects were considered by the participants in their solution-evaluating sub-activities in each session. Although not all the participants took all those factors into consideration in their solution-evaluating sub-activities, the gradual progress indicated that they were deliberating more comprehensively and carefully on the translation proposals before making translation decisions.

5.4.2 Evaluating the peer translation: from compliments to criticism

The changes in the participants’ translation solution-evaluating sub-activities were not limited to their own translation processes. They also demonstrated a tendency to evaluate the peer translations from a more comprehensive perspective with increased justification. In the first session, when the participants were asked to evaluate the translation solutions in the peer translation in the pre-revising interviews, most of them focused on comparing and judging the different translation solutions. They tended to point out which solution was correct or better without providing detailed evaluations. Similar to their solution-evaluating sub-activities in their own translation processes, they often depended on
general impressions to judge the appropriateness of the translation solutions. For example, when Wang evaluated the translation of *debate* in the peer translation, she simply remarked that the peer translator’s translation 热议 (heated discussion) was “pretty good” and “better than” her own translation, without giving further explanation. It was the same with other participants, most of whom merely compared the different word choices and sentence structures. Few participants evaluated the strengths and weaknesses of the different translation solutions in detail, let alone paid attention to other aspects related to the translation context and the translation situation.

In the second session, most participants continued to focus on linguistic differences between their own translations and the peer translation. However, some participants began to give more detailed evaluation of the peer translation. When Wang evaluated the peer’s translation of *growth slowing, the stockmarket once again in trouble and financial risks looking more ominous*, she pointed out that the three similarly-structured Chinese clauses with equal number of characters created a “neater and more orderly” effect, which was better than her own translation. Shan and Liu also occasionally gave detailed evaluation of the peer translation and even pointed out some inappropriate translations in the peer translation. Gong stood out among the participants in this session in giving detailed evaluation of nearly all the translation solutions that were discussed in the pre-revising interview. For example, when he evaluated the translation solutions of *wise men*, he pointed out that 贤士 (wise scholars) proposed in the peer translation more often referred to “celebrated scholars recruited by the government in ancient China… to serve the rulers” while 贤人 (sage) proposed in his translation implied “more independent thinking”, which was more in line with the implications of the source text. When differences between his translation and the peer translation were detected, he could always describe and explain the differences before making any judgement.

In the third session, the majority of the participants began to provide more detailed evaluation on the peer translation and also tended to pay more attention to more extra-linguistic and extra-textual factors. For example, when Gong evaluated the translation proposals for *aggressive* and *notorious* in the peer translation, he commented that the peer translation would be “more suitable for publication in Chinese newspapers and magazines”. Wang evaluated the peer translation from the theory of critical discourse analysis, while Shan and Liu both pointed out that the different standpoints of the
translators resulted in the differences between the peer translation and their own translations. It was quite evident that in this session, when the participants evaluated the peer translation, most of them were no longer limited to linguistic differences but were more focused on the extra-linguistic and extra-textual factors that led to the differences. This also indicated that they were not satisfied with merely finding and describing the differences now, but were more inclined to explain the differences from a broader perspective.

In the final session, the majority of the participants continued to give reasoned and comprehensive evaluation of the peer translation, and there was not much difference in their solution-evaluating sub-activities in comparison to the third session. Most participants attempted to point out the advantages and disadvantages of different translation proposals, and also paid increasing attention to the standpoint of the original author, the translation situation and other extra-textual factors. However, it needs to be pointed out that those few participants who did not demonstrate progress in the third session did not show any sign of progress in this session, either.

It should be admitted that the participants’ solution-evaluating sub-activities discussed in this section were only those articulated by them in the post-translating, pre-revising and sometime post-revising interviews, which might not include all the deliberate solution-evaluating sub-activities they carried out in their translation processes. The analysis of these articulated solution-evaluating thoughts, however, sufficed to reveal what solution-evaluating sub-activities the participants deemed as important and necessary, and could also reflect the changes and developments in these articulated thoughts throughout the four sessions.

5.5 Justified decisions and emerging strategies

In the four sessions, the majority of the participants became more confident in their translation decisions. They not only justified their translation decisions more often with good reason but also defended their own translation decisions more confidently when they read the peer translations. In the meantime, most of the participants demonstrated a tendency to become more aware of macro translation strategies when they made or justified translation decisions, and some even started to formulate their own macro translation strategies in their translation processes.
5.5.1 More justified translation decisions

In the first session, most of the participants were not ready to justify their translation decisions and some were in fact unsure about many of their translation decisions. For instance, Tang pointed out in the post-translating interview that she was uncertain whether her translations of *doctors from antiquity, retired researcher* and *compound* were correct. Liu highlighted all the uncertain translation decisions, which covered nearly half of her translated text. Being uncertain about many of their translation choices, most participants could not justify their translation decisions. When they read the peer translation, they become even less confident in their own translation decisions, pointing out that the peer translation surpassed their translations for being “translated more skilfully”, “better”, “much better”, “smooth” and “clear”. When they were asked to revise their own translations after reading the peer translation, Shan was rather reluctant as she was afraid that she “might revise the translation in such a way that it would eventually look like copying from the peer translation”. In other words, most participants were not fully satisfied with or confident in their translation decisions.

In the second session, some participants started to justify their translation decisions with increased confidence, which was also in line with their progress in solution-evaluating sub-activities that was discussed in Section 5.4. Although the participants still felt uncertain about some translation decisions, they became more confident in most other translation decisions, especially those which they had devoted great efforts to in solution-evaluating sub-activities. They also showed more critical attitudes towards the peer translation and became more determined to defend their own translation solutions. For example, Wang criticised the peer translation for being “too literary” with “too much [adapting]”, and pointed out that some translation solutions were not appropriate. Tang, Shan, Gong and Liu also identified some inappropriate translation decisions in the peer translation. This indicated that in this session, the participants had more confidence in their own translations and became more capable of evaluating the peer translation in an objective and critical manner.

In the third session, the majority of the participants demonstrated more confidence in their translation decisions. In the post-translating interviews, most participants expressed satisfaction with their translations, and justified their translation decisions with detailed explanation. In the pre-revising interviews when they read the peer translation, they also
tended to devote more efforts to defending their own translation decisions instead of commenting on the peer translation. For example, when Shan evaluated the translation of *insulting* in the peer translation, she first commented that the Chinese phrase 出言不逊 (offend by rude remarks) in the peer translation usually applied to seniors, and then went on to point out that “if the two [the Pope and the foreigners] were to be referred to [after insulting] together”, her translation 发表轻蔑的言论 (give contemptuous remarks) would be more appropriate. Here by criticising the peer translation, she was in fact explaining and defending her own translation decision. Similarly, when Liu discovered that the peer translation neutralised the tone of the source text and adopted a milder attitude towards international disputes, she also tried to justify her decision to reflect the original author’s standpoint by criticising the peer translation as a product of “trans-editing”.

In the fourth session, the participants continued to demonstrate confidence in most of their translation decisions and were able to defend their own translation decisions when they evaluated the peer translation. It was worth noting that in this session, the majority of the participants also spent less time revising their translation decisions in their revising processes. While in the first two sessions, the participants tended to hesitate about replacing their own translation solutions with the peer’s translation solutions, in the last two sessions, the participants chose to retain most of their translation decisions and revised incorrect or inappropriate translation decisions only. This change was also to some extent reflective of their increased confidence in their own translation decisions.

It was quite evident that from the first session to the fourth session, the majority of the participants became more confident in their translation decisions and more capable of defending their translation solutions in the presence of alternative translation solutions. A major reason for this increase in confidence was that they deliberated more on their translation decisions and the decisions thus made became more reasoned and justified. This enabled them to adopt a more critical attitude towards the peer translations and to see the advantages and disadvantages of alternative translation solutions more clearly.

### 5.5.2 Emerging translation strategies

In Section 4.3.1, it was pointed out that Shan made prominent progress in translation decision-making sub-activities and that she had developed a strong awareness of
formulating and following macro translation strategies. In fact, most other participants also demonstrated increased awareness of macro translation strategies, although they might not have been aware enough to develop their own macro translation strategies.

In the first session, the majority of the participants were not very aware of the existence of macro translation strategies. Some of their discussions in the post-translating and pre-revising interviews were in some way related to macro translation strategies. For example, in the post-translating interview, Wang pointed out that there was the dilemma between reflecting the original writing style and polishing the translated text. She opted for the latter, as she believed the former would result in 翻译腔 (fanyiqiang, translationese). Later, in the pre-revising interview, she continued to argue that in the process of polishing, one should also avoid deviating too much from the original text and try to remain faithful. These utterances indicated that she had more or less thought about translation principles in her translation process. Other participants also revealed some thoughts about translation in the interviews. Tang remarked that her translation had relatively stronger 翻译腔 as compared to the peer translation. Shan believed that the translated text should be easy to understand, but should also reflect the original author’s attitude. Gong was more focused on avoiding 生硬 (shengying, stiffness) and pursuing 自然 (ziran, naturalness) in his translation. Wu also pointed out that much attention should be paid to avoid 翻译腔 in the translation. Liu tried to imagine how a Chinese journalist would write a news article on the topic. Although none of the participants explicitly talked about any macro translation strategies, their discussions indicated at least some aspects of their thoughts on potential macro strategies.

In the second session, most participants continued to refer to some translation principles and strategies in the interviews, without regarding them as macro translation strategies in their translation processes. Some participants demonstrated awareness of such macro strategies early in the post-translating interview. For example, Liu pointed out at the beginning of her post-translating interview that she intended to “convey the [humorous] style” of the original text in her translation, which could explain some of her translation decisions. Most other participants were prompted by the peer translation to talk more explicitly about translation principles and strategies. Wang and Tang became aware of the register from reading the peer translation, and Shan noticed that the peer translation reflected a domesticating macro translation strategy. Consequently, these three
participants all started to think about the macro revision strategies they should adopt in their revision processes.

In the third session, some participants started to talk explicitly about macro translation strategies early in the post-translating interviews. For example, unlike in the second session when she only realised the existence of macro translation strategies in the pre-revising interview, in this session, Shan pointed out at the beginning of the post-translating interview that she was adopting a “largely domesticating” macro strategy for her translation. Similarly, Liu also stated that in this session, her attention was more directed to the “foreignising” strategy rather than to specific words and expressions. Both Shan and Liu applied an established translation theoretical concept to formulating a macro translation strategy that guided their translation decision-making sub-activities. Other participants, however, demonstrated less progress and continued to discuss relevant concepts – 通顺 (tongshun, clear and coherent), 翻译腔 (fanyiqiang), 自然 (ziran) and flexibility – without treating them as macro translation strategies.

In the fourth session, the participants remained more or less the same: most of them discussed concepts related to translation principles and strategies without treating them as macro translation strategies. Only Shan attempted to formulate and follow a macro translation strategy in her translation process. Her macro translation strategy in this session was to be as explicit as possible in the translation, which guided both her translation process and revision process. Whenever she hesitated about the translation choices, she decided to choose the most explicit translation solution. Compared with Shan, the other participants demonstrated little observable change. Although some participants also paid attention to 通顺 (tongshun) and register and other participants tried to avoid “redundancy” and “weirdness”, these concepts had not yet turned into a consistent macro translation strategy.

5.6 Shared patterns in competence development: summary

The preceding sections identified and discussed several shared patterns in the participants’ competence development paths. In some translation problem-solving sub-activities, there were more common development tendencies while in other sub-activities there were fewer. This section briefly summarises and describes the features of these shared patterns, and analyses the possible contributing factors to these shared patterns.
5.6.1 Describing the shared patterns

The preceding sections identified several common tendencies in translation competence development that transcended individual differences:

1) In translation problem-identifying sub-activities, the majority of the participants developed an expanded perception of translation problems, which enabled them to identify a broader range of translation problems.

2) In translation problem-representing sub-activities, the participants did not show much progress, but there were occasional indications of an emerging awareness of analogical problem solving.

3) In translation solution-proposing sub-activities, most participants demonstrated an increased level of information literacy, being more aware of the need for further information and more critical of the credibility of online resources. Most participants also proposed translation solutions with increased independence, drawing inspiration from online resources but depending less on them.

4) In translation solution-evaluating sub-activities, the majority of the participants paid increased attention to the translation context and translation situation. They became better at rationalising their judgement of the peer translations, providing more comprehensive evaluation of the translation solutions in peer translations.

5) In translation decision-making sub-activities, most participants became more confident in justifying and defending their translation decisions. There was also an emerging tendency among most participants to become aware of macro translation strategies.

Among these shared patterns of translation competence development, some patterns were more prominent while others were merely emerging. For example, the majority of the participants demonstrated quite obvious progress in information literacy. This progress was already observable from the second session, and in the final session almost all the participants had made progress in this aspect. The progress in formulating macro translation strategies, however, was less conspicuous. Even in the final session, most of the participants had only started to become more aware of macro translation strategies without deliberately formulating or following such strategies. It remained unknown whether the participants would all begin to develop their own macro translation strategies as Shan did in her translation problem-solving activities.
Within these shared patterns, competence development tendencies also varied. The momentum of progress was sustained in some sub-activities but weakened in others. For example, in problem-identifying sub-activities, the participants demonstrated consistent progress in each later session. They identified more complex translation problems than they did in previous sessions, and the variety of identified translation problems also expanded constantly. In contrast, the participants’ awareness of macro translation strategies slightly increased in the second and third sessions but stagnated in the fourth session. In the final session, only one participant demonstrated prominent progress in decision-making sub-activities, and other participants, though showing signs of progress in previous sessions, did not really show much progress in this aspect.

It should be noted that the shared patterns discussed in this chapter only pointed out a general development tendency rather than a consistent development path. It did not mean that all the participants demonstrated progress at the same time or at the same pace in each shared pattern of competence development. In fact, as the analysis in Sections 5.1 to 5.5 showed, individual differences still existed within these shared patterns. In some shared patterns, some participants made progress early in the second session while others showed progress only in the final two sessions. In other shared patterns, some participants showed consistent progress throughout the four sessions while other participants’ progress seemed to be more unsteady.

As the number of participants was limited, these findings on shared patterns in translation competence development cannot be generalised. The relatively short length of the translation programme also made it difficult for some competence development trends to emerge. However, the identified patterns among the six participants already revealed a lot about the participants’ competence development, with valuable findings that shed light on the current understanding of translation competence development.

### 5.6.2 Possible contributing factors

As was pointed out previously, the participants came from different academic backgrounds with varied previous practical translation experience. They had different learning motivations and learning methods, took different practice-oriented course modules and attended the interview sessions with different emotional status. Against such great individual difference, what factors might have contributed to the observed common tendencies in translation competence development?
One possible contributing factor was the core theoretical course modules. Although the participants took different practice-oriented course modules, there were some core theoretical course modules that all of them must attend. These theoretical course modules might have contributed to some extent to the shared progress in their translation problem-identifying, solution-evaluating and decision-making sub-activities. The knowledge about translation acquired from the theoretical course modules could help the participants expand their perceptions of translation problems and take more factors into consideration in translation solution-evaluating and decision-making sub-activities. However, in the interviews most participants seemed to attribute their acquisition of theoretical knowledge about translation more to the practice-oriented modules. It was perhaps because the influence from the theoretical modules was more subtle and invisible as compared to that from the practice-oriented modules. It should also be noted that the practical modules in fact also drew on the theoretical modules; the influence from the theoretical modules, therefore, should not be underestimated.

In the different practice-oriented course modules, there were also some overlapping contents regarding important theoretical concepts and translation skills. For example, Tang and Shan both pointed out that they learnt about the importance of the commissioner from a practice-oriented module – Tang from the Literary Translation: Contexts and Challenges module and Shan from the Translating for International Organisations module. The same went for target readership, context research, parallel text and many other relevant notions. In the different practice-oriented modules, the emphasis on some concepts and aspects of translation, especially those associated with the translation profession, seemed to be rather similar. Considering that the MATIS programme is a member of the EMT network, which encourages programmes to prepare translation learners for professional practice and developing translation service provision competence, it was easy to understand that the modules might have similar focal points on the professional aspects of translation. In fact, it was also pointed out in the programme handbook that one of the main aims of the programme was to “provide a gradual transition into the world of work through practical, real-life translation and/or interpreting tasks” (The University of Manchester, 2017: 14).

The participants’ involvement in the empirical study might also explain some shared patterns. The participants all attended the four translation task-based interview sessions, in which they dealt with the same translation tasks, discussed the same translation
problems and read the same peer translations. These similarities might have to some extent contributed to the shared patterns in the participants’ translation competence development. For example, reading the same peer translations could help the participants become aware of similar translation problems that they had neglected in their own translation processes, and thus help them identify similar translation problems earlier in the following sessions.

To sum up, this chapter identified some common trends in the participants’ translation competence development. In spite of the prominent individual differences depicted in the preceding chapter, the participants did share some commonalities in their translation competence development. Although each individual had their unique development path, some directions and destinations for these individual paths seemed to be rather similar. Despite the limited number of participants, these findings on shared translation competence development patterns have significant implications for both translation competence research and translation pedagogy. The identified emerging competence development trends point out possible directions and areas of focus for future research. They also provide useful reference for translation teachers, who could accordingly adjust their teaching focal points and strategies to be more targeted at fostering some emerging competence development tendencies. These implications will be discussed in detail in the next chapter.
Chapter 6 Conclusion: reviews, revisions and reflections

The preceding two analytical chapters have mapped individual paths and identified shared patterns of the participants’ translation competence development. Based on the empirical findings, this chapter sets out to revisit the proposed theoretical framework and the empirical study so as to summarise their strengths and suggest possible revisions and improvements. It also reflects upon the current research to envisage its implications for translation research and translation pedagogy. Section 6.1 revisits the proposed theoretical framework, summarising its advantages and proposing tentative revisions. Section 6.2 reviews the research design of the empirical study and reflects upon the cooperation from and unpredictability of the participants, with suggestions for improvements in future empirical studies. Section 6.3 situates the current research within a larger context and discusses its implications for translation competence research and translation education and training. Section 6.4, the concluding section of this chapter and the thesis, reviews the research project, summarises its contributions and points out future research directions.

6.1 Revisiting the theoretical framework

On the basis of the empirical findings, this section revisits the theoretical framework with the aim of summarising its strength and suggesting possible improvement. The relevance and strengths of the proposed theoretical framework are discussed first in Section 6.1.1, with supporting evidence from the empirical data analysis. Section 6.1.2 then attempts to suggest tentative revisions for some aspects of the theoretical framework with the hope of improving its applicability and explanatory power.

6.1.1 Relevance and strengths of the theoretical framework

The empirical study demonstrates the relevance and practicality of the theoretical framework in describing and analysing the participants’ translation processes and translation competence development. The translation problem-solving perspective breaks down the translation process into concrete sub-activities, which not only lay the basis for the design of the main research instrument but also provide analytical categories for empirical data analysis. In this research, the proposed translation problem-solving sub-activities cover most of the activities observed in the participants’ translation
processes, making it possible to process and analyse the gathered data within the proposed theoretical framework. As is shown in the preceding analytical chapters, the observed translation processes can be mostly described in translation problem-solving terms and analysed from a translation problem-solving perspective. The proposed link between translation competence and the translation process also establishes the link between translation competence development and the observable changes in translation problem-solving sub-activities, which adds to the practicality of the theoretical framework. Within this framework, the participants’ translation problem-solving sub-activities serve as a clear window into their translation competence development. It is therefore possible to map their individual development paths and find their shared development patterns through a close study of each translation problem-solving sub-activity.

Findings from the empirical study also show the strength of the translation problem-solving perspective in capturing subtle development traces and emerging development tendencies. According to the proposed theoretical framework, translation competence development manifests itself in the translation problem-solving sub-activities rather than merely in the translation product. It gives more emphasis to the translation process and allows for subtle development traces in the translation processes to be noticed. Even minor progress made in a certain translation problem-solving sub-activity can be discovered and interpreted as a sign of translation competence development. For example, a participant’s increased caution towards the reliability of online information can be indicative of progress in the translation solution-proposing sub-activity. However, this progress is highly likely to go unnoticed if only the translation product is being studied. Meanwhile, focusing on the translation problem-solving sub-activities instead of pre-defined translation competence areas also enables us to capture development tendencies that are actually emerging. For instance, when solving an intercultural translation problem, a participant might show progress in all the other sub-activities except the decision-making sub-activities. From a multi-componential perspective of translation competence, the participant has not made progress in the area of intercultural competence, as the final translation is inappropriate. The translation problem-solving perspective, however, sees emerging progress in the participant’s translation process, which is very likely to become more prominent with appropriate guidance and enhancement. In this sense, the translation problem-solving perspective provides a good way to observe and
capture those emerging development trends that need more time before they are reflected in the final translation product.

Apart from the strengths reflected in the empirical study as discussed above, the proposed theoretical framework of translation competence also has several further advantages over existing ones. First of all, it provides a dynamic view of translation competence, which is more flexible and responsive to the changing needs for skill sets from the translation profession. Translation competence is no longer treated as a set collection of pre-defined competence components. Instead, it is regarded as a dynamic and evolving concept that has no definitive constituents or clear boundaries. It is therefore no longer necessary to argue over the exact components, as these components are all part of a reservoir of general and translation-specific knowledge, skills and attributes, from which the translation learners mobilise and organise those needed to identify and solve translation problems. In this case, the knowledge, skills and attributes the translation learners already possess become less important, and it is more important for them to know how to act, i.e. how to mobilise and organise knowledge, skills and attributes, to identify and solve translation problems. The knowledge, skills and attributes can be either extracted from the reservoir or acquired on-site when necessary. While pre-defined competence components could risk failing to meet the demand from special or new types of translation tasks, the translation problem-solving competence ensures that the translation learners can always learn to identify and solve new translation problems to satisfy new demands.

The proposed theoretical framework of translation competence is a highly inclusive one, which integrates existing discussions on translation competence with relevant findings from other research contexts both within and beyond translation studies. It builds on rather than rejects current translation competence studies, incorporating the multi-componential discussions into the reservoir of knowledge and skills. It draws on findings from translation process research to describe translation problem-solving sub-activities and point out possible competence development tendencies. It conceptualises the translation problem-solving process on the basis of existing findings from problem-solving studies. It also explains the mechanism of translation competence development with inspirations from expertise studies. The integrative theoretical framework thus formulated has more explanatory power than previous frameworks. It is constructed upon established findings and discussions with a high level of multi-disciplinarity. Moreover,
it remains open to the introduction of further findings from relevant research contexts, for example, psychology, learning studies and vocational education studies. In a word, inclusiveness and openness add to the vitality of the theoretical framework, which can be constantly developed and updated.

6.1.2 Possible revisions to the theoretical framework

The proposed translation problem-solving perspective has particular relevance for and strength in describing and analysing translation competence development, but findings from the empirical study also suggests that further improvements could be made in some aspects of the theoretical framework. The first is the need for a reconsideration of the description of problem-representing sub-activity. The second is the lack of emphasis on personal initiative in the conceptualisation of translation competence and its development.

In Chapter 5, it was pointed out that the participants’ translation problem-representing sub-activities remained underexplored, for there was not much relevant data. While the research instruments can be revised to be more targeted at eliciting and collecting data on problem-representing sub-activities, it is also necessary to revisit and reconsider the description of translation problem representing. In the proposed theoretical framework, translation problem representing was conceptualised as the act of understanding the nature of the identified translation problem, with the aim of retrieving existing translation problem-solving schemas or constructing new schemas. It was described as crucial to the development of translation competence, for the acquisition of problem-solving schemas played a significant role in the learning process. In the idealised translation problem-solving sequence, the problem-representing sub-activity was described as the second step that came between the problem-identifying and solution-proposing sub-activities. However, it was also pointed out that in actual translation processes, the sub-activities were often carried out in different sequences by different translators. The translator might carry out analogical problem-solving activities as soon as the translation problems are identified to retrieve existing problem-solving schemas, or review and reflect upon the problem-solving processes after the translation decisions are made to strengthen previous schemas or construct new schemas. In other words, in the proposed theoretical framework, translation problem representing included two types of activities: analogical translation problem solving and translation problem-solving schema acquisition.
The proposed definition and description of the translation problem-representing sub-activity seemed fine in theory, whereas findings from the empirical research suggested that it might be more appropriate to regard analogical problem solving and problem-solving schema acquisition as two separate sub-activities. In the translation task-based interviews, utterances related to analogical problem solving were often found in pre-translating interviews and at the beginning of post-translating interviews, and discussions on problem-solving schemas were found in pre-revising and post-revising interviews – usually in the form of insight or reflection. At least in this longitudinal study, analogical problem solving was conducted by the participants to facilitate the current translation problem-solving process, while problem-solving schemas were more often strengthened and constructed after the translation processes to contribute to future translation problem-solving activities. In this sense, it seems no longer appropriate to regard problem-solving schema acquisition as an aspect of translation problem representing.

A tentative solution to this issue is to propose a further translation problem-solving sub-activity: translation problem-solving self-reflecting. In an ideal translation problem-solving process, the problem-solving sub-activities would take place in the following sequence: problem identifying, problem representing, solution proposing, solution evaluating, decision making, and **self-reflecting**. In this process, problem representing refers to the activity of analysing translation problems and searching for problem-solving schemas; self-reflecting refers to the activity of summarising translation problem-solving and enhancing/constructing problem-solving schemas. There are two possible scenarios for the problem-representing sub-activity: first, the translator retrieves an existing problem-solving schema, and proceeds to solve the problem; second, the translator finds no problem-solving schema available, and proceeds to solve the problem. In the first scenario, the self-reflecting sub-activity aims to strengthen the existing problem-solving schema, and in the second scenario, it aims to construct a new problem-solving schema. It is in this process of constantly strengthening existing problem-solving schemas and acquiring new ones that translation competence can be truly developed. In other words, self-reflecting sub-activities were more relevant to the development of translation competence rather than specific translation problem-solving activities. As the preceding two analytical chapters demonstrated, those participants who reflected more upon their translation problem-solving processes did demonstrate more progress in their translation competence development.
It should be noted that the self-reflecting sub-activity influences future problem-solving activities but does not necessarily affect the current translation problem-solving activities, so it is often easily neglected by translation learners. In fact, other translation problem-solving sub-activities may also be neglected by translation learners. For instance, the learner may fail to evaluate translation solutions thoroughly due to low motivation, or even fail to identify a translation problem due to the lack of concentration. Such phenomena were observed in the empirical studies. For instance, Section 4.2.2 pointed out that Tang sometimes did not want to propose alternative translation solutions even when she knew that her current translation solutions were inappropriate or even knew how to propose more appropriate translation solutions. Section 4.5.1 also stated that in some cases, Wu did not want to search for more information to evaluate translation solutions although she was not doubtful about her own judgement. It was summarised in Section 4.7 that the participants’ opinions about the course modules, attitudes towards the translation tasks and even feelings and moods could all influence their translation problem-solving processes and consequently the demonstration of their translation competence in such processes. In other words, the learners need to have the initiative to carry out the translation problem-solving processes and develop their translation competence.

In the proposed conceptualisation of translation competence development, some attention was already paid to the translator’s attitudes and motivation. In the explanation on the proposed definition in Section 2.2.3, the attributes in the definition of translation competence were described as personal attributes related to the success and efficiency of the translation act. However, these attributes were not given enough emphasis, and their influence on the manifestation of translation competence in the translation process and on the development of translation competence was underestimated. In previous competence models, similar problems also existed. For example, in the PACTE (2003) and Göpferich (2009) models, attitudinal components and motivation were proposed as components of translation competence, but inadequate attention was paid to these components in their theoretical discussions and empirical investigations. From the translation problem-solving perspective, however, these components should be accorded great importance, as they have non-negligible influence on the translation problem-solving process, in which translation competence is demonstrated. As some recent studies have pointed out, translation learners’ emotion, motivation and self-confidence do have
impact on their translation performance and learning outcomes (see, for example, Rojo and Ramos Cano, 2016; Way, 2017; Haro-Soler, forthcoming).

As a tentative solution to the issue, this research proposes to introduce the concept of personal initiative into the conceptualisation of the translation problem-solving ability. The notion of personal initiative was introduced by Fay and Frese (2001), who studied human performance in the working environment, as “a behaviour syndrome that results in an individual taking an active and self-starting approach to work goals and tasks and persisting in overcoming barriers and setbacks” (Fay and Frese, 2001:97). In other words, it is personal initiative that drives someone to start and to persist in the completion of a problem-solving process. In translation problem solving, it is with personal initiative that the learners take an active and self-starting approach to identifying and solving translation problems and persist in completing each translation problem-solving sub-activity. It is also with personal initiative that translation learners actively reflect upon their translation problem-solving processes and persistently strengthen and construct problem-solving schemas to develop their translation competence. Therefore, personal initiative plays a crucial role in the translation problem-solving processes as well as in translation competence development; it needs to be acknowledged and incorporated into the conceptualisation of translation competence and its development.

In Section 2.2.3 translation competence was defined as “a demonstrated ability to translate resulting from orchestrating a combination of knowledge, skills and attributes in carrying out a given translation task under given conditions”. Instead of conceiving of personal initiative as one of the attributes, it is probably more appropriate to regard it as part of the ability to orchestrate, which is rendered as the translation problem-solving ability in the translation competence model. More specifically, the ability to orchestrate refers to the ability to select and organise – in an active and persistent manner – a combination of knowledge, skills and attributes to carry out the given translation task under given conditions. The translation problem-solving ability, consequently, also requires the learners to take an active and persistent approach to identifying and solving translation problems.

6.2 Reflecting upon the empirical research

The empirical research design, with its particular strength in eliciting and collecting data on translation problem-solving processes, has great potential in future empirical studies.
In this section, the strength of the research design is reviewed, with suggestions for further improvement and considerations in its future applications. This section also reflects upon the implementation of the longitudinal study, discussing the cooperation from and unpredictability of the participants.

6.2.1 The research design: review and future suggestions

As the two preceding analytical chapters demonstrated, the research design was effective in eliciting and gathering data on the participants’ translation problem-solving processes. The main research instrument of translation task-based interview offered a feasible method for collecting data on the participants’ translation processes. The translation tasks provided a good selection of pre-identified translation problems while leaving enough space for different translation problems to be identified by different individuals, making it possible to elicit data that reflected not only shared patterns but also individual differences in the participants’ translation problem-solving processes. The different interview sections targeted at different translation problem-solving sub-activities, and the data thus gathered effectively supplemented the observational data of the participants’ translation processes. The focus group and the questionnaires were also useful in collecting further data on the participants’ opinions, reflections and background information. In a word, the research design proved to be adequate for the data collection in this research.

Designed on the basis of the proposed translation problem-solving perspective, the translation task-based interview had particular strength in gathering data on all the translation problem-solving sub-activities. However, it should be noted that in the current empirical research, data gathered on problem-representing sub-activities was relatively limited in comparison with data collected on other sub-activities. Translation problem-representing sub-activities are implicit cognitive sub-activities that cannot be observed from the translation processes, so the relevant data can only be gathered in the interview sections through more explicit questions. However, as the current research decided not to reveal the translation problem-solving perspective to the participants during the longitudinal study, the interview sections needed to avoid very explicit questions about their problem-representing sub-activities. In future empirical studies with different research settings, it might be possible to have more pre-defined interview questions to target at revealing the participants’ translation problem-representing sub-activities. For
example, the participants can be interviewed on whether the identified translation problems remind them of previous problems, whether they are able to categorise the identified translation problems, and whether they know any general problem-solving strategies for the identified translation problems.

The peer translations presented to the participants was useful in triggering more translation problem-solving sub-activities and collecting more relevant data. As the preceding analytical chapters showed, the peer translations prompted some participants to identify further translation problems, evaluate alternative translation solutions, consider macro translation strategies or reflect upon their own translation processes. In this way, the dataset on the participants’ translation problem-solving activities was expanded and enriched. In future empirical studies on translation problem solving, peer translations can also be used to facilitate data elicitation and collection, and may even exert greater effectiveness if the translation solutions in the peer translations are intentionally controlled. In this research, the peer translations were presented to the participants without modification to ensure that they were authentic peer translations provided by a previous student from the same programme. In most sessions, the peer translations provided alternative translation solutions that helped elicit further translation problem-solving sub-activities. However, they also occasionally provided inappropriate or even incorrect translation solutions, which failed to elicit more meaningful data and even confused or misled the participants in their revision processes. This does not constitute a problem for the current study, as it is normal for translation learners to find inappropriate translation solutions from dictionaries, online resources and other external support. However, in future research with different research purposes, it might be necessary to consider how the peer translations can be carefully designed to elicit meaningful data.

6.2.2 The participants: cooperation and unpredictability

The four sessions of translation task-based interviews were conducted at intervals of two or three months, at the beginning of the first semester, at the beginning of the second semester, at the beginning and towards the end of the dissertation-writing period. This schedule was intended to avoid the exam periods and deadlines for assessed work so as to minimise the distraction and lessen the burden of participating in the TTBI sessions. This arrangement turned out to be reasonable, as it avoided the participants’ busy periods.
made it possible to conduct the interviews with each participant at around the same time. However, the last two sessions – especially the last session – were more difficult to arrange than the first two, as they were conducted during the dissertation-writing period, when the participants had rather different plans on dissertation writing, travelling and job hunting. This resulted in the different mind-sets and attitudes of the participants when they attended the last two sessions and partly explained some stagnation in competence development that had been observed in the last session. This indicates that in terms of time arrangement, it is not only important to try to avoid the participants’ busy periods, but also important to avoid those periods when the participants are not likely to be very concentrated on the translation task. If such an arrangement is not possible, then it is necessary to remind the participants to constantly treat the translation tasks seriously.

Apart from the different study periods, there were also other factors that might have influenced the participants’ translation processes to some degree. In Section 4.7 it was pointed out that the participants’ energy levels and moods seemed to have influence on their translation problem-solving activities. Sometimes the weather and temperature also played a part in affecting the participants’ translation process, not to mention the disruption from fire alarm tests or public broadcast announcements (as the interviews were conducted in a library study room). Some of these factors can be controlled in future research, for example, by ensuring that the participants are not hungry during the interview, by asking the participants to come to the interview at similar timeslots, by reminding the participants to reschedule the interview if they are not in the right mood, and by conducting the interviews in a private office room to minimise disruption from the public space. Other factors, however, can be difficult to control: the weather is uncontrollable and it is normal for some participants to feel low on rainy days; it is also not feasible to force the participants to concentrate on the translation tasks when they are bothered by other matters. All these uncertainties add to the unpredictability of the participants’ translation problem-solving processes in the empirical study. However, as Section 6.1.2 proposed to emphasise the importance of personal initiative in the conceptualisation of translation competence and its development, being able to overcome emotional barriers and to persistently identify and solve translation problems thus becomes part of the translation competence. In this sense, all these influencing factors can also be regarded as meaningful data.
Many participants described their participation in this research project as “a rewarding experience”, although the perceived rewards might differ for each participant. According to the discussions in the focus group, some participants developed a higher level of metacognition in their translation process, becoming more conscious of what they were doing in the translation process; some participants formed good habits in their translation practice, for example, conducting context research at first, paying attention to the format and so on; others benefitted more from reading the peer translation and becoming aware of further translation problems or solutions. Wang even regarded it as a milestone, for the translation task in the first session was the first formal translation task she had ever completed. In her view, the discussions in the interview sessions enabled her to perceive and understand her translation process as well as to see her own progress more clearly. These affirmative comments indicated that the influence on the participants from taking part in this research was positive. In this type of empirical studies, potential influence on the participants was inevitable, as they were required to complete extra translation tasks and discuss their translation problem-solving processes with the researcher. The fact that such influence was perceived by the participants to be rather positive is quite reassuring, which also encourages similar empirical studies to be conducted in the future.

6.3 Implications for translation research and pedagogy

The current research has significant implications for translation research and pedagogy. For translation research, this research introduces a fresh perspective for understanding translation competence and its development, proposes an effective research instrument for empirical competence research, and also points out possible directions for future research. For translation pedagogy, this research is in many aspects in line with the recent paradigm shift in translation teaching and learning, not only offering theoretical and empirical support for some increasingly popular teaching approaches but also providing inspiration for future improvement in translation education and training.

6.3.1 Implications for translation competence research

This research has multiple implications for translation competence research. It provides a channel for the integration of translation competence research with relevant research fields. It devises an effective research instrument and a feasible research design for future
empirical studies. Moreover, it also points out possible directions for future research into translation competence development paths.

First of all, the translation problem-solving perspective builds a bridge between translation competence research and other relevant research within and beyond translation studies. In translation studies, there are already many attempts in investigating translation competence development through comparing the translation processes of subjects with different degrees of translation competence (see Göpferich and Jääskeläinen, 2009 for a summary of process research into the development of translation competence). These empirical studies are often conducted with different research aims based on different theoretical assumptions, and the findings thus generated are usually narrowly focused and scattered without an integrative framework. The translation problem-solving perspective, however, provides a viable theoretical framework to integrate these findings from translation process research with translation competence research. The findings can thus be re-interpreted using translation problem-solving terms to be incorporated into the proposed theoretical framework to enrich the understanding of translation competence and its development. For example, findings from the comparison of translation processes between translation novices and professionals can help identify possible development tendencies in translation problem-solving processes and provide supporting evidence for theoretical predictions. In other words, the translation problem-solving perspective establishes a link between translation process and translation competence and provides a systematic framework within which relevant findings from translation process research can be fully utilised and integrated into translation competence research.

Beyond translation studies, the translation problem-solving perspective also enables more inter-disciplinary translation competence research to be carried out with relevant disciplines such as expertise studies, development studies and learning studies. With a major focus on problem-solving abilities, these disciplines have accumulated many meaningful findings that can be helpful to the understanding of translation problem-solving competence and its development. In fact, some translation researchers have already been paying attention to these relevant disciplines (Shreve, 2002; Angelone, 2010; Hansen, 2010 all draw on theories and findings from expertise studies in their discussions of the translation process and translation expertise). In this research, theories and findings from problem-solving studies and expertise studies are also introduced and integrated
into the proposed theoretical framework, facilitating the understanding of translation competence and its development. Yet there are many more findings from relevant disciplines to be explored and integrated with translation competence development research, which would help describe, explain and even predict patterns, tendencies and paths in translation competence development.

Apart from theoretical implications, this research also has significant implications for empirical translation competence research. The translation task-based interview proposed in this research provides an effective research instrument for future empirical translation competence research. By flexibly integrating translation tasks and interviews, it optimises the gathering of translation problem-solving data, while the incorporation of peer-revision tasks elicits further data on translation problem-solving sub-activities. It provides inspiration for the design of future research instruments for empirical translation competence research. For example, an empirical study aimed at looking at the participants’ revision processes can devise similar revision task-based interviews, in which different stages of revision tasks can be combined with corresponding interview questions to investigate their revision activities. The research instrument itself is also highly operable and replicable. As it does not involve sophisticated equipment or complicated procedure, individual researchers can easily conduct similar empirical studies with different numbers of participants in different language combinations. Findings from these similar empirical studies will also help enrich the understanding of translation competence development paths in the education settings.

The setting of the present empirical study also has implications for future translation competence research. In this research, the participants attended the translation task-based interview sessions without being informed of the translation problem-solving perspective. The interview questions were also carefully designed so that translation problem-solving terms were not explicitly used. Therefore, the development in the participants’ translation problem-solving activities took place with little interference from the researcher. Even so, some participants pointed out in the focus group that through attending these TTBI sessions, they became more capable of utilising more meta-cognition during their translation processes. It thus poses the question: will a prior knowledge of translation problem-solving sub-activities have visible influence on the participants’ translation competence development? Hypothetically, knowing about the translation problem-solving process is likely to propel the participants to utilise more meta-cognition and self-
monitoring during their translation processes. However, the answer to this question will only be revealed in future empirical research where control groups are used.

Moreover, this longitudinal study was conducted with translation learners from a one-year MA programme. It is unknown what influence the time length of the translation programme would have on the research findings. If the length of the empirical study is extended, will the individual differences outweigh the shared patterns or the other way around? In this one-year empirical research, many of the observed competence development tendencies were subtle and emerging, making it impossible to draw very certain conclusions on the participants’ competence development paths. However, within a longer period, some subtle development tendencies might fade while some emerging tendencies might develop into real development paths, and other development paths are also likely to be discovered. It is thus worth duplicating this empirical research in other translation programmes with a longer length, so that a fuller picture of the translation learners’ competence development paths can be drawn.

In addition, findings from the empirical study also point to future directions for translation competence research. The mapping of different individual competence development paths calls for more academic attention to individual learning paths in translation competence development. A close analysis of these individual development paths will reveal both positive and negative influencing factors of translation competence development. Follow-up research can also be conducted to explore and experiment with methods to strengthen the positive influence and reduce the negative influence so as to foster similar competence development or prevent similar competence stagnation among other learners. The identification of shared competence development patterns, on the other hand, requires validation from more and larger-scale empirical studies, as the current findings are only based on a small number of participants. More supporting evidence from similar empirical studies is needed before any of these findings can be generalised.

6.3.2 Implications for translation pedagogy

The theoretical framework and empirical findings provide theoretical support, empirical evidence and further inspirations for some emerging approaches in translation education and training. With a recent paradigm shift from teacher-centred transmissionist approaches to learner-centred constructivist approaches (Kim, 2013), new approaches to
translation teaching have been emerging and developing, featured by increased process-orientedness, learner-centeredness and situatedness (e.g. Vienne, 1994; Kiraly, 2000; González Davies, 2004, 2005; Kiraly, 2005). In the meantime, there is also increasing attention to translation curriculum design and programme design. The theoretical discussions and empirical findings in this research are in fact largely in line with these approaches and trends.

**Process-orientedness**

According to the translation problem-solving perspective, the translation product merely reflects aspects of some translation problem-solving sub-activities – problem-identifying, solution-proposing and decision-making sub-activities. Other aspects and sub-activities are visible only in the translation process. Therefore, translation competence is reflected not only through the translation product but also in the entire translation process. The empirical study in this research also revealed that many subtle and emerging competence development tendencies were found in the translation process. In other words, looking at the translation product alone risks losing sight of the on-going translation competence development during the translation process. It thus requires translation teachers to pay adequate attention to their translation learners’ translation processes to have a fuller picture of their translation problem-solving sub-activities and to better develop their translation competence accordingly. In recent decades, a number of translation teachers have also become aware of the limitation of product-oriented approaches and advocated process-oriented approaches (see, for example, Kiraly, 2000; Zhong, 2005; Massey, 2005; Gile, 2009; Orlando, 2012; Angelone, 2016).

In process-oriented translation teaching, a widely used pedagogical tool is the translation learner journal. Although various formats of learner journals are adopted in different translation classrooms with different names (e.g. translation diary in Fox, 2000; integrated problem and decision report in Gile, 2004; integrated translator’s diary in Orlando, 2012) and different focal points, they do have something in common: a focus on translation problem solving. This shows that translation teachers are aware of the limitation of translation products in reflecting the learners’ translation competence development and are devising new pedagogical tools for gathering and analysing evidence of the learners’ competence development in their translation processes. The learner journal is certainly an effective instrument for gathering such evidence, but there
is a lack of systematic analytical framework for the analysis of the gathered evidence. The proposed theoretical framework in this research, however, provides a practical analytical framework for translation learner journal analysis. The translation problem-solving sub-activities can be used as analytical categories to systematically analyse the learners’ translation problem-solving processes as reflected in their learner journals (see Cheng and Wu, 2016 for a translation learner journal analysis from the translation problem-solving perspective). In this way, the translation learner journal will become a more effective tool for assessing the learners’ competence development and adjusting the teaching focus to foster competence development.

Apart from providing an analytical framework for the translation learner journal, this research also offers new ideas for possible revision of such pedagogical tools. For example, the translation problem-solving perspective can be incorporated into the translation learner journal as structural guidance. In a structured learner journal, the translation learners are required to report their translation processes within the translation problem-solving framework. More specifically, they need to structure their journals with attention to the following aspects: the problems identified before, during and after the translation process, the nature and characteristics of the translation problems, the resources used and the possible translation solutions proposed during the translation process, the evaluation of proposed translation solutions, and the guiding principles and strategies for their translation choices. Such a structured translation learner journal will optimise the gathering of evidence on the learners’ translation problem-solving processes and therefore increase the practicality of the pedagogical tool in the translation classroom. Similarly, other more narrowly focused pedagogical tools such as translation task analysis and revision reports can also be adapted from the translation task-based interview.

**Learner-centeredness**

Findings from the empirical study revealed that individual differences in translation competence development were non-negligible, even among a small group of participants. This means that in the translation classroom, the difference between the learners’ translation competence development paths can be more prominently different. It is thus vitally important for the translation teacher to acknowledge and respect these individual differences and deal with them in an appropriate manner: Positive reinforcement is
needed for emerging competence development and timely intervention for stagnated competence development. The teaching focus should be constantly adjusted according to the teacher’s diagnosis of the learners’ translation problem-solving processes. For example, Way (2008) asks her students to use an “Achilles’ Heel” record sheet to analyse their own translation competence, based on which she is then able to detect the students’ weaknesses and provide remedies in time.

The crucial role that reflection plays in translation competence development also calls for a more learner-centred approach that encourages self-reflection. As Section 6.1.2 has pointed out, reflecting upon translation problem-solving processes is conducive to acquiring problem-solving schema, which in turn facilitates future problem-solving processes and translation competence development. Therefore, translation learners need to be encouraged to reflect more upon their own translation problem-solving processes. In the translation classroom, a common method to encourage self-reflection is to ask translation learners to write reflective journals. Apart from that, self-reflection can also be fostered through peer revision. In the empirical study, the participants gave positive feedback on reading the peer translation and demonstrated more self-reflection behaviours when they read the peer translations. This indicates that reading peer translation can stimulate their reflection upon their own translation problem-solving activities. It makes good sense from a translation problem-solving perspective, as the learners tend to make comparisons between their own translation problem-solving activities and the peer’s translation problem-solving activities, which is more likely to trigger their self-reflections. Peer-revision thus has the potential to become an effective tool in enhancing the translation learners’ self-reflection.

**Situatedness**

In recent literature, situated learning is gaining increasing popularity in translator education (see, for example, González Davies, 2004; Kiraly, 2005; Krüger and Serrano Piqueras, 2015; see also an overview of situated learning in translator and interpreter education by González-Davies and Enríquez-Raído, 2016). The proposed theoretical framework to some extent justifies the situated learning approach in translation training and education. According to the proposed theoretical framework, the translation learner develops translation competence through translation problem-solving activities in repeated practice and deliberate practice. The translation problems the translation
learners identify and solve have great influence on the extent and scope of their competence development. In order to better prepare the translation learners for the translation profession, it is therefore necessary to create opportunities for them to learn to identify and solve translation problems that resemble or come from real translation assignments in the translation profession. In this way, the translation learners are able to identify and solve more diversified types of translation problems (e.g. dealing with the commissioner, translation project management and time management) and construct more corresponding problem-solving schemas for the translation problems they are likely to encounter as professional translators.

The translation problem-solving perspective can also facilitate the use of situated approaches in the translation classroom. It can serve as a useful reference when translation teachers select or design the situated translation projects or assignments. Situated translation problems can be carefully selected or designed so that they pose challenge for different translation problem-solving sub-activities. Repeated practice and deliberate practice can be carefully combined to enhance translation learners’ competence development. The translation problem-solving perspective also enables translation teachers to discuss translation problem-solving processes with translation learners more explicitly, so that learning issues can be identified precisely and solved quickly. Moreover, as the situated approaches emphasise learner- and experience-based learning, it becomes rather important to ensure that translation learners do learn from experience. The translation problem-solving perspective can help encourage translation learners to reflect upon their translation problem-solving experience and therefore develop their translation competence.

**Curriculum and programme design**

This research also has some implications for translation course design. As has already been discussed in Section 6.2.1, in this research setting the translation problem-solving perspective was not revealed to the participants until the focus group, which meant that the participants had not been consciously improving their translation problem-solving activities during the research. Even so, changes and developments in their translation problem-solving activities within an academic year were already visible to a large degree. It can be imagined that if the translation problem-solving perspective is presented to the translation learners, who are taught to consciously improve their translation problem-
solving abilities, the progress in translation problem-solving activities within a year would probably be more prominent. Therefore, translation teachers can consider integrating the translation problem-solving perspective into their course design and targeting their teaching sessions at improving different translation problem-solving sub-activities. For example, one teaching session might focus on improving the learners’ translation problem-identifying activities while another might place emphasis on the effective use of online resources to propose translation solutions. Similarly, the translation assessment can also be carefully designed to be more demanding in different aspects of translation problem-solving activities.

If the broader context is taken into consideration, the translation problem-solving perspective can also provide inspirations for translation programme design. Section 4.7 points out that most of the participants report to have learned about some translation problem-solving sub-activities (e.g. translation problem identifying, translation solution proposing) from the different course modules they are taking, while other translation problem-solving sub-activities (e.g. translation problem representing) seem to be less mentioned. This imbalance partially results in the participants’ prominent development in some translation problem-solving sub-activities and stagnation in other sub-activities. It is therefore helpful to consider the different aspects of translation problem-solving sub-activities when designing a translation programme, so that all aspects of the sub-activities would be involved and discussed in the course modules in a more balanced manner.

6.4 Conclusion

This study set out to conceptualise translation competence and its development from the perspective of problem solving. The first aim of this study was to re-conceptualise the notion of translation competence and re-interpret the development of translation competence with inspirations from problem-solving studies. The second aim was to test and validate the relevance of the proposed theoretical framework in describing and explaining translation competence development in empirical studies. Returning to the questions formulated at the beginning of this thesis, it is now possible to state that the research questions have been answered and the research aims have been achieved.

This thesis has proposed a theoretical framework that draws from problem-solving studies to conceptualise translation competence and its development, which answers the first research question: how can problem solving be used to conceptualise translation
competence and its development? According to the proposed theoretical framework, translation competence includes not only relevant knowledge, skills and attributes, but more importantly, the ability to mobilise them, which is defined as the translation problem-solving ability in this study. The development of translation competence, therefore, can be seen as consisting of two intertwined processes: the accumulation of relevant knowledge, skills and attributes, and the improvement of translation problem-solving abilities, with the latter playing a dominant role. Through constantly solving similar translation problems in repeated practice and encountering new translation problems in deliberate practice, translation learners acquire and strengthen relevant knowledge, skills and attributes as well as problem-solving schemas, which together contribute to their translation competence development. The proposed theoretical framework demystifies the translation process with translation problem-solving sub-activities and offers a detailed explanation of translation competence development.

With the theoretical framework proposed, this study has also designed a research instrument for the observation of the translation learners’ translation problem-solving sub-activities. The translation task-based interview, which combines translation tasks and interview sessions in a flexible way, is an effective tool for gathering data on the translation process. The translation tasks aim to elicit the participants’ translation problem-solving activities and the interview sessions help invoke more detailed discussions of different sub-activities. The inclusion of peer-revision tasks elicits further translation problem-solving sub-activities, which adds to the scope of the data. With the translation task-based interview as the main research instrument, the current study is able to collect sufficient data on the participants’ translation processes in a longitudinal empirical study.

The subsequent data analysis answers the second and third research questions: what changes in translation processes are observed from a group of translation students over the course of their MA programme, and how can these changes be described and analysed in relation to their translation competence development, using the conceptualisation of translation competence previously developed? The data analysis has identified both individual paths and shared patterns of changes in the participants’ translation processes, which are described and analysed from the translation problem-solving perspective. The individual-based analysis found that individual differences in translation competence development paths were non-negligible. The participants demonstrated different
development paths in different translation problem-solving sub-activities with different directions, changing curves and timing. Even so, the analysis also identified some common tendencies among the participants. In most of the translation problem-solving sub-activities, there were some (emerging) trends of development that are shared by the majority of the participants. These findings have offered valuable insights into translation learners’ translation competence development in translation education and training.

Apart from answering the research questions, this study has also made other contributions. One of them is an attempt to promote multi-disciplinarity between translation competence research and relevant disciplines. The translation problem-solving perspective serves as a bridge that connects translation competence research not only with problem-solving studies, but also with other research contexts such as expertise studies, learning studies, higher education studies and vocational training studies. These neighbouring disciplines have generated meaningful findings that can benefit translation competence research in many ways. In turn, translation competence research conducted from the translation problem-solving perspective will also bring new thoughts and findings to these disciplines.

Notwithstanding the relatively limited sample, the empirical findings point out possible directions for future research. The findings on individual differences call for more academic attention to the factors influencing individual translation competence development. The common emerging patterns identified among the participants also require more research efforts before they can be validated and generalised. Future research can either replicate the current empirical study with different research settings, designs and participants, or focus more narrowly on certain translation problem-solving sub-activities towards a more thorough understanding. Alternatively, action research in the translation classroom can also be conducted by translation teachers, in which the translation problem-solving perspective can be incorporated into the classroom teaching to test its influence on the translation learners’ competence development.

A further contribution of this study is that it provides justification and offers inspiration for some increasingly popular teaching approaches. As has been pointed out in Section 6.3.2, both the theoretical framework and the empirical findings are largely in line with the learner-centred, process-oriented and situated approaches in translation education and training. The proposed theoretical framework points out that translation competence
development is reflected in translation learners’ translation problem-solving processes. In the translation classroom, translation teachers should also pay attention to the learners’ translation processes and create opportunities for them to solve more translation problems. The translation task-based interview, with appropriate adaptation – for example, into a structured translation learner journal – would be an effective pedagogical tool for translation teachers to observe learners’ translation problem-solving activities. The description of translation problem-solving sub-activities can also provide useful reference for translation teachers’ selection and design of translation problems in classroom activities and assessment.

The fact that this study has opened up so many avenues for future translation competence research and translation didactics is mainly due to the introduction of the translation problem-solving perspective. The translation problem-solving perspective has widened the scope of translation competence research, linking it with relevant research findings both within and beyond the translation context. It has deepened the understanding of translation competence and its development, which facilitates the observation and analysis of the translation learners’ competence development paths. It has also bridged the gap between translation competence research and translation classroom teaching, offering concrete support and suggestions for recent approaches and trends in translation teaching activities. In all, the translation problem-solving perspective on translation competence proposed and explored in this study constitutes a crucial step in enriching current knowledge of translation competence and its development.
References


Appendix 1 Questionnaires

First questionnaire:

Thank you for agreeing to fill in this questionnaire. This questionnaire is designed to find out a few things about your translation learning and practice. It is part of a PhD project on translation competence development. Please note that the personal information collected in this questionnaire will only be used for the purpose of building your portfolio during the research. Anonymity will be guaranteed.

How long will it take?

We would appreciate it if you could spare five to ten minutes of your time to fill in this questionnaire.

What about confidentiality?

The information collected will only be used for academic purposes. The information will not be passed on to any third party.

What do I have to do?

We ask you to please answer the questions truthfully. There are no right or wrong answers.

Part I Your Previous Experience

1. Do you have a previous degree in translation and interpreting (T&I)?
   □ Yes. I hold a □ BA/□ MA degree in T&I/translation studies.
   □ No. I hold a □ BA/□ MA degree in ____________ (please specify your major)

2. Have you received any practical T&I training before starting this programme?
   □ Yes, from □ university courses □ training institutes
   □ No.
   □ Other.

3. Have you learned any translation theories before starting this programme?
   □ Yes, please list up to three theoretical concepts in translation studies that you are familiar with _____________________________
   □ No.

4. Have you had any freelance/in-house T&I experience before starting this programme?
   □ Yes, I have translated approximately ________ (e.g. 10k) words in fields including ________ (e.g. literary, commercial, etc.) as a freelance/in-house translator.
   □ No.

5. Have you taken any T&I qualification exams in China (e.g. CATTI, NAETI)?
   □ Yes. Please specify _____________________________
   □ No.
6. From 1 to 5, how would you grade your own translation competence, where 1 is no competence at all, while 5 is extremely competent? (Please circle the number below)

1 2 3 4 5

Part II Your Interests and Plans

7. Which of the following course modules do you have an interest in?

Please find introductions to these course modules from the programme handbook. Note that this question asks about what course modules you are interested in, not what course modules you are taking.

- Research Methods in T&I Studies I
- Translation and Interpreting Studies I
- Translating for International Organizations
- Commercial Translation
- Translation Technologies
- Consecutive Interpreting
- Research Methods in T&I Studies II
- Cross-Cultural Pragmatics
- Literary Translation: Contexts and Challenges
- Audiovisual Translation I
- Scientific and Technical Translation
- Translation and Media Culture
- Translation Project Management and Professional Ethics
- Public Service Interpreting
- Research Methods in T&I Studies II
- Cross-Cultural Pragmatics
- Literary Translation: Contexts and Challenges
- Audiovisual Translation I
- Scientific and Technical Translation
- Translation and Media Culture
- Translation Project Management and Professional Ethics
- Public Service Interpreting

8. Which of the following dissertation type might you choose to do?

- Research dissertation
- Practical dissertation ( translation consecutive interpreting public service interpreting subtitling)
- Not sure yet

9. Are you planning to do any freelance T&I work during the programme?

- Yes, I am planning to work in these fields: ______________________________
- No.
- Not sure.

10. Are you planning to work as a professional translator/interpreter after graduation?

- Yes. ( in-house translator/interpreter freelance translator/interpreter)
- No. ( PhD/further study T&I-related profession other profession)
- Not sure.

Part III Your Personal Information

Name ___________________
Email ___________________

Thank you for completing this questionnaire!
Second questionnaire:

Thank you for agreeing to fill in this questionnaire. This questionnaire is designed to find out a few things about your translation learning and practice. It is part of a PhD project on translation competence development. Please note that the personal information collected in this questionnaire will only be used for the purpose of building your profile during the research. Anonymity will be guaranteed.

How long will it take?

We would appreciate it if you could spare five minutes of your time to fill in this questionnaire.

What about confidentiality?

The information collected will only be used for academic purposes. The information will not be passed on to any third party.

What do I have to do?

We ask you to please answer the questions truthfully. There are no right or wrong answers.

Part I Your MATIS Programme Experience

1. Which of the following course modules have you taken?
   - Research Methods in T&I Studies I
   - Translating for International Organisations
   - Translation Technologies
   - Research Methods in T&I Studies II
   - Literary Translation: Contexts and Challenges
   - Scientific and Technical Translation
   - Translation Project Management and Professional Ethics
   - Translation and Interpreting Studies I
   - Commercial Translation
   - Consecutive Interpreting
   - Cross-Cultural Pragmatics
   - Audiovisual Translation I
   - Translation and Media Culture
   - Public Service Interpreting

2. Which of the following dissertation types have you chosen? Please provide some key words of your dissertation (topic, theory, etc.).
   - Research dissertation
   - Practical dissertation (translation, consecutive interpreting, public service interpreting, subtitling)

3. From 1 to 5, how would you grade your own translation competence after completing this programme, where 1 is no competence at all, while 5 is extremely competent? (Please circle the number below)
   1 2 3 4 5
Part II Your Extracurricular Translation Experience

4. Have you had any freelance/in-house translation experience during this programme?
   □ Yes, I have translated approximately ___ (e.g. 10k) words in fields including __________ (e.g. literary, commercial, etc.) as a freelance/in-house (please circle) translator.
   □ No.

5. Have you had any freelance/in-house interpreting experience during this programme?
   □ Yes, I have interpreted approximately ____ hours in fields including _________________ (e.g. literary, commercial, etc.) as a freelance/in-house (please circle) interpreter.
   □ No.

6. Have you taken any T&I qualification exams during this programme?
   □ Yes. Please specify ___________________________________________________________
   □ No.

7. Are you planning to work as a professional translator or interpreter after graduation?
   □ Yes. (□ in-house translator □ in-house interpreter □ freelance translator □ freelance interpreter)
   □ No. (□ PhD/further study. Please specify___________________________
   □ T&I-related profession. Please specify___________________________
   □ other profession. Please specify______________________________)
   □ Not sure.

Part III Your Personal Information

Name ___________________
Email ___________________

Thank you for completing this questionnaire!
Appendix 2 Focus group questions

[These questions were originally presented to the participants in Chinese and translated here by the author.]

Part I

Theme 1: On the translation task-based interview

First of all, I would like to thank all of you for attending all the four translation task-based interview sessions during the past academic year. Now, please recall your experience in the four interview sessions and share your thoughts on the following topics:

- How did you feel about the interview sessions?
- In the interview sessions, did you translate like you would normally translate in your previous translation activities? If not, what were the major differences?
- Did you reflect upon your translation performance in the interview sessions after each session?
- Have you benefitted from attending the interview sessions? If yes, what are the benefits?
- Do you have any suggestions for improving the design of the interview sessions?

Theme 2: On the access to others’ translations

In each interview session, you had access to a peer translation. In your previous translation activities, you might also have found existing translations online. Please share your thoughts on the following topics:

- In your translation process, do you wish to have access to others’ translations? Why, or why not?
- When do you wish to have access to others’ translations, before your translation process starts, during your translation process or after your translation process ends?

Theme 3: On the access to others’ translation processes

Please share your thoughts on the following topics:

- When reading others’ translations, are you curious about the reason for some translation choices?
- Do you wish to have access to others’ translation processes, especially the processes of identifying and solving translation problems (e.g. what online resources are consulted, what adjustments are made)?
• Which do you wish to have more access to, others’ final translation products, or their translation processes? Why?

**Theme 4: On translation commentaries/journals/reports**

Please share your thoughts on the following topics:

• In the specialist translation course units, do your instructors/tutors’ evaluations of your translation products meet your own expectation?

• In the specialist translation course units, do you think it is necessary to submit a translation journal (e.g. to point out translation problems, to explain translation choices) along with the translation product? Why?

**Theme 5: On the translation problem-solving process**

Some researchers have proposed that there are five sub-activities in the translation problem-solving process: identifying translation problems, representing translation problems, proposing translation solutions, evaluating translation solutions, and making translation decisions. Please share your thoughts on the following topic:

• Do you think the five sub-activities have covered your activities in your translation processes? If not, what are the other activities that have not been included?

**Part II**

**Theme 6: On some preliminary findings**

Please review your general translation activities during the past academic year, and discuss to what extent you agree or disagree with the following statements.

• I am more capable of identifying a wider range of translation problems (e.g. translation situation-related problems, contextual knowledge-related problems) in my translation activities now than one year ago.

• When I encounter new translation problems, I am more capable of recalling similar problems identified and solved before to solve the current problems more efficiently now than one year ago.

• When I encounter new translation problems, I am more capable of analysing (the type, nature or cause of) identified translation problems and retrieving relevant solving strategies now than one year ago.

• I have a more critical attitude towards the credibility of online resources and tend to read information from more reliable sources now than one year ago.

• I am less dependent on translations provided by dictionaries or online resources and more flexible in proposing my own translation solutions now than one year ago.
• I take more consideration of the specific translation situation (e.g. the commissioner, the target readership) when I evaluate alternative translation solutions now than one year ago.

• I follow more defined translation principles and translation strategies in my translation activities now than one year ago.

• I like to reflect upon the problems I have identified and solved in my translation processes and summarise the solving strategies.
Appendix 3 Example of interview transcript (Participant Shan, 3rd session)

Pre-translating interview

R: Please tell me about what translation problems you think you will need to solve in your translation process after reading the translation task.

SHAN: I need to go to the electronic document, and then directly translate it in the Google Doc?

R: It’s up to you.

SHAN: I do not really know much about the South Sea conflict. I need to check its background information later on.

R: What do you feel about the task?

SHAN: I was just trying to understand the article…

R: Can you understand it?

SHAN: I do not understand all the details. I think the first paragraph should be talking about Donald Trump, and then the second paragraph turns to the Philippines. The Philippines has newly elected a president, the US wants to cooperate with the Philippines to stop China’s actions in South China Sea, but the newly elected Filipino president seems to want to be closer with China. And then the third paragraph introduces that the Philippines attended a UN court, and then it points out that in 2013 the Philippines was against China in the South China Sea issue. And then a question I now have is, I don’t know why it talks about Trump first, and then the second paragraph turns from Trump to the Philippines … I do not know much about the background.

R: Are there any other problems?

SHAN: There are some unfamiliar words, but I can look them up later.

Post-translating interview

SHAN: Done.

R: How do you feel about completing the translation task?

SHAN: Hmm...

R: As compared to the previous ones?
SHAN: It’s hard to say … I don’t quite remember how long it took me to translate the previous two articles.

R: Then let’s simply talk about this one. How do you feel about translating the article?

SHAN: At first I was thinking about what translation method to use, and then the first paragraph was revised a lot. This time my strategy is … I remember last time the strategy was relatively …

R: Last time you mentioned foreignising and domesticating, and hesitated between the two.

SHAN: This time I felt like combining the two. I think I was standing in the author’s position, so I used 南中国海 instead of 南海. Then I assumed that this translation was posted, well, the task description said it was to be posted on Wall Street Journal Chinese edition website, so this position was not purely a Chinese one. However, this translation was intended for Chinese people, for Chinese-speaking people, so I added some information. I think it was originally intended for American people, so many things are easily understood by the readers, but here the translation is for Chinese people, so there needs to be some addition. And there is also problem with sentence order in the paragraph.

R: I noted that you adjusted some sentences for several times.

SHAN: That’s right. I think when I was faced with this original text, I felt freer and adopted a freer attitude. And this time I was still domesticating, generally speaking it was domesticating. I added some background knowledge, and adjusted the sentence order to make it read more smoothly.

R: But you were saying that you combined the two.

SHAN: I didn’t get it at the moment. I think foreignising was probably, for example, the description of the sea area, the Chinese way is to say how much the sea area is rather than how long it extends from the seashore into the sea, but here I adopted the description in the original text. But this is also from my personal experience, without proof of evidence, so I am not sure, either. So generally speaking, I still adopted domesticating.

R: OK. Now let’s talk about a few minor problems. You first searched a lot about Trump but did not search for information on the Filipino president. You only started to do that searching after looking up a few words in the dictionaries.

SHAN: I searched for information on Trump mainly to understand the checkered past, because it says checkered past here.

R: Right, I saw you search with an admired past and with a checkered past on Google.

SHAN: Yeah, because I didn’t know how to translate it. When I tried to translate this phrase, I didn’t know how to translate it, so I went for searching.
R: You finally translated it briefly into 又爱又恨.

SHAN: Right. Because I thought of 又爱 for admired, and then it [checkered] could be 又恨, and I was thinking what this checkered past meant exactly.

R: You searched for its English explanations online but did not look for a Chinese one.

SHAN: In fact, I thought of 又爱又恨 when I first saw admired, and then I looked up checkered in the dictionary and found that it meant versatile, I was thinking about a suitable word … and then I wanted to try my luck online, and I searched checkered past on Google, and saw that someone said “if you have a checkered past, you have done things you are ashamed of”, I thought this was the same meaning, so translating it into 又爱又恨 makes sense. So I translated it into 又爱又恨.

R: Alright. And then about the translation of candidate, you simply translated it into 唐纳德·特朗普 first, and then added 人气候选人, and finally changed it into 人气总统候选人.

SHAN: Yeah.

R: But the source text did not reveal the name of the candidate in the first paragraph.

SHAN: Here I thought of last translation task. I saw that the peer translation revealed the names of the economists in the first paragraph. I adopted her method and revealed the name this time.

R: I noticed that you marked out populist outsider in the pre-translating interview, but you did not seem to allocate much time to solving this problem.

SHAN: Yes, I did. I described that he was not a typical elite.

R: So you described it from the opposite.

SHAN: Right.

R: OK. When you translated distrusts allies, you first rendered it into 同盟国对他不信任.

SHAN: Because I looked up the meaning of distrust. First I thought it meant making others not trust you, but it turned out that it meant you did not trust others. So I changed it.

R: I see. And when you were translating the second paragraph, you thought about it for quite long.

SHAN: Because I thought that if I put this sentence into the second sentence, then the latter two sentences would look a bit empty. It would say that Duterte seemed to want to
please China, and then that was the end of sentence. It felt like that something was missing. So I put this sentence at the end of the paragraph.

R: So you wanted to link the paragraphs?

SHAN: That’s right.

R: You said at the beginning that you did not quite understand why the first paragraph talked about Trump and the second paragraph talked about the Philippines. Have you figured it out now?

SHAN: Yes, I’ve got it now. It was because that the new president in the Philippines was called the Filipino Trump.

R: OK. Your translation of the third paragraph seemed to be quite smooth. Did you find any problems with translating this paragraph?

SHAN: I saw this sentence online.

R: Yes, I noticed that you spent quite some time reading the webpage. Was that because you did not quite know how to phrase it?

SHAN: Yeah.

R: Are you satisfied with your translation now?

SHAN: I think there is still some problem with my wording. For example, 使天下大乱.

R: Why? I can see that you were trying to use four-character Chinese phrases here.

SHAN: That’s right. I was hoping that by using four-character Chinese phrases – they were used more often in formal and written languages – my translation would read more like a written text.

R: So why are you dissatisfied with it?

SHAN: I was going to point out the translation of insulting here.

R: I noticed that you were searching 出言不逊 on Google.

SHAN: Because 出言不逊 referred to rude and impolite speeches, but I thought contemptuous speeches might be more forceful. However, if 发表轻蔑的言论 was used, it felt… I though four-character Chinese phrases would be more like a written text. There might be better wordings here but I could not think of one. Besides, the translation of this sentence [He distrusts allies and promises to cut deals with adversaries], I thought it was a bit stiff. And the second paragraph, mull these questions as they watch Donald Trump, I felt that I did not really translate mull. And there was this U.S. allies, it simply referred to the allies of the U.S., but my translation 美国的同盟国 had six characters in it… should it be 美国盟友...
R: Anything else you want to discuss?

SHAN: Oh, I made a small change here. It was Mr Duterte in the article, but I translated it into 杜特蒂总统.

R: Why?

SHAN: It was also domesticating, because he was president, so I emphasised his presidential status. He represented the Philippines. And the paragraphs became more coherent.

R: I see.

SHAN: And there was also notorious, I used臭名昭著 at first [and then changed it into something else]. But I think maybe I should still use 臭名昭著.

R: You changed it into 饱受争议, which is milder.

SHAN: Yeah, it was milder and more neutral. But I am not quite sure. The author used notorious, should I also use 臭名昭著? The problem is, notorious expressed the author’s standpoint. It was a derogatory word… so maybe I should use 臭名昭著 instead of 饱受争议.

R: So what are you going to do about it?

SHAN: My strategy is that I need to reflect the author’s standpoint first. If he is criticising, then I should also express the criticism. Secondly, I want to domesticate. I want it to read more smoothly, and also to add some information. So I am going to revise this translation later.

R: Alright.

Pre-revising interview

SHAN: She also mentioned the US presidential election, same as me.

R: That’s right.

SHAN: Oh, I forgot this information!

R: Which information?

SHAN: She added that he would be formally inaugurated on 30 June. I only knew that he was the winner of the election, and thought that he became president immediately after winning the election. I think that my translation would be a little incorrect as I missed this piece of information.
R: I see.

SHAN: 1600 kilometre? Oh yes, it said mile, in this case I should have domesticated, I should have converted the measurement unit into kilometre.

R: There was in fact also this problem of measurement unit in the first session.

SHAN: Yes, how come I made the same mistake again!

R: Have you encountered similar problems in your coursework?

SHAN: No.

R: Have you discovered any other problems?

SHAN: Here, the translation of cut deals with, she translated it into 他不相信能够与敌手达成协议, it’s different from mine in terms of comprehension.

R: She seemed to have opposite understanding.

SHAN: I looked up cut deals with, it should mean to make a deal. She translated it into 他不相信能够与敌手达成协议 [do not believe that he can make a deal with adversaries], it meant the opposite. It should mean that he does not trust allies and makes deals with adversaries. It should be like so. As for other problems, her translation of admired but checkered, 令人羡慕却又充满曲折, is different from mine. If you look up checkered in the dictionary, it means volatile, full of twists and turns, but I would like to stick to mine and understand it as something that makes you feel ashamed. And then, there is also the translation of macho persona, 大男子主义.

R: You used 大男子气概.

SHAN: That’s right. I understand it as a contrast. I mean, you have 大男子气概, so you won’t [insult women] … this stands in contrast with the contemptuous attitude towards women. This is my understanding.

R: How do you understand 大男子气概 and 大男子主义?

SHAN: I think 大男子主义 does imply that one looks down on women. I think it might be that my understanding is incorrect, because 大男子 does sound disdainful, so here it should be my understanding mistake.

R: OK. Anything else?

SHAN: Oh here, populist, she translated it into 平民圈外人. I did not look up this word, I missed it, I should have looked up the meaning of populist. It’s my mistake, here and the election in the Philippines, both are my mistakes, I did not pay attention to them and ignored them. I thought populist meant popular, so I used 人气总统. It should have been 平民. It’s my misunderstanding. In terms of details, I do not really agree with her on the
translation of insulting. You can use 出言不逊 for the Pope, as the Pope assumed a high rank with immense power, but you cannot use it for the foreigners. 出言不逊 is mainly used when you are referring to teachers and superiors, and it is a bit strange to refer to the foreigners. So if you want to refer to both the Pope and the foreigners, it would be 发表轻蔑的言论. But in her translation, I think what is good is her translation of the last sentence of the first paragraph, 注定会是带来动荡的领导者, 还是说责任感会使他变得趋于温和, I think this translation is very good.

R: You used four-character Chinese phrases here.

SHAN: Yes, but her wording, 趋于, 簇拥, 政治精英, I think these wordings are particularly good. She translated moderate into 趋于温和, and used 旁观, and also added a dash here. And here she also added information, I think the information added here is quite necessary. I simply translated the last week elected into 当选总统 and followed the original article.

R: What do you think about it?

SHAN: Let me rethink. Maybe I could translate it into 当选为总统 and 任期为. She also specified when he would be inaugurated as the president. I need to think about it later…

R: OK. We can discuss the translation of the third paragraph first.

SHAN: I think she translated it quite well. In the second paragraph she translated checking aggressive Chinese action in the South China Sea into 在南海问题上制约中国, this shows that her entire standpoint was probably more on China’s side, and reduced the original author’s tones to some extent. And also here in this paragraph, the sentence beginning with In 2013 the Philippines, she gave a vague translation of the sentence, for the source text clearly said that China claimed blabla.

R: So what do you think of her translation?

SHAN: I think her translation can be shown to the mainland audience. It is neutral – not particularly neutral…but I think she is neutral. Her diction, sentence restructuring and wording are quite … generally speaking, her translation is more mature, but also has some issues in terms of certain details. However, I think [the translation] should reflect the author’s standpoint. This is an article from the Wall Street Journal… of course there is also the problem with the standpoint of this journal itself – whether it is neutral or more pro-what – it depends on the overall style of the journal.

R: Well, you may revise your own translation now.

SHAN: OK. But I might need to think about domesticating and foreignising first. In my understanding of domesticating, if we put it in more radical terms, for example, when translating the sonnets written by Shakespear, as China does not have sonnets, would
domesticating mean that I should translate it into a typical Chinese modern poem or an
ancient poem? It is not only the genre and wording, but does domesticating also require
the change of standpoint or attitude?

R: Well, it is a good question. Unfortunately, I am not in a position to answer this
question, but you may think about it during your revision process.

_Post-revising interview_

R: Let’s see what revisions you have made. One is the translation of populist outsider,
you imitated her translation and changed your translation 人气候选人 into 来自平民圈
层的.

SHAN: Right.

R: The translation of macho persona was also revised.

SHAN: Yeah.

R: And here, responsibility moderate him, you revised your four-character phrases into
something more like hers, but with slight change into 在责任感的作用下.

SHAN: Yes. And I also moved this sentence back to its original place.

R: I can see that. Why did you move it back?

SHAN: I thought about it from another perspective, and thought that the end of the first
paragraph put forward the question, the beginning of the second paragraph talked about
the question, the end of the second paragraph mentioned the problem between the
Philippines and China, and then the beginning of the third paragraph discussed the
problem. I think this arrangement makes the article read more smoothly.

R: You mean the link between the paragraphs?

SHAN: Yes, so I moved the sentence back to its own place.

R: You also mentioned that you needed to think about the information she added in her
translation. I notice that you did not add the information in your revision.

SHAN: No, I did not, as I did not think it necessary to provide the information.

R: And you also revised 饱受争议 into 备受诟病.

SHAN: Yes, I think this would be closer to notorious.

R: You also revised 英里 into 公里.

SHAN: That’s right.
**R:** Are you satisfied with your revised translation?

**SHAN:** Yes, I think the comprehension problems should be solved, and I changed 英里 into 公里 as a result of domesticating. I think it is better than the previous version.

**R:** Are you more confident in your translation now?

**SHAN:** I think the reason I made these revisions was because I read hers and discovered my shortcomings. If I am translating on my own, I need to be more patient to discover the weaknesses in my translation. The issues I ignore, those I think they seem to be like that, will be problematic.

**R:** I also noticed that you spent quite a lot of time searching for background knowledge.

**SHAN:** Because this translation requires me to know a lot about its background.

**R:** Do you also need to search for a lot of background knowledge in your course modules?

**SHAN:** Well, there are not many, but we did have to search for background information sometimes. I took the *Translating for International Organisations* module this semester, and needed to translate UN documents. The UN often issue new documents on the same issue and I need to read its previous Chinese documents in order to understand the terms in it. I think the reason I value the context is that first I need to understand the source text. Only when I understand it can I translate it and translate flexibly, otherwise the translation will be very stiff. But in translating the UN documents, because they have UN terms, and you need to look up the technical terminologies. And then you will also get to know some background information in this process, which will help you translate more smoothly.

**R:** I see. Thank you very much for attending this interview session.
Appendix 4 Example of translation problem-solving process description (Participant Shan, 3rd session)

Translating

SHAN follows the link in the task description and opens the Google Doc.

SHAN searches “南中国海 特朗普” on Google, and opens a news article on Trump from BBC Chinese website. SHAN reads through the article.

SHAN opens another article on the relationship between Trump and China from 多维社区, a local news portal. SHAN reads through the article.

SHAN opens another article on Trump and China from voachinese.com. SHAN reads through the article.

SHAN searches “特朗普 性骚扰 攻击外国人 教皇” on Google, glancing over the search results.

SHAN opens an article on Trump insulting the pope from 新华网, a leading Chinese new portal, and reads through the article.

SHAN opens an article on Hillary criticizing Trump from 苹果日报, a leading news portal in Hong Kong, and reads through the article.

SHAN searches “Trump insult women foreigners and the pope” on Google, glancing over the search results.

SHAN opens an article titled “10 times Donald Trump insulted groups this fall” from CNNPolitics. SHAN scan-reads the article.

SHAN looks up “Iowans” in Youdao Dictionary, reading the quick explanation.

SHAN continues to read the article.

SHAN looks up “elite” in Youdao Dictionary, reading the quick explanation.

SHAN looks up “checkered” in Youdao Dictionary, reading the quick explanation.

SHAN looks up “admired” in Youdao Dictionary, reading the quick explanation.

SHAN looks up “distrust” in Youdao Dictionary, reading the quick explanation.

SHAN looks up “ally” in Youdao Dictionary, reading the quick explanation.

SHAN looks up “cut deal with” in Youdao Dictionary, reading the quick explanation.

SHAN looks up “adversaries” in Youdao Dictionary, reading the quick explanation.
SHAN searches “Trump distrusts allies” on Google, glancing over the search results.

SHAN looks up “mull” in Youdao Dictionary, reading the quick explanation.

SHAN looks up “菲律宾” in Youdao Dictionary, reading the quick explanation.

SHAN looks up “tough-talking” in Youdao Dictionary, reading the 21 E-C explanation.

SHAN looks up “Rodrigo Duterte” in Youdao Dictionary, reading the online explanation.

SHAN searches “菲律宾新总统” on Google, and opens an article on Duterte and South China Sea from BBC中文网. SHAN reads through the article.

SHAN searches “中国在南中国海的过激行为” on Google, and opens a special section on voachinese.com. SHAN opens an article on South China Sea from the section and glances over the content.

SHAN goes back to the search result of “菲律宾新总统” and opens an article on Duterte and China from sina.com, and then reads through the article.

SHAN searches “菲律宾 2013 联合国法庭 南中国海” on Google, glancing over the search results.

SHAN types 南中国海新的政治风险

SHAN revises 新的政治风险 into 新一轮政治危机

SHAN revises 南中国海新一轮政治危机 into 新一轮南中国海政治危机

SHAN looks up “flock to” in Youdao Dictionary, reading the quick explanation.

SHAN looks up “persona” in Youdao Dictionary, reading the quick explanation and English explanation.

SHAN types 唐纳德·特朗普算不上

SHAN revises 算不上 into 虽然不算

SHAN revises 虽然不算 into 算不上

SHAN types 出是

SHAN revises 算不上是 into 虽然不是

SHAN types 传统的美国精英分子，

SHAN types 却赢得了选民潮水般涌来的支持。

SHAN revises 赢得 into 获得
SHAN types 他的过去

SHAN revises 过去 into 经历

SHAN deletes 经历

SHAN looks up “checkered” in Youdao Dictionary, reading the quick explanation, English explanation, online explanation and bilingual example sentences.

SHAN deletes 他的

SHAN adds 人气候选人 before 唐纳德

SHAN searches “a man with an admired past” on Google, glancing over the search results.

SHAN searches “a man with a checkered past” on Google, glancing over the search results. SHAN opens an English webpage explaining “checkered past”, reading the explanation.

SHAN types 他的参选经历让人又爱又恨。

SHAN types 他既是, deletes 既是

SHAN types 一面, deletes 一面

SHAN types 鼓吹自己有大男子气概,

SHAN adds 一面 before 鼓吹

SHAN revises 他一面鼓吹自己有大男子气概 into 他一面表现出有大男子气概，一面又出言不逊

SHAN deletes 出言不逊

SHAN types 对女性、外国人和罗马教皇发表轻蔑的言论。

SHAN searches “出言不逊的意思” on Google, reading the quick explanation provided.

SHAN types 他使美国同盟国丧失信心,

SHAN adds 总统 before 候选人

SHAN deletes 他使美国同盟国丧失信心

SHAN types 他

SHAN searches “美国同盟国” on Google, glancing over the search results.

SHAN searches “美国的同盟国” on Google, glancing over the search results.
SHAN types 使美国的同盟国降低了信心，
SHAN deletes 使美国的同盟国降低了信心

SHAN looks up “distrust” in Youdao Dictionary, reading the quick explanation and English explanation.

SHAN types 不信任美国的同盟国，又

SHAN types 许诺

SHAN searches “cut deal with adversaries” on Google, glancing over the search results.

SHAN searches “cut deals with adversaries” on Google, glancing over the search results.

SHAN searches “cut deal with” on Google, glancing over the search results.

SHAN types 会处理好与美国

SHAN adds 将 before 会

SHAN types 的反对国的争端。

SHAN revises 争端 into 矛盾

SHAN types 特朗普若当选总统，

SHAN types 究竟会使天下大乱，还是会收敛性子、履行职责呢？

SHAN types 面对特朗普时，美国的同盟国会思考上述的问题，

SHAN deletes 面对特朗普时，

SHAN adds 在面对特朗普时 after 同盟国

SHAN types 如今，美国在面对菲律宾这个重要盟友的时候也会思考类似的问题。

上周，菲律宾选举

SHAN deletes 选举

SHAN adds 说话强硬的 before 菲律宾

SHAN goes back to the online article on Duterte from BBC中文网 and looks at the name.

SHAN types 罗德里戈·杜特蒂

SHAN goes back to the online article.

SHAN adds 达沃市市长 after 说话强硬的
SHAN adds 当选 before 菲律宾

SHAN types 总统，任期六年。

SHAN revises 如今 into 现在

SHAN moves 现在，美国在面对菲律宾这个重要盟友的时候也会思考类似的问题

SHAN adds 了 after 类似的问题

SHAN types 在制约中国

SHAN revises 在 into 要

SHAN types 在南中国海的激进行为，

SHAN adds 美国 before 要制约

SHAN types 菲律宾

SHAN adds 离不开 before 菲律宾

SHAN types 的帮助

SHAN revises 离不开菲律宾的帮助 into 一定需要菲律宾的合作

SHAN revises 美国要制约中国在南中国海的激进行为，一定需要菲律宾的合作

SHAN revises 菲律宾与美国的合作，对于制约中国在南中国海的激进行为至关重要

SHAN types 然而，杜特蒂总统似乎

SHAN revises 似乎 into 看起来

SHAN types 想要讨好中国。

SHAN revises 也会思考类似的问题 into 也要思考类似的问题

SHAN moves 现在，美国在面对菲律宾这个重要盟友的时候也要思考类似的问题

SHAN moves 现在，美国在面对菲律宾这个重要盟友的时候也要思考类似的问题

SHAN moves 现在，美国在面对菲律宾这个重要盟友的时候也要思考类似的问题

SHAN moves 现在，美国在面对菲律宾这个重要盟友的时候也要思考类似的问题

SHAN adds 与上述 before 类似

SHAN types 2013年，
SHAN searches “2013 菲律宾 联合国仲裁 南海” on Google, glancing over the search results.

SHAN types 菲律宾于2013年就南中国海争议向联合国仲裁庭提出诉讼，

SHAN goes back to the search results.

SHAN revises 仲裁庭 into 仲裁法院

SHAN types 中国声称拥有几乎整个南中国海的主权，

SHAN moves 菲律宾于2013年就南中国海争议向联合国仲裁法院提出诉讼 behind 南中国海的主权，

SHAN withdraws the last step.

SHAN types 因而饱受争议。

SHAN revises 南中国海争议 into 南中国海主权问题

SHAN revises 因而饱受争议 into 这一说法饱受争议

SHAN types 南中国海面积比地中海还大，从中国的海岸线

SHAN revises 中国的海岸线 into 中国南部

SHAN deletes 从中国南部

SHAN adds 覆盖了中国南部 after 南中国海

SHAN searches “南中国海 海域范围” on Google, and opens Wikipedia webpage on 南海, glancing over the content.

SHAN searches “从海岸线向海洋延伸1000英里” on Google, glancing over the search results.

SHAN adds 从海岸线向海洋延伸一千英里的海域 behind 中国南部

Revising

SHAN revises 人气总统候选人 into 美国总统候选人

SHAN adds 来自平民圈层的 ahead of 美国总统候选人

SHAN revises 美国精英分子 into 政治精英
SHAN revises 他一面表现出大男子气概，一面又对 into 鼓吹大男子, deletes 鼓吹大男子

SHAN searches “persona” on Google, glancing over the search results.

SHAN revises 又许许 into 并许诺

SHAN revises 与美国的反对国的矛盾 into 与反对国的矛盾

SHAN adds 大男子主义的他， before 对女性、外国人

SHAN revises 特朗普若当选总统，究竟会使天下大乱，还是会收敛性子、履行职责呢？ into 他注定会是一个带来动荡的领导人，还是会因责任感的作用下趋于温和？

SHAN revises 说话强硬 into 作风强硬

SHAN revises 作风强硬 into 说话强硬

SHAN revises 这一说法饱受争议 into 因而备受诟病

SHAN revises 一千英里 into 约1600公里

SHAN revises 面积比地中海还大 into 面积超过地中海

SHAN goes back to the article from BBC中文网, glancing over the content.

SHAN revises 想要讨好中国 into 想讨好中国

SHAN moves 现在，美国在面对菲律宾这个重要盟友的时候也要思考类似的问题了 ahead of 上周

SHAN deletes 与上述
Appendix 5 Example of translation and revision products
(Participant Shan, 3rd session)

Translation:

新一轮南中国海政治危机

人气总统候选人唐纳德·特朗普虽然不是传统的美国精英分子，却获得了选民潮水般涌来的支持。他的参选经历让人又爱又恨。他一面表现出有大男子气概，一面又对女性、外国人和罗马教皇发表轻蔑的言论。他不信任同盟国，并许诺将会处理好与反对国的矛盾。特朗普若当选总统，究竟会使天下大乱，还是会收敛性子、履行职责呢？

美国的同盟国在面对特朗普时会思考上述的问题。上周，说话强硬的前达沃市市长罗戈里德·杜特蒂当选菲律宾总统，任期六年。菲律宾与美国的合作，对于制约中国在南中国海的激进行为至关重要。然而，杜特蒂总统看起来想要讨好中国。

菲律宾于2013年就南中国海主权问题向联合国仲裁法院提起诉讼。中国声称拥有几乎整个南中国海的主权，这一说法饱受争议。南中国海覆盖了中国南部从海岸线向海洋延伸约1600公里的海域，面积比地中海还大。

Revision:

新一轮南中国海政治危机

来自平民阶层的美国总统候选人唐纳德·特朗普虽然不是传统的政治精英，却获得了选民潮水般涌来的支持。他的参选经历让人又爱又恨。大男子主义的他，对女性、外国人和罗马教皇发表轻蔑的言论。他不信任同盟国，并许诺将会处理好与反对国的矛盾。他注定会是一个带来动荡的领导人，还是会在责任感的作用下趋于温和？

美国的同盟国在面对特朗普时会思考上述的问题。现在，美国在面对菲律宾这个重要盟友的时候也要思考类似的问题了。上周，说话强硬的前达沃市市长罗戈里德·杜特蒂当选菲律宾总统，任期六年。菲律宾与美国的合作，对于制约中国在南中国海的激进行为至关重要。然而，杜特蒂总统看起来想要讨好中国。

菲律宾于2013年就南中国海主权问题向联合国仲裁法院提起诉讼。中国声称拥有几乎整个南中国海的主权，因而备受诟病。南中国海覆盖了中国南部从海岸线向海洋延伸约1600公里的海域，面积超过地中海。
Appendix 6 Back translations of the peer translations

Passage 1

Source text:

As China basks in its first Nobel Prize in science, few places seem as elated, or bewildered, by the honor as the China Academy of Chinese Medical Sciences.

Located on a shady street in the Old City, the academy is spread over a city block and welcomes visitors with an incongruous juxtaposition: a six-foot high quotation from Chairman Mao facing bronze statues of gowned doctors from antiquity who devised esoteric theories to heal the human body.

These contrasts are part of a bigger, century-long debate in China that has been renewed by the award on Monday to one of the academy’s retired researchers, Tu Youyou, for extracting the malaria-fighting compound Artemisinin from the plant Artemisia annua.

Back translation of the peer translation:

When china is immersed in the joy of winning its first Nobel Prize in science, no other place will be more elated, or overwhelmed by the honour than the China Academy of Chinese Medical Sciences.

The Academy of Chinese Medical Sciences is located on a street shaded by green trees in the old town of Beijing, and occupies about a block or so. At the gate of the academy stand a group of bronze statues of ancient Chinese doctors dressed in gowns, these ancient doctors put forward a set of profound theories on Chinese Medicines to heal the wounded and rescue the dying; directly opposite these bronze statues is a nearly 2-metre high quotation from Chairman Mao – the co-existence of the two looks a bit uncoordinated.

Behind such contrasts, the big-scale debate on Chinese Medicines has lasted for as long as a century. Yet just on last Monday (5th October), a retiree from this academy named Tu Youyou extracted effective malaria-fighting component Artemisinin from the plant Artemisia annua and thus won the Nobel Prize, raising again a new round of heated debates on Chinese Medicines.
Passage 2

Source text:

Three Wise Men

WHATEVER image you may have of the reformists hoping to shake up China’s creaking economic system, it is probably not one of octogenarians who fiddle with their hearing aids and take afternoon naps. But that is a fair description of three of the country’s loudest voices for change: Mr Market, Mr Shareholding and the most radical of all, the liberal. With growth slowing, the stockmarket once again in trouble and financial risks looking more ominous, their diagnoses of the economy, born of decades of experience, are sobering.

Wu Jinglian, Li Yining and Mao Yushi—their real names—were born within two years of each other in 1929 and 1930 in Nanjing, then China’s capital. Whether it was that or pure coincidence, all three grew up to demand an end to Soviet-style central planning and to propose, to varying degrees, capitalism in its place.

Back translation of the peer translation:

China Economic Reform Three Wise Scholars

Once mentioning those reformists who hope to shake up China’s economist system which is on the verge of collapse, the picture that comes to your mind would perhaps never be those elderly aged over eighty, who fiddle with hearing aids and need to take a nap in the afternoon. However, in fact, among those who have the loudest voices for reforms in the economic system in this country, there are exactly three elderly aged over eighty: Wu Jinglian, who is in advocacy of market economy, Li Yining, who puts forward the reform in the shareholding system, and Mao Yushi, the most radical advocate of liberal economy. At the moment, China’s economic growth is stagnating, the stock market has fallen into trouble again, and the financial prospects bode ill rather than well, and they’ve made diagnosis of China’s economy based on their decades of experience, which is thought-provoking.

These three reformists were all born between 1929 and 1930 in Nanjing, the then capital of the Republic of China. It is unknown whether due to God’s will or coincidence, these three people all appealed to terminate Soviet-style central planning economy, and to different degrees proposed to replace it with capitalism.
Passage 3

Source text:
Fed up with elites, voters flock to a populist outsider with an admired but checkered past, a macho persona and a record of insulting women, foreigners and the pope. He distrusts allies and promises to cut deals with adversaries. Is he destined to be a destabilizing leader? Or would responsibility moderate him?

U.S. allies mull these questions as they watch Donald Trump, but now Americans are asking similar questions about an important ally: the Philippines, which last week elected tough-talking city mayor Rodrigo Duterte to a six-year term as president. Philippine cooperation is crucial to checking aggressive Chinese action in the South China Sea, but Mr. Duterte seems to want to accommodate Beijing.

In 2013 the Philippines went to a United Nations court to challenge China’s notorious claim to nearly the entire South China Sea, an area larger than the Mediterranean that stretches 1,000 miles from Chinese shores.

Back translation of the peer translation:
In this year's US election, American voters who are tired of political elites have clustered around a commoner outside the circle. This outsider has a past that is admirable but full of twists and turns. With male chauvinism, he used to express views that insulted women, and spoke insolently to foreigners and the Pope. He does not trust allies; neither does he trust that he could make deals with the adversaries. Is he destined to be a leader who will bring turbulence, or will the sense of responsibility make him become more moderate?

These questions are those contemplated by US allies when they are watching Donald Trump running for the US president, but now US has also asked one of their important allies – the Philippines – similar questions. A hard-handed mayor of Davao city in the Philippines, Rodrigo Duterte won the election on 10 May, and will be formally inaugurated as the new Filipino president on 30 June, for a term of six years. For the US, if they want to restrict China on South Sea issue, the cooperation from the Philippines’ part is vitally important, but Duterte seems to want to reach a reconciliation with the China’s part.

South Sea covers a wide area and reaches as far as about 1600 kilometres from the Chinese seashore, with an entire acreage larger than the Mediterranean. In 2013, the Philippines initiated a compulsory arbitration to the international court on China-Philippine dispute regarding their maritime jurisdiction over the South Sea.
Snapchat succumbed yesterday to a wave of online outrage about a filter that smacked of anti-Asian racism (a yellow face with closed, slanted eyes). It seems a good moment to wonder if the same outrage will ever be directed at those who are blocking Chinese investment overseas.

It may be easier to illustrate the problem in three cases where U.S. interests aren’t directly affected. Today, Australia moved to block a Chinese consortium of state and private interests taking a controlling stake in the country’s largest electricity network over national security concerns.

Last week, the U.K.’s new Prime Minister slammed the brakes on a project to build the country’s first new nuclear power station in 40 years due to China having a minority stake in it (although one suspects that London is more concerned about wriggling out of a ludicrously high power-purchase contract it has already signed with the lead partner, France’s EDF).

Back translation of the peer translation:

Geoffrey Smith: China’s overseas investment facing multiple hindrance

Yesterday (10 August), the US social app Snapchat, attacked by a large number of internet users, immediately removed a newly launched filter (a yellow face with narrowed, slanted eyes) that has been accused of discriminating against Asians. This does set one wonder: for those people who block China’s overseas investment, will they encounter similar attacks?

With three examples that do not directly involve the US interest, it might be easier to illustrate this problem. Today (11 August), Australia by the name of ‘national security interests’, prepared to block China’s state-owned enterprises and private enterprises from jointly purchasing the controlling shares of Australia’s biggest domestic power grid enterprise.

Last week (31 July), UK’s new prime minister called off a nuclear power project. This is UK’s first newly built nuclear power plant in the recent 20 years, while the reason the project was called off is that China has minority holdings in it (although some people suspect that the UK government in fact more wants to get rid of a ridiculous contract, i.e.
the high power purchase contract signed with the key partner of this project, EDF, the Électricité de France).

…

(Translated from the US *Fortune* magazine’s website dated 11 August by young observer XXX)
Appendix 7 Screenshots of Youdao Dictionary

Screenshot of quick search results
Screenshots of full search results

results from dictionaries

results from online corpus

1. A list of translation is put out to freelances.
2. Try to catch the elusive charm of the original in translation.
3. I have to pick out its meaning with the help of an English translation.
4. The classic loses much in translation.
5. How do you improve your translation?
6. What about the translation?
7. A language mapping is a sort of translation because you are taking one language and translating it into something that can work and be understood as an implementation.
8. At this point, your application can examine the attributes, choosing for a translation tag.
9. The File view contains all of the functions you need for managing files and opening them for translation.