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Exploring the Relationships Between Japanese L2 Acquisition Rates, Study Environments and Kanji Learning Strategies

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Dedication

This dissertation is dedicated to my wife and children, and to Yamazaki-sensei.

山崎先生へ、

先生に日本語のレッスンをしていただいてから、早いもので、間もなく 30 年になります。先生のお陰で、平成 6 年 12 月に日本語能力試験一級合格という夢を実現しましたし、この度のオックスフォード大学の応用言語学のコースの終了など、僕の人生が信じられないほど変わりました。心の底から感謝しております。

オックスフォード大学

令和 4 年 8 月

'…Seeing that you speak Japanese, they will wag their heads and smile condescendingly, and admit to each other that you are really quite intelligent – much as we would do in the presence of a learned pig or an ape of somewhat unusual attainments'

Basil Hall Chamberlain, *Japanese Things* (1905)

'The foreigners in Japan, so long as we are not thought to be permanent immigrants, are treated very politely, but always as outsiders. If we speak Japanese at all, no matter how badly, we are praised for this remarkable accomplishment, as though we were an idiot child, who suddenly showed a streak of intelligence'

Edwin O. Reischauer, *The Japanese* (1977)

Abstract

This study investigated whether adult L2 Japanese learners from alphabetic L1 backgrounds displayed different L2 acquisition rates depending on the time period when they began studying the language. In particular, it analysed L2 acquisition rates and language learning strategy usage by learners who began studying L2 Japanese in the pre-Internet / pre-globalization / pre-smartphone period ('the Pre-1997 sample') compared with those who began studying afterwards ('the Post-1997 sample'). The study used a cross-sectional, mixed methods approach, which incorporated both quantitative and qualitative elements in its analysis. Data collection was based on an online survey with participants recruited using a snowball sampling approach. Time-to-fluency measures for L2 Japanese learners and details of their language learning environment during this time were collected, along with data about their motivation for studying Japanese and the types of kanji learning strategies they employed. In addition, the participants provided three open-ended responses on: 1) learning challenges; 2) role models; and 3) fluency milestones. Of the 115 accepted survey responses that were received online, 56 responses were identified where there was a quantifiable level of equivalent fluency between participants ('the Equivalent Fluency group'). Within the Equivalent Fluency group, the mean time to fluency of the Pre-1997 sample (N = 32) was 5.4 years, significantly faster than the Post-1997 sample (N = 24) mean of 8.0 years. The Pre-1997 sample also employed a significantly higher level of kanji learning strategy usage. At a more qualitative level, it was noted that the Pre-1997 sample spent a higher percentage of their time-to-fluency period studying in Japan, spent more of their day in Japanese-speaking environments, and were more willing to embrace an immersive approach to L2 Japanese learning. Follow-up interviews with three participants focussed mainly on motivation and their language learning experiences. The study provided a very detailed insight into the collective mindset of a wide range of successful adult L2 Japanese learners from alphabetic L1 backgrounds. It has pedagogical implications for instructors on the types of study environments, motivation profiles and learning strategies that can produce high levels of proficiency for character-based languages such as L2 Japanese and L2 Chinese.

Keywords: L2 Japanese, Japanese language education, adult L2 Japanese learners, kanji, language learning strategies, self-regulation, motivation, Chinese characters, logographic languages, L2 acquisition, online survey, time-to-fluency, alphabetic L1 background

Table of Contents

Dedication *2*

Abstract *4*

Table of Contents *5*

Figures and Tables *10*

Figures **10**

Tables **11**

Glossary of Japanese language terminology *13*

1 Introduction *14*

1.1 Chapter summary **14**

1.2 The challenges of studying L2 Japanese **14**

1.3 Research aims **16**

1.4 Dissertation structure **16**

1.5 Summary of findings **17**

2 L2 Japanese learning literature review *19*

2.1 Chapter summary **19**

2.2 The unique challenges of learning L2 Japanese **19**

2.3 Understanding the complexities of kanji **21**

2.4 Differences between written Japanese and written Chinese **23**

2.5 The katakana advantage of alphabetic L1s **24**

2.6 Japanese L2 education **25**

2.7 JLPT **25**

2.8 The processes and challenges involved in reading kanji characters **27**

2.9 The personal motivations behind the current study **30**

2.10 Near-native fluency L2 Japanese and L2 Chinese case studies 30

3 Motivation and kanji learning strategy usage literature review 31

3.1 Chapter summary 31

3.2 Motivation and L2 Japanese learning 31

3.3 The historical development of language learning motivation 31

3.3.1 Motivations behind the study of L2 Japanese in the West 34

3.3.2 Language learning motivation studies involving L2 Japanese 34

3.4 Learning strategies and their role in kanji learning 36

3.5 Research questions 39

4 Methodology 41

4.1 Chapter summary 41

4.2 Methodological considerations 41

4.3 Quantitative survey design 41

4.4 Demographic data 42

4.4.1 Japanese language experience 42

4.4.2 Japanese language learning environment 42

4.4.3 Japanese language learning motivation 42

4.4.4 Kanji learning strategies 42

4.5 Open-ended responses 43

4.5.1 Challenges and difficulties question 43

4.5.2 L2 Japanese-speaking role model question 44

4.5.3 Fluency milestones question 44

4.6 Follow-up interview design 44

4.7 Participant selection 44

4.8 Data collection methods 45

4.9 Rationale behind the Equivalent Fluency group 45

4.10 Rationale behind the pre-1997 and post-1997 groups 46

4.11 Ethical considerations 47

5 Results 49

5.1 Chapter summary 49

5.2 Demographic analysis of Equivalent Fluency vs Other Accepted Responses 49

5.3 Demographic analysis of Pre-1997 vs Post-1997 50

5.4 Japanese language experience comparisons 52

5.5 Comparison of Motivation Profiles 53

5.6 Strategy Usage 55

5.7 Independent Samples *t* Test results 57

5.7.1 Pre-1997 versus Post-1997 time-to-fluency 57

5.7.2 Pre-1997 vs Post-1997 mean strategy usage scores 58

5.8 Qualitative analysis of open-ended survey responses 60

5.9 Follow-up interviews 66

5.9.1 L2 Japanese motivation 66

5.9.2 Language learning strategies 67

5.9.3 Pre-1997 and Post-1997 counter factual responses 68

5.9.4 Advice for beginner L2 Japanese learners 69

6 Discussion 71

6.1 Chapter summary 71

6.2 A re-cap of the research questions from Chapter 3 71

6.3 Research question 1 discussion – time-to-fluency 71

6.4 Research question 2 discussion – strategy usage 72

6.5 Research question 3 discussion – other factors 72

6.5.1 Environment 72

6.5.2 Motivation 73

6.6 The difficulties associated with L2 Japanese learning 74

7 Conclusions 75

7.1 Chapter summary 75

7.2 Limitations 75

7.2.1 Sample size 75

7.2.2 Self-Assessment 75

7.2.3 Definitional differences of fluency 75

7.2.4 Survivorship bias 76

7.3 Pedagogical implications for L2 Japanese instruction 76

7.4 Recommendations for future research 78

References 80

Appendices 89

Appendix 1 – Online survey 90

Appendix 2 – CUREC approval 100

Appendix 3 - A personal perspective on L2 Japanese learning 101

Appendix 4 - Old and new JLPT formats 106

Appendix 5 – Question 17 responses 107

Appendix 6 – Question 18 responses 114

Appendix 7 – Question 19 responses 118

Appendix 8 – Follow-up interview questions..... 124

Appendix 9 – Follow-up interview transcript excerpts..... 125

Appendix 10 – High-profile near-native fluency case studies 127

Appendix 11 – Independent Samples t Test SPSS output tables..... 130

Figures and Tables

Figures

Figure 1 Example of different script use in standard Japanese text 21

Figure 2 JPLT L1 / N1 Examinees and Certification Rates 27

Figure 3 Global internet ssers and penetration rates, 1993-2016 47

Figure 4 Equivalent Fluency breakdown by Gender 49

Figure 5 Other Accepted Responses breakdown by Gender 49

Figure 6 Equivalent Fluency breakdown by L1 50

Figure 7 Other Accepted Responses breakdown by L1 50

Figure 8 Equivalent Fluency Breakdown by Ethnicity 50

Figure 9 Other Accepted Responses breakdown by Ethnicity 50

Figure 10 Pre-1997 breakdown by Gender 51

Figure 11 Post-1997 breakdown by Gender 51

Figure 12 Pre-1997 breakdown by L1 51

Figure 13 Post-1997 breakdown by L1 51

Figure 14 Pre-1997 breakdown by Ethnicity 51

Figure 15 Post-1997 breakdown by Ethnicity 51

Figure 16 Equivalent Fluency vs Other Accepted Responses motivation profiles 54

Figure 17 Pre-1997 vs Post-1997 Motivation Profiles 54

Figure 18 Equivalent Fluency vs Other Accepted Responses strategy usage 55

Figure 19 Pre-1997 vs Post-1997 strategy usage 56

Figure 21 Equivalent Fluency sample time-to-fluency histogram 58

Figure 22 Pre-1997 vs Post-1997 time-to-fluency distribution 58

Figure 23 Equivalent Fluency sample total strategy score histogram 59

Figure 24 Pre-1997 vs Post-1997 total strategy score distribution 59

Figure 25 Pre-1997 vs Post-1997 comparison of time-to-fluency and total strategy score 59

Figure 26 Question 17 responses 60

Figure 27 L2 Japanese-speaking role-models 63

Figure 28 Fluency milestones 65

Tables

Table 1 Examples of frequently used katakana loanwords 24

Table 2 Examples of Japanese homophones 25

Table 3 Study hours required to pass JLPT levels, 1992-2010 26

Table 4 Comparison of SILK (Bourke, 1996) and the current study 43

Table 5 Online response data analysis 46

Table 6 Comparison of Other Accepted Responses and Equivalent Fluency L2 Japanese experience 52

Table 7 Comparison of Pre-1997 and Post-1997 L2 Japanese experience 53

Table 8 Pre-1997 and Post-1997 kanji learning strategy usage mean differences by strategy type 56

Table 9 Independent Samples t Test results for Pre-1997 vs Post-1997 mean time-to-fluency 57

Table 10 Independent Samples t Test results for Pre-1997 vs Post-1997 mean total strategy score 58

Glossary of Japanese language terminology

Japanese writing system:

1. hiragana (ひらがな): the cursive syllabic Japanese script used mainly for verb and adjective endings and particles.
2. katakana (カタカナ): the more angular form of syllabic Japanese script used mainly to transliterate non-Chinese foreign words.
3. kana (カナ): the collective term for hiragana and katakana.
4. kanji (漢字): the Chinese characters used in the Japanese writing system.
5. rōmaji (ローマ字): the roman script used in the Japanese writing system.

Kanji types:

1. shōkei-moji (象形文字): A pictorial representation of the character.
2. shiji-moji (指事文字): A logogram or symbolic representation of an abstract idea.
3. kaii-moji (会意文字): An ideograph or combination of pictorial components.
4. keisei-moji (形声文字): A semantic-phonetic ideograph, with one component which gives a clue to pronunciation and another to be the meaning.
5. tenchū-moji (転注文字): A derivative character or a kanji that has been derived from a concept which it has since become disassociated with.
6. kasha-moji (仮借文字): A phonetic loan character or a kanji that has been adopted into current usage for phonetic reasons.

Other Japanese language terms:

1. jōyō kanji (常用漢字): the 2,136 standard kanji characters that L1 Japanese speakers are expected to have learnt by the time they leave high school.
2. on-yomi (音読み): the Chinese reading of a kanji character.
3. kun-yomi (訓読み): the Japanese reading of a kanji character.
4. jukugo (熟語): a kanji compound word consisting of two or more characters.
5. furigana (フリガナ): the small-sized hiragana printed above or next to kanji characters to show their pronunciation.

1 Introduction

1.1 Chapter summary

This chapter provides a high-level overview of the study, its research aims and a brief summary of its findings. It also outlines the structure of the dissertation.

1.2 The challenges of studying L2 Japanese

For adult learners from an alphabetic L1 backgrounds, achieving near-native fluency and functional literacy in L2 Japanese takes considerable time and effort. Walton (1993) calculated that native English-speaking L2 Japanese learners require 3x more time to reach a similar level of proficiency compared with studying European languages such as French, German or Spanish. Even more pessimistically, Jackson & Malone (2009) believed that logographic languages, such as Chinese and Japanese, can take almost 4x as long to acquire. The US State Department's Foreign Service Institute (FSI) listed Japanese as one of the four most difficult languages for native English-speakers to learn (FSI, 2022), along with Arabic, Chinese and Korean. A number of studies have linked these learning challenges to high attrition rates in L2 Japanese language classes, especially if the students come from alphabetic L1 backgrounds (Grainger 2005; Dwyer 1997; Kato, 2002; Rose & Harbon, 2013; Toyoda & Kubota, 2001).

It is also well-documented that it is the complexities of logographic Chinese script (kanji in Japanese) that makes L2 Japanese and K2 Chinese so challenging for alphabetic L1s (Bourke, 1996; Everson 2011). Without a strong background knowledge in kanji, alphabetic L1 learners are required to memorise from scratch over 2,000 kanji characters and with their multiple readings to achieve functional literacy. This is a task that takes L1 Japanese learners approximately 12 years of full-time schooling to achieve (Rose, 2017). Kanji learning is therefore considered one of the most problematic aspects of L2 Japanese learning for alphabetic L1s (Gamage, 2003; Grainger 2005; Mori 2002).

To reach functional literacy in a more manageable timeframe, successful L2 Japanese learners need to develop and maintain high levels of motivation and perseverance over a multi-year period to achieve their goal. Rose (2017) noted that the study of kanji should be viewed as a life-long process and that '[l]earning kanji is a laborious task that is only

managed by the highly motivated and self-regulated learner' (page xv). In addition, learners need to employ a wide variety of language learning strategies to assist in accelerating their language acquisition. There is ample evidence of a positive correlations between high levels of motivation and the increased application of language learning strategies in the Applied Linguistics literature. Grenfell & Macaro (2007) noted that "[s]uccessful and highly motivated learners adopted more strategies, especially those involving planning, evaluation and monitoring:" (page 15). It is also believed that motivation has the strongest relationship to strategy use (Oxford & Schramm, 2007), and that motivated learners use a wider range of strategies and use them more frequently (Takeuchi, et al., 2007). White et al. (2007) found that that even showing students a list of strategies had the positive effect of raising awareness of strategy usage for adult learners.

It should be noted that along with motivation and language learning strategy usage, factors such as environment may also play an important role in determining successful L2 learning outcomes.

This dissertation combines the three dimensions of 1) study environment, 2) motivation and 3) strategy usage into a single piece of research. It focuses on the time taken to reach fluency in L2 Japanese and the characteristics of successful learners. Achieving L2 Japanese fluency as an adult learner from an alphabetic L1 background represents a significant challenge for both students and their instructors (Rose, 2017), and one that produces higher attrition rates versus other languages. It is therefore useful to analyse just how successful learners have studied the language, managed their motivation and self-regulated their learning.

The study is based on online survey responses from 115 adult L2 Japanese learners from alphabetic L1 backgrounds. 56 of these participants were judged to have achieved an equivalent level of L2 Japanese fluency based on having either a degree level qualification in Japanese or a pass mark for the highest level of Japanese language proficiency exam set by the Japanese government ('the Equivalent Fluency group').

This Equivalent Fluency group included a number of highly proficient adult L2 learners, some of whom had achieved near-native levels of fluency in L2 Japanese within 3-5 years of starting to their studies. Their fluency milestones included achieving higher scores than native speakers in professional qualification exams sat in Japanese, winning legal cases by representing themselves in Japanese in court, and being frequently mistaken for native

speakers during telephone conversations. All of them began learning the language as adults. It is therefore a study which challenges the concept of the Critical Period Hypothesis (CPH) popularized by Penfield & Roberts (1959), Lenneberg (1967) and Chomsky (1965). And it could also be seen as a reinforcement of Krashen, et al.'s (1979) view regarding the relative language learning strengths of adult L2s versus other age groups.

So how did these adult learners achieve such high levels of proficiency in a relatively short period of time? How did they reach the same level of functional literacy in as adult L1 Japanese speakers in just a few years despite having no linguistic background in Chinese characters? Many of these L2 Japanese learners were also working full-time during their time-to-fluency period, so what aspects of their study environment, motivation, self-regulation and strategy usage produced these levels of accelerated learning? This study was undertaken to try and answer these questions.

1.3 Research aims

The aims of this study are based in part on the researcher's experience of studying L2 Japanese, mostly in Japan, in the 1990s. This provided some anecdotal clues about why so many L2 Japanese learners from alphabetic L1 backgrounds were able to achieve high levels of proficiency at an accelerated rate during this period. Learners appeared to be studying in a predominantly immersive environment, with very little access to non-Japanese content and interaction, and with very clear goals associated with achieving fluency in the language. Without a high level of Japanese proficiency at that time, opportunities for career advancement and most forms of social interaction with the local community were extremely limited.

However, later in the 2000s and the 2010s, the researcher observed that the number of L2 Japanese learners from L1 linguistic backgrounds reaching fluency at accelerated speeds appeared to moderate substantially. The study has therefore been undertaken to establish if this did actually happen and, if so, why was this the case.

1.4 Dissertation structure

The dissertation consists of seven chapters. Following on from this introduction in Chapter 1, Chapter 2 discusses the structure and complexity of the Japanese language, highlights some

of the relevant literature on the processing of logographic script by alphabetic L1s, and briefly outlines the researcher's first-hand experiences as an L2 Japanese learner from an alphabetic L1 background. Chapter 3 focuses on presenting a review of the relevant empirical and theoretical literature related to L2 motivation and language learning strategy usage. Chapter 4 reviews the methodology used in the current study, including survey design, population selection, instrument choice, data collection, data analysis and ethical considerations. Chapter 5 presents a quantitative and qualitative analysis of the results of the study, and Chapter 6 provides a critical discussion of these results. Chapter 7 concludes by highlighting the pedagogical implications of this research, its limitations, and provides some suggestions for future research topics.

1.5 Summary of findings

This study explored the effects of environment, motivation and kanji learning strategy usage on L2 Japanese acquisition rates. In particular, within the Equivalent Fluency group it compared the L2 Japanese learning experiences of learners from alphabetic L1 backgrounds who studied before and after the widespread penetration of the Internet, smartphones and language learning software. These pre-Internet participants were classified as 'the Pre-1997 sample' (N = 32). Participants who began studying in a more globalized era, technology-friendly era with access to the internet, apps, etc, were classified as 'the Post-1997 sample' (N = 24).

Information was collected via an online survey which measured the time taken for an L2 Japanese learner to reach a self-assessed definition of 'fluency' ('time-to-fluency'). The survey also asked for data concerning the learner's study environment during this period (such as percentage of time they spent studying in Japan and hours per day spent in a Japanese-speaking environment), the motivation for studying L2 Japanese and the types of strategies employed while learning kanji. The survey included three questions which required open-ended responses on 1) learning challenges, 2) role models and 3) fluency milestones. Follow-up interviews with three participants, two from the Pre-1997 sample and one from the Post-1997 sample also formed part of the analysis.

The results showed that there was a statistically significant difference in the mean time-to-fluency between the Pre-1997 and the Post-1997 samples. The Pre-1997 sample achieved fluency 2.6 years faster than the Post-1997 sample (5.4 years vs 8.0 years). The Pre-1997

sample also spent a higher percentage of their time studying in Japan during the time-to-fluency period (65% versus 52%) and were also spending a far higher proportion of their day in Japanese-speaking environments (10 hours versus 5 hours).

The Pre-1997 group also had significantly higher levels of strategy usage. This suggests a possible linkage between increased strategy usage and an accelerated time-to-fluency.

The open-ended responses and follow-up interviews provided some interesting insights into the collective mindset of successful L2 Japanese learners. These were analysed using the framework of Gardner's (1985) *instrumental motivation* versus *integrative motivation* and Dörnyei's (2005) *L2 Motivational Self System*.

The results appeared to confirm the effectiveness of an immersive approach to L2 Japanese learning, as well as the need for learners to put themselves outside of their comfort zone when communicating with L1s and to try not to be self-conscious about making mistakes. The results showed that having a strong motivation to use the language as an instrument to achieve another goal (one that was more intrinsically important to the learner) was also particularly successful in driving proficiency gains.

2 L2 Japanese learning literature review

2.1 Chapter summary

This chapter provides an overview of the Japanese language in terms of orthographic structure and complexity. It also highlights some of the relevant literature which discusses the challenges that L2 Japanese learners experience, especially when they are from an alphabetic L1 background.

2.2 The unique challenges of learning L2 Japanese

For adult alphabetic L1s, L2 Japanese is one of the most difficult languages to learn (Jackson & Malone, 2009; Walton, 1993). According to the FSI, Japanese is classified as one of only four Category IV *Super Hard Languages* for English-speaking L1s, along with Chinese, Arabic and Korean. Category IV languages are believed to require at least 88 weeks or 2,200 class hours of intensive, full-time study to reach 'Professional Working Proficiency' (FSI, 2022). It is also recommended that half of this time is spent studying in country. With less-demanding Category I languages, such as French or Spanish, the FSI estimates that English-speaking L1s require only 24-30 weeks of study to reach proficiency (equivalent to 600-750 class hours). Japanese is also the only FSI Category IV language with an asterisk against it. This denotes the language which is 'typically somewhat more difficult for native English speakers to learn than other languages in the same category' (FSI, 2022).

The complexity of the Japanese language lies less in its grammar and phonology (which are both relatively simple compared to say the grammatical challenges of French or the tonal complexities of Chinese) and more in reading the language (Rose, 2017). The key factor in reading comprehension is the process of word recognition (Koda, 1992), defined as the retrieval of a word's orthographic, phonological and semantic information. Research suggests that this can pose a significant challenge for L2 Japanese learners, particularly if their L1 is based on alphabetic script (Dwyer, 1997; Kato 2002; Rose & Harbon 2013). As a result, L2 Japanese learners frequently admit to becoming discouraged and not wanting to continue with their studies. This demotivation is often attributed to factors such as kanji and the memorization workload required to learn them (Matsumoto, 2007). Moreover, the complexity in the writing system can result in high rates of attrition in Japanese language programmes and slower levels improvement versus other languages (Grainger, 2005).

One unique aspect of the Japanese writing system is that it can (and frequently does) incorporate as many as five separate scripts within a single passage of text. These Japanese scripts can be divided into syllabaries (hiragana and katakana, known collectively as kana), a Chinese-based logographic script (kanji), an alphabetic form of the kana (rōmaji) and Arabic numerals. Each kana is phonetically transparent, with a one-for-one relationship between grapheme and moraic sound (Otake, et al., 1993). In contrast, the basic unit of kanji is a morpheme that is phonologically opaque, and which represents semantic standalone meaning (Joyce, 2011).

In terms of the lexical functionality of the kana, hiragana is used mainly for grammatical modifiers (such as verb and adjective endings) and particles (*wa*, *ga*, *ni*, *de*, *wo*, etc). Katakana is used for non-Chinese foreign loanwords, or to add emphasis to a particular word in a sentence.

Kanji are used predominantly as subjects and objects within a text, as well as the stems of most verbs and adjectives. Each standalone kanji can have multiple readings depending on how it is used, but most kanji compounds tend to single combined reading. All kanji can be phonetically represented by kana, and during the initial stages of learning (or with very obscure kanji) a smaller version of hiragana (furigana) is shown either above or to the side of the kanji to reveal its pronunciation.

A list of 2,136 jōyō kanji (常用漢字), or official 'regular use kanji', is set periodically by the Japanese Ministry of Education. These are the characters that all Japanese L1s are expected to know after completing secondary education. 1,026 of these kanji are taught at primary school in grades 1-6. The remaining 1,110 kanji are taught at secondary school in grades 7-12 (The Japan Times, 2008).

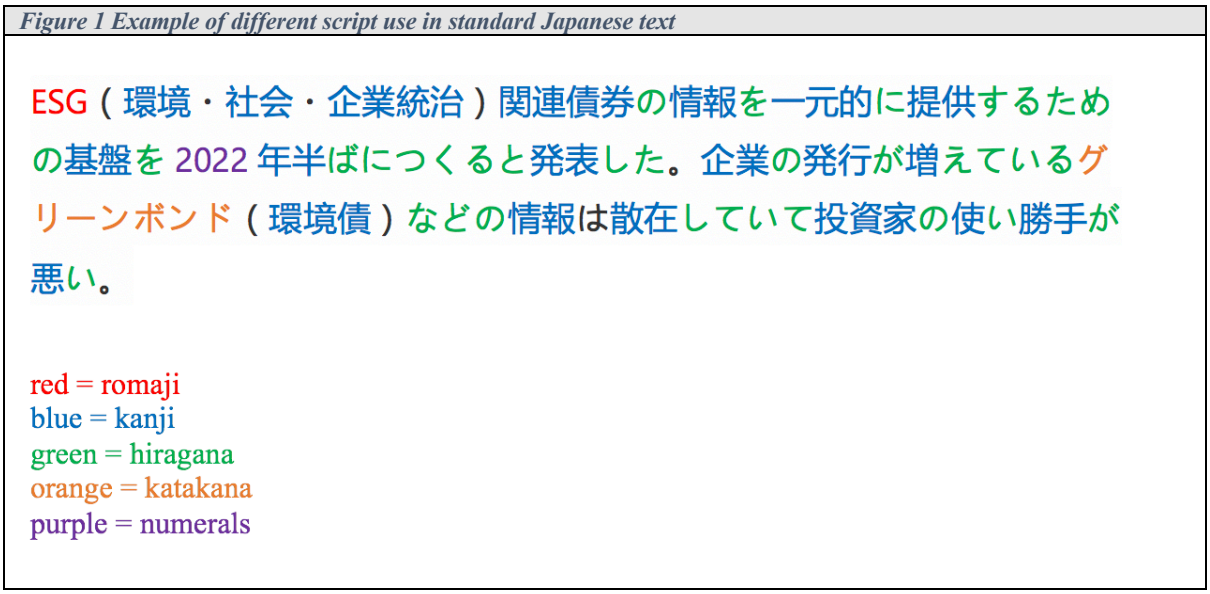
Rōmaji also appears frequently in Japanese sentences, but usually to represent acronyms or specific foreign names. Its principle modern use is as a Japanese text input language for PCs or mobile phones via a qwerty keyboard interface.

Arabic numerals are used extensively in text rather than Chinese numbers, especially for large figures. They are well-understood mathematically by most L1s and use space far more efficiently. For example, a seven digit number like '1,234,567' in Arabic numerals would

require twelve kanji characters (and over thirty strokes) if it was transcribed using Chinese numerals (百二十三万四千五百六十七).

Figure 1 below provides a colour-coded example of how these five scripts are incorporated into standard Japanese text. It also illustrates the prominence of kanji (blue) in formal Japanese writing. An inability to process logographic elements of Japanese text is therefore a significant handicap.

Figure 1 Example of different script use in standard Japanese text



Mori (2014) observed that 'learning to write in Japanese, whether as an L1 or an L2, involves the acquisition of different types of orthographic processing schemes, and learning different types of orthography is associated with the learning of different types of words' (page 404). Japanese is more or less linguistically unique in this regard, which makes it of particular interest in the field of Applied Linguistics.

2.3 Understanding the complexities of kanji

The jōyō kanji constitute 99% of the kanji used in all modern printed Japanese material (Chikamatsu, 2005). Although there are believed to be over 10,000 kanji still in use (Taylor & Taylor, 1995), it is knowledge of the jōyō kanji that defines functional literacy. These are what L2 Japanese learners are required to master to achieve fluency. And given that kanji plays such a crucial role in Japanese written vocabulary, the ability to effectively process the graphemic, phonetic and semantic elements of these characters at speed is essential for L2 Japanese learners (Mori, 2014).

There are a variety of classification approaches that can be taken with kanji. Nomura (1984) suggested four broad structural categorizations: one *single-component kanji* group and three *compound kanji* groups depending on the pattern of arrangement of the components (left-right, top-bottom and others). Paradis et al. (1985) identified three major categories of kanji representations: 1) pictorial characters; 2) abstract characters; and 3) combination characters.

Although the approaches above are more than sufficient for a general appreciation of the difference in character structures and representations, Rose (2017) referenced six traditional kanji categorizations in his analysis:

- shōkei-moji (象形文字): A pictorial representation of the character.
- shiji-moji (指事文字): A logogram or symbolic representation of an abstract idea.
- kaii-moji (会意文字): An ideograph or combination of pictorial components.
- keisei-moji (形声文字): A semantic-phonetic ideograph where one component gives a clue to the pronunciation, while another component provides a sense of the meaning.
- tenchū-moji (転注文字): A derivative character or a kanji that has been derived from a concept which it has since become disassociated with.
- kasha-moji (仮借文字): A phonetic loan character or a kanji that has been adopted into current usage for phonetic reasons.

(Rose, 2017), page 20

85% of the jōyō kanji are believed to be compound or combination characters containing two or more components, and 60% can be characterized as semantic-phonetic keisei-moji (Tamaoka & Kiyama, 2013). These kanji contain a semantic component in the pictograph representing a certain meaning or thematic, and another component that provides a clue to the "Chinese reading" (the concept of which will be explained in Section 2.4 below). These facts suggest that a systematic or strategic approach to capturing a kanji's meaning and/or its phonology could be effective in L2 Japanese learning. Giles (1902) noted a similar effect with Chinese characters: 'The great majority of characters…are capable of being easily resolved into the two important parts…the original phonetic portion, which guides towards pronunciation, and the added indicator, which guides towards the sense' (page 35).

2.4 Differences between written Japanese and written Chinese

While it is true to say that Chinese characters form the backbone of the Japanese writing system, it should not be assumed that written Japanese and Chinese texts are mutually intelligible. The languages have developed almost completely independently for centuries, resulting in cases where words that are represented by the exact same Chinese characters have completely different meanings in each language. For example, the word '*tegami*' (手紙) means 'letter' in Japanese (as in, to write or post a letter) and incorporates the Chinese character for hand ('*te*' or 手) and the character for paper ('*kami*' or 紙). However, the same combination of characters in Mandarin Chinese ('*shǒuzhǐ*', 手紙) means 'toilet paper'.

It is possible for native speakers of one language to recognize isolated words in a passage of text and to understand some common word meanings in the other language. However, it is incorrect to assume that Japanese and Chinese can communicate to one another via a shared written language in the same way that Chinese L1s from different spoken dialects can.

There are also a number of important differences when it comes to the pronunciation of characters in Japanese and Chinese, representing an additional challenge for L2 learners of Japanese. In Mandarin Chinese, each character will (in the vast majority of cases) have a single mono-syllabic reading with its own assigned tone (Kess & Miyamoto, 1999). There may be some variation in tone depending on its position in a sentence, differences in regional accent, or whether or not it is part of a compound word, but by-and-large L2 learners can focus on learning a single monosyllabic phoneme and tone for each Chinese character.

In contrast, due to syntactic and grammatical differences between Japanese and Chinese, Chinese characters were assigned to Japanese words and concepts in different ways and with different readings (Komori, 2006). These differences were eventually crystallized into the concept of the Chinese reading or on-yomi (音読み) and the Japanese reading or kun-yomi (訓読み). L2 learners of Japanese need to know how to be able pronounce both readings and when to use them in context. Furthermore, many regular use characters have more than two readings. For example, the kanji for 'up' (上) can be pronounced at least 8 or 9 different ways depending on where and how it appears in a sentence.

2.5 The katakana advantage of alphabetic L1s

Despite the challenges of learning kanji for alphabetic L1s, there is one aspect of the Japanese language that actually favours them. This is with the use of katakana-based loan words in Japanese. It is estimated that there are ~20,000 katakana loan words in regular usage in Japanese (Rose, 2017), the vast majority of which are European in origin. The ability to pronounce these familiar words without having to learn the various readings required for kanji is a huge advantage for L2 learners from European-language L1 backgrounds. The Table 1 below provides some examples of frequently used katakana loanwords and their country of origin.

Table 1 Examples of frequently used katakana loanwords

Katakana loanword	Romaji	Meaning	Origin
インターネット	intānetto	internet	English
レストラン	resutoran	restaurant	French
アルバイト	arubaito	part-time job	German
タバコ	tabako	cigarette	Portuguese
ビール	bīru	beer	Dutch / German
ノルマ	noruma	quota	Russian

An additional challenge with Japanese is that although it borrowed the logographic elements of the Chinese language, it did not borrow any of its tonal overlay. These tonal differences allow Chinese speakers to differentiate easily between homophones such as *zhěnzhì* (诊治, diagnose and treat), *zhènzhǐ* (镇纸, paperweight) and zhēnzhì (真挚, sincerity). Without this tonal element, Japanese speakers frequently have to resort to kanji-based clarification of which spoken word they were using if the context was not clear. It is these verbal kanji confirmations that allow speakers to discern between certain homophones, making kanji such an indispensable part of spoken Japanese too.

Table 2 shows examples of seven words that sound almost identical when spoken or written in hiragana, but which have very different kanji-based meanings. According to corpus analysis of the Japanese language, there are ~10,000 words in Japanese that have two or more identical readings (Breen, 2017).

Table 2 Examples of Japanese homophones

Kanji	English meaning	Hiragana	Romaji
製菓	confectionery	せいか	seika
盛夏	mid-summer	せいか	seika
成果	outcome	せいか	seika
青果	fruit & vegetables	せいか	seika
聖火	torch	せいか	seika
聖歌	chant	せいか	seika
生花	fresh flowers	せいか	seika

2.6 Japanese L2 education

One key challenge for adult L2 learners of Japanese, particularly those from alphabetic L1 backgrounds, is to truncate the 12 years of schooling required for L1s to reach functionally literacy into a far shorter period of time. One of popular yardstick of L2 Japanese fluency that is frequently used to measure progress towards achieving this goal is the Japanese Language Proficiency Test (JLPT). Its highest level of proficiency requires learners to have a full working knowledge of the jōyō kanji (JEES, 2022).

2.7 JLPT

JLPT is a standardized language proficiency test for non-native speakers of Japanese. It is jointly administered by The Japan Foundation and Japan Educational Exchanges and Services (JEES).

The testing process has been in operation since 1984. In its first year, the JLPT was conducted in 15 countries, with ~7,000 examinees taking the test. Since then, the JLPT has become the largest Japanese-language test in the world, with almost 1.2mn examinees worldwide in 2019 (JEES, 2022).

Up until 2009, JLPT had four proficiency levels (L4-L1), with L1 as the highest level. A revised testing structure was implemented in 2010 with five levels (N5- N1), with N1 as the highest level.

Appendix 3 presents the differences between the old and new formats of JLPT. However, what is important to note is that the proficiency requirements for the highest levels (L1 and

N1) appear to have remained approximately similar. Therefore, for the purposes of this study, it is assumed that an L1 or N1 passes represent an equivalent level of proficiency.

JEES has suggested that students with strong kanji background require 1,700-2,600 hours of study to reach N1. For non-kanji background students, 3,000-4,800 hours of study are required (JEES, 2022). This is far higher range than the FSI figure of 2,200 hours, but the FSI assumed a full-time intensive study period of 88 weeks.

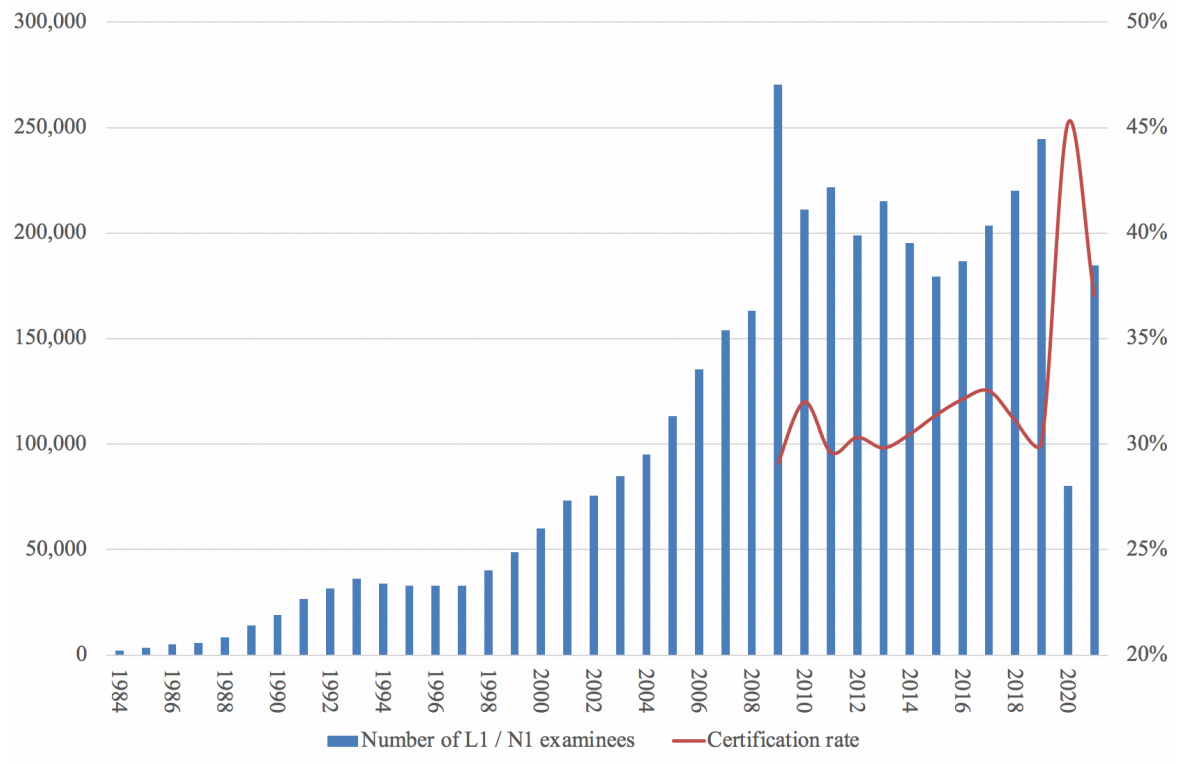
Table 3 Study hours required to pass JLPT levels, 1992-2010

Level	Students with kanji knowledge (e.g. speakers of Chinese)	Other students (no prior kanji knowledge)
N1	1700–2600 hours	3000–4800 hours
N2	1150–1800 hours	1600–2800 hours
N3	700–1100 hours	950–1700 hours
N4	400–700 hours	575–1000 hours
N5	250–450 hours	325–600 hours

Source: JEES (2022)

Figure 2 below shows the number of examinees for JLPT L1/N1 per annum since 1984. Before 2000, there were less than 50,000 examinees globally each year. However, this grew quickly to over ~250K by 2008-2009 (coinciding with the change of exam format and an increase in the number Chinese students studying at Japanese universities). The L1/N1 pass rates have only been disclosed since 2009 and remained consistently around 30-33% until 2019. However, during the 2020 pandemic there was an unusual spike in pass rates (only one exam was held in 2020). The combined total of N1 examinees in 2021 was roughly in line with the 2015 figure at ~185K, but still well below the pre-covid 2019 level of ~245K.

Figure 2 JPLT L1 / N1 Examinees and Certification Rates



Source: JEES (2022)

2.8 The processes and challenges involved in reading kanji characters

Chinese character learning strategy usage for alphabetic L1s has been an area of focus in Applied Linguistics at least for well over a century. For example, the Sinologist Herbert A. Giles was discussing the difficulties that Chinese characters posed for Western learners back in 1902. He also provided guidance on how these difficulties could be overcome, focussing on the application of 'systematic study' and 'perseverance' to eventually triumph over the apparent 'insuperable difficulties' of character learning (which is all relevant to the current study):

> *With no other hold upon them beyond their mere outlines, the language learner will find Chinese characters so bewildering, so elusive, as to present almost insuperable difficulties … But under the influence of systematic study, coupled with a fair amount of perseverance, these difficulties disappear, and leave the triumphant student amply rewarded for their pains.*
>
> (Giles, 1902), page 36, emphasis added

According to Kondo-Brown (2006), students are most likely to be successful in inferencing the semantic and/or phonological aspects of Japanese when they integrate two sources of information about the kanji target word. Namely, 'morphological information internal to the words and…contextual information external to the words' (page 111). The ability to guess or infer meaning of an unknown word from its context is not only a key part of inferencing strategies for effective L2 reading (Nation, 2001), it is also a key source L2 vocabulary acquisition (Day, et al., 1991).

It should be noted that the roles orthography and phonology play in the activation of kanji meaning appear to be different for L1s versus L2s, but also between L2s from different L1 backgrounds. Matsunaga (1995) and Matsunaga & Crosby (1997) found that L1 Japanese readers noticed far more non-homophonic errors than homophonic errors in passages of Japanese text. These findings suggest that for native L1 readers, kanji processing is not always activated purely by orthography, and that phonological coding may play an important role during the reading of kanji. Kess & Miyamoto (1999) concluded that kanji recognition process took place in parallel with lexical access, requiring almost simultaneous orthographic and phonological processing. It was suggested that L1 familiarity with kanji based on extensive reading experience allowed native speakers to process in this manner.

Matsumoto (2013) observed that 'learners of Japanese with L1 alphabetic and non-alphabetic backgrounds are likely to use distinct strategies due to the different degrees of similarity of the L1 orthographies to Japanese orthography' (page 165). When Chikamatsu (1996) compared L2 kanji processing by learners from English L1 (alphabetic) backgrounds and a Chinese L1 (logographic) backgrounds, it was found that Chinese learners used far more visual information in the processing of kanji, whereas the English L2 Japanese learners (especially in the early stages of learning) relied far more on phonological information. Mori (1998), Matsumoto (2002) and Everson (1998) also found evidence that English L1 learners of both L2 Chinese and L2 Japanese were better at memorizing Chinese characters when provided with phonological input. Okita (1995) noted that English L1 learners of L2 Japanese tended to feel insecure if they were asked to learn new kanji without being told the pronunciation.

Advances in neuroimaging have allowed researchers to compare neural network activation patterns when reading different orthographic systems (Tan, et al., 2005). Reading Chinese or

kanji-based text produces bilateral brain activation, whereas alphabetic or kana-based reading tends to be left hemisphere dominant. Mori (2014) observed that character reading 'involves rigorous visual-spatial analysis demanded by the character's square configurations, as opposed to sequential analysis of a string of kana or alphabet, which requires collaboration of a number of brain regions in both hemispheres' (page 407). For Japanese L1s and Chinese L1s learning L2 Japanese, this type of processing is well-established and familiar. However, for alphabetic L1s it is an entirely new way of thinking and reading. Tamaoka (1997) found that Chinese L2 Japanese learners were far faster and more accurate in processing kanji than American learners and were not negatively impacted by increases in orthographic complexity (whereas the American learners were).

Heisig's (2011) mnemonic learning strategies to memorise kanji for alphabetic L1s were supposed to mimic the way that Chinese L1s approach kanji-learning.

> *When Chinese adult students come to the study of Japanese, they already know what the kanji mean and how to write them. They only have to learn how to read them. The progress they make in comparison to their Western counterparts is usually attributed to them being 'Oriental'. In fact, Chinese grammar and pronunciation have about as much to do with Japanese as English does. It is their knowledge of the meaning and writing of the kanji that gives the Chinese the decisive edge.*
>
> (Heisig, 2011), page 10

However, Rose (2017) and Rose & Harbon (2013) have both criticised the overuse of mnemonic strategies in general, and Heisig's approach in particular, for being overly complex and confusing, and for also de-emphasising pronunciation. Nevertheless, it should be noted that the Heisig approach was viewed favourably by a number of participants in the current survey.

Studies by Chikamatsu (2006) and Koda (2000) found that L2 Japanese learners from logographic (Chinese-character) L1 backgrounds could process kanji more effectively than alphabetic L1s in the early stages learning. However, learners from alphabetic L1 backgrounds were able to learn to process in the same way as their proficiency levels improved. As L2 Japanese experience increases, the kanji advantage of Chinese L1s moderates and the playing field levels out for alphabetic L1s. As Matsumoto (2013) observed: '[e]ven though Chinese learners of Japanese may be familiar with logographic

systems…their L2 kanji processing may not be better than that of more experienced learners of Japanese kanji who have an L1 alphabetic background' (page 165). The research suggests that alphabetic L1s gradually develop L2-specific word recognition skills as their knowledge of the Japanese orthographic system increases.

2.9 The personal motivations behind the current study

The researcher began studying Japanese in the pre-Internet era, initially in an overseas university setting and then in a completely immersive full-time work environment in Japan. The researcher sat and passed L1 of the JLPT less than four years after starting L2 Japanese studies, using mostly 'analogue' study techniques (such as writing out kanji by hand, transcribing recordings of TV and radio programmes, etc). A very high proportion of the researcher's L2 Japanese colleagues spoke and read Japanese to near-native levels of fluency which was found to be both inspirational and intimidating. It was automatically assumed that foreigners would perform at the same level as native speakers in the office. This highly immersive / pre-globalization environment and the assumption that fluency was an essential component of the job, are believed to be key drivers behind the researcher's relatively rapid rates of L2 Japanese acquisition.

2.10 Near-native fluency L2 Japanese and L2 Chinese case studies

Finally, the researcher believes that is instructive to look at a sample of high-profile, near-native fluency speakers of logographic-based languages such as L2 Japanese and L2 Chinese for clues on how to effectively teach or learn these languages. Appendix 10 provides details about four alphabetic L1s who are all extremely fluent speakers of L2 Japanese or L2 Chinese. It discusses their approaches to learning and the strategies they used. In summary, there appeared to be a focus on 1) improving proficiency through public performance in the L2 (traditional monologues, stand-up comedy, speech contests, TV appearances, etc), 2) completely immersive study environments regardless of physical location, and 3) lots of obsessive hard work and repetition to achieve near-native levels of fluency. The setting of ambitious (but achievable) goals relating to being as proficient as a native speaker were also common.

3 Motivation and kanji learning strategy usage literature review

3.1 Chapter summary

The impact of high levels of motivation and strategy usage on successful language learning has been well-documented (Grenfell & Macaro, 2007; Oxford & Schramm, 2007; Takeuchi, et al., 2007). This chapter highlights some of the current research literature on: 1) L2 Japanese language learning motivation; and 2) the use of language learning strategies and self-regulation when learning kanji.

3.2 Motivation and L2 Japanese learning

Ushioda & Dörnyei (2017) concluded that approximately 70% motivation studies focus on English as a global language. Although there have been a number of studies on L2 Japanese motivation published over the last 20 years, it still remains an extremely under-researched area. This has led Rose (2017) to observe that in terms of L2 Japanese motivation research 'opportunities for the applied linguistics researcher in this domain are currently wide open' (page 46).

As explained in detail in the previous chapter, Japanese is an extremely difficult language for alphabetic L1s to learn. Developing and maintaining the long-term motivation required to continue studying long enough to achieve fluency is a crucial requirement for successful L2 Japanese acquisition. Moreover, Cohen (2010) noted that '[m]otivation to learn a second language is very different from the motivation to learn any other school subject…Learning a second language entails learning a second culture to some degree' (page 169). Similarly, Williams (1994) argued that L2 acquisition required a lot more than simply learning the target language's vocabulary and grammar. It involved 'an alteration in self-image, the adoption of new social and cultural behaviours and ways of being, and therefore has a significant impact on the social nature of the learner' (page 77).

3.3 The historical development of language learning motivation

Dörynei (2000) defined language learning motivation as 'the dynamically changing cumulative arousal in a person that directs, coordinates, amplifies, terminates and evaluates the cognitive and motor processes whereby initial wishes and desires are selected, prioritised, operationalised, and (successfully or unsuccessfully) acted out' (page 524). Macaro et al

(2016) also provided an equation for motivation which stated that: '*Motivation for an area of activity = expectations of achieving success in that activity + valuing success in that activity'* (page 6).

Early research into language learning motivation was carried out by Gardner (1985). The research focussed on bilingual Canada and on the assumption that it is the social and cultural environment where the language learning takes place that really influences the motivation of the language learner. Two key motivational orientations were identified with regards to language learning: 1) *instrumental motivation* and 2) *integrative motivation*. Instrumental motivation involves language learning for a specific extrinsic reason such as career advancement. Integrative motivation is driven more by a desire to be accepted or assimilated into the target language culture or society. Both of these factors are believed to play important roles in developing the perseverance required for adult learners to achieve L2 Japanese fluency.

Language learner motivation and behaviour are also influenced by other individuals in the same environment (Dörnyei, 2001; Noels, 2001). Empirical studies of L2 learning motivation have demonstrated the important roles that significant others play with regards to L2 motivation, such as family, peers, teachers and other members of the L2 community (Csizér & Dörnyei, 2005). One of the drivers of the current study was to see how much influence other L2 Japanese-speaking individuals had on the survey participants.

Dörnyei & Ottó (1998) and Dörnyei (2000) proposed a motivational process model for language learning which accounted for changes in motivation levels over time. This dynamic concept of motivation was based on earlier work by researchers such as Heckhausen (1991), and Gollwitzer (1990). Motivation was seen something dynamic which could (and would) evolve over the multi-year time-period required to achieve fluency. Schumann (1998) and Kafner (1996) both argued that the long-term acquisition of skills such as language learning require very different motivational characteristics versus simpler actions such as task completion and decision-making. Kafner (1996) observed that '[d]uring skill training, goal accomplishment proceeds slowly, as the individual develops an understanding of the task and proficiency in skills relevant to performance…Continued task practice (ie, persistence) is necessary to yield improvements in task performance. But for practice to have a positive

effect on performance, additional motivational mechanisms are required to sustain attention and effort over time and in the face of difficulties and failures' (page 405).

Building upon these temporal aspects of motivation, the process model of L2 learning motivation focused on three separate stages of motivational development: 1) the preactional stage; 2) the actional stage; and 3) the postactional stage. According to Dörnyei & Ottó (1998), the model was 'intended both to account for the dynamics of motivational change in time and to synthesise some of the most important motivational conceptualisations to date' (page 43). Dörnyei (2000) noted that 'due to the long-lasting nature of mastering a foreign language, accounting for the time element is a particularly pressing issue' (page 524).

One of the most important recent developments in language learning motivation after the introduction of the process mode was Dörnyei's (2005) L2 Motivational Self System. Like the process model, it also consisted of 3 components: 1) the Ideal Self, 2) the Ought-to Self, and 3) the L2 Learning Experience. The Ideal Self is the ideal future L2 speaker that the learner wants to become. The Ought-to Self focuses the learner on what they need to become to either meet external expectations or avoid negative outcomes. This is associated with extrinsic motivational orientations. The L2 Learning Experience includes the environmental aspects of the L2 learning process. Dörnyei & Ryan (2015) believed that these possible selves 'denote a powerful and at the same time versatile motivational self-mechanism, representing individual's ideas of what they might become, what they would like to become, and what they are afraid of becoming' (page 87).

According to Dörnyei & Ryan (2015): '[t]he future self-image must be perceived by the individual as plausible … Plausibility is an essential pre-requisite for motivation since implausible self-images are likely to remain at the level of unregulated fantasy without any motivational response…The future self-image should [also] be accompanied by relevant and procedural strategies. These strategies…serve as a roadmap towards the future state and distinguish between motivationally relevant future self-images and empty daydreams or fantasies' (page 92). Capa et al. (2008) observed that when it comes to motivation 'tasks that are difficult will result in an intention to try hard, and tasks that are impossible will result in an intention not to try' (page 144). So there has to be a balance between ambition and reality.

Rose (2017) noted that 'if a learner does not have a clear image in their mind of the proficiency they want to attain, it will be very difficult for them to establish conceivable

goals' (page 107). The journey from the current self to the future self requires a clear understanding by the leaner of what exactly the goal is, how it will be achieved and what tools or strategies will be required. Deci & Ryan's (2015) Self-Determination Theory also puts the learner firmly at the centre of language learning motivation.

3.3.1 Motivations behind the study of L2 Japanese in the West

Although Japan had been open to the West since the 1868 Meiji Restoration, the motivation for studying L2 Japanese did not extend much beyond a narrow group of specialist scholars until the start of WW2. Before the Japanese attack on Pearl Harbour in December 1941, there were only 65 non-Japanese L2 Japanese speakers in whole of the United States (Atlantic, 2013).

The post-war economic rise of Japan provided another significant motivation for non-Japanese speakers to learn the language, this time for more commercial and career-based reasons (Rose 2017). Japan was viewed as a monocultural, monoethnic and monolingual country with a significant language barrier (Noguchi & Fotos, 2001), but one that was also a growing global economic power. This contrast was one of the reasons behind the rapid increase in Japanese language learning from the 1980s. The number of L2 Japanese learners overseas increased 30.3 times from just 127K in 1979 to peak at almost 4.0 million in 2012 (The Japan Foundation, 2018). However, after the slow deflation of the Japanese economic bubble from 1989 to 1997, foreign government backing of Japanese language learning programmes stalled, and overseas language programmes were re-focussed on other high growth Asian economies such as China and Korea (Rose, 2017).

Nevertheless, in recent years, the Japan Foundation (2018) has highlighted the popularity of modern Japanese culture (such as manga, anime, J-Pop, etc) as the largest motivational factor behind increased levels of L2 Japanese learning globally. This factor was also referenced by (Rose, 2017) when he stated that 'the world is experiencing an explosion of interest in anime and manga around the world, further fuelling the younger generation's desire to learn the Japanese language and to go to Japan to study and experience Japan first-hand' (page 5).

3.3.2 Language learning motivation studies involving L2 Japanese

The topic of cultural interest as a motivational factor for L2 Japanese learning is one that has been the subject of a number of recent studies. The Japan Foundation's (2018) global

language learner survey also found that interest in both modern and traditional Japanese culture were now seen as higher motivational factors than career or education-related motivations.

Although it is still estimated that over 70% of motivation studies on language learning are still focused on EFL or ESL (Ushioda & Dörnyei, 2017), there have been a number of studies carried out in the last 10 years that have focussed specifically on L2 Japanese motivation. These are discussed below.

Kato (2002) highlighted higher-than-average attrition rates in L2 Japanese courses, particularly with demotivated students from alphabetic L1 backgrounds. Grainger (2005) focussed on the orthographic complexities of the Japanese language and the sheer volume of information that needs to be memorised as some of the reasons behind low motivation and high attrition rates. This is particularly true with secondary and tertiary level courses. Matsumoto (2007) noted that learners have discussed 'becoming discouraged and not wanting to continue studying' (page 205) because kanji and grammar required such a significant time and effort to learn. Rose & Harbon (2013) highlighted that Japanese L2 learners from alphabetic L1 backgrounds identified kanji as a key challenge and that even advanced students struggled to stay motivated and successfully self-regulate their learning.

Northwood & Thomson's (2012) study found that Australian L2 Japanese learners who continued studying Japanese had a far stronger sense integrative motivation than those who discontinued their studies. There was also a far stronger affinity with and interest in Japanese culture by the former group. They had a far more positive approach to the language and were more willing to engage in self-initiated activities. The study noted that an interest in certain aspects of modern Japanese culture (such as manga and amine) was responsible for learners continuing with their initial studies in Japanese. However, it was also noted that some of the students who did give up on formal language learning claimed that they had done so because their cultural interests had been satisfied (which may of course just have been a face-saving excuse).

Xu (2018) found that L2 Japanese majors in China tended to lose motivation to study based on the perception of slow progress in achieving fluency goals, increased course workload and a loss of confidence in their language learning ability. However, both Yang (2011) and Zhang (2013) found that Japanese majors in Taiwan and Mainland China had higher degrees of

motivation and more positive attitudes towards Japanese culture than those who were studying the language as a minor.

Interestingly, Mori & Takeuchi (2016) observed that increasing the number of Chinese students in L2 Japanese courses at an American university led to increased levels of demotivation amongst American students. This was due to the large gap in kanji and vocabulary knowledge between the two groups which negatively impacted the motivation levels of the American students.

3.4 Learning strategies and their role in kanji learning

There are a number of definitions of what exactly constitutes a language learning strategy. Cohen (2011) defined strategies as '[t]houghts and actions, consciously chosen and operationalized by language learners, to assist them in carrying out a multiplicity of tasks from the very onset of learning to the most advanced levels of target language performance' (page 7). An earlier definition by Rubin (1981) referred to 'the techniques or devices that a learner may use to acquire a language' (page 7), while O'Malley & Chamot (1990) focussed on 'the special thoughts or behaviours that individuals use to help them comprehend, learn or retain new information' (page 1).

Language learners do acquire foreign languages at different rates, and it has been assumed that some of this variation could be explained by differences in the usage of language learning strategies (Rose, 2017). Gass & Selinker (2009) stated that a 'common observation is not only that some language learners are more successful that others, but also that good language learners sometimes do different things to poorer language learners' (page 439).

There is ample evidence in the literature of high correlations between accelerated levels of proficiency and strategy use. O'Malley & Chamot (1990) noted that 'more effective students used learning strategies more often and had a wider repertoire of learning strategies than less effective students' page 128. Doering (2001) also found that successful language learners used a greater number and wider range of strategies than less effective learners, and Oxford (2001) concluded that 'greater strategy use is often related to higher levels of language proficiency' (page 167). Finally, Clark (1999) noted that the use of cognitive strategies by language learners was associated with high achievement on proficiency exams.

After Rubin's (1975) initial work around language learning strategies, research in the field began to focus on creating a classification framework for the wide range of language learning strategies that had been identified. Studies such as Naiman et al. (1975) and Bialystok (1975) made early attempts at expanding the inventory of strategies to include aspects of language acquisition such as vocabulary learning and cognitive strategies. Rubin (1981) revisited this theme with the first ever taxonomy of language learning strategies. However, Grenfell & Macaro (2007) subsequently criticised Rubin's classification system as a list of 'academic or study skills' (page 11).

It was O'Malley and Chamot (1990) who provided one of the first comprehensive classification systems for language learning strategies. This divided strategies into three general categories: 1) metacognitive strategies; 2) cognitive strategies; and 3) social / affective strategies. However, the vague definition used in the third social / affective category was criticized by Dörnyei (2005) for being too broad in scope. It was seen as something which had only been added to 'accommodate all the strategies that did not fit in the first two types' (page 168).

One of the most significant developments in language learning strategy research was the publication of Oxford's (1990) *Strategy Inventory of Language Learning* (SILL), a questionnaire designed to provide language learners with a measurement of their own strategy use and also to increase their awareness of strategies employed by other learners. It divided language learning strategies into six categories:

1. **Cognitive**: making associations between new and already known information;
2. **Mnemonic**: making associations between new and already known information through use of formulas and phrases;
3. **Metacognitive**: controlling one's own cognition through the co-ordination of the planning, organization and evaluation of the learning process;
4. **Compensatory**: using context to make up for missing information in reading and writing;
5. **Affective**: the regulation of emotions, motivation and attitudes toward learning;
6. **Social**: the interaction with other learners to improve language learning and cultural understanding.

Despite its popularity and extensive use, the SILL has been the focus of significant controversy. Its design as a research instrument was criticized by both Dörnyei (2005) and

Woodrow (2005), who objected to the use of Likert scales to measure the frequency of strategies in combination with items defining specific learner behaviours. They also argued that surveys designed to measure language learning strategies were inaccurate and unreliable. Dörnyei (2005) believed that it was impossible to reveal a general trend through the use of the SILL since total scale scores were not cumulative and therefore invalid. Tseng et al. (2006) also criticized the use of behavioural items in combination with frequency measures in the 5-point Likert scale. Nevertheless, despite these criticisms, White et al. (2007) noted that the SILL is 'without doubt the most widely used instrument in language learner strategy research' (page 95). Moreover, Ardasheva & Tretter (2013) defended the use of the SILL's 5-point Likert scale, observing that 'the use of behavioural items to measure latent constructs including learner characteristics and behaviours…is a common practice in educational research that has produced valid results' (page 485).

Dörnyei (2005) suggested that the concept of language learning strategies should be replaced with the notion of self-regulation, a view which was reinforced by Tseng et al.'s (2006) study on self-regulated vocabulary learning. However, Rose (2012) argued against 'throwing the baby out with the bathwater', despite the 'definitional fuzziness' of language learning strategies (page 92).

Bourke's (2006) *Strategy Inventory for Learning Kanji* (SILK) is a SILL-based questionnaire that appears to be one of the most-used research tools for measuring kanji learning strategies. The instrument, or a modified version of it, has been used in various L2 Japanese studies in diverse locations such as Indonesia (Kocimaheni , 2018), Thailand (Kim, 2018) and Australia (Haththotuwa Gamage, 2003). Rose (2017) also discussed it extensively in his L2 Japanese research and a truncated version of the SILK was included in this study.

When it comes to traditional kanji learning strategies employed by L1 Japanese learners, the methods tend to be based on repeated writing and frequent testing (Machida, 2001). However, Toyoda (1998) noted that the monotony of rote-learning can lead to demotivation for L2 Japanese learners. In contrast, Gamage (2003) observed that L2 learners from alphabetic L1 backgrounds actually preferred to use repeated writing strategies, even though this was believed to be the least effective learning strategy (Toyoda & Kubota, 2001). Other studies have noted that rote-learning strategies are perceived as the most effective kanji learning strategies by both L2 Japanese students (Mori & Shimizu, 2007) and teachers (Shimizu & Green, 2002). Nevertheless, Mori (2014) cautioned that 'students may have

independently come to the conclusion that rote memorization works best for them simply because they do not know how to use other strategies effectively' (page 418). Allen (2008) has questioned the effectiveness of repeated character writing, but it may be that L2 Japanese students perceive it as 'effective' because it is not that cognitively taxing and can be done repeatedly without too much effort.

Heisig ((2011) observed that Chinese L1 practitioners tend to teach Chinese characters to L2s in the same way they learnt themselves through rote learning as children, despite the fact that adults are far better learners and can categorize and organize in ways that children cannot: '[h]aving begun their study as children, in whom the powers of abstraction were not yet developed and for whom rote memory was the only option, they cannot be expected to fully grasp the learning potential an adult brings to the study of characters" (page 4).

For the purposes of this study, the focus will be on looking at the effectiveness of strategy use in general as opposed to looking at whether one particular strategy works better than another. The research has actually suggested that instructors should avoid forcing students to learn a particular strategy (Mori, 2014). Each individual is different so what is important is to make students aware that different strategies exist. Mori (2014) suggested that 'L2 Japanese students must learn to use different strategies flexibly, depending on the nature of learning tasks, and to integrate multiple sources of information effectively' (page 418). By using strategies that are best suited for each type of kanji, the learner may be able to reduce the cognitive energy spent on kanji learning. The current study was designed to measure how important various different types of kanji learning strategy were to learners based on the SILK statements.

3.5 Research questions

Given the focus on the literature review above, this study has been designed to address three specific questions:

1. Did the Pre-1997 and Post-1997 samples achieve L2 Japanese fluency at different rates?
2. Could statistically significant differences in kanji learning strategy usage explain any differences in L2 acquisition rates between the Pre-1997 and Post-1997 samples?
3. Could more qualitative differences in terms of environment, motivation and language learning experiences also explain any differences in L2 acquisition rates?

The study used quantitative methods to measure mean differences in time-to-fluency acquisition rates and strategy usage between the Pre-1997 and Post-1997 samples within the Equivalent Fluency group. It also adopted a more qualitative approach when attempting to measure differences between environment, motivation profiles and study experiences. For this analysis, it has used a combination of open-ended responses from the online survey and excerpts from follow-on interviews with three participants.

4 Methodology

4.1 Chapter summary

This chapter provides an overview of the research methodology used in the study and examines some relevant methodological considerations. It also includes a summary of the survey design, participant selection, data collection, data analysis and the follow-up interview process. Finally, the chapter concludes with a discussion of the ethical considerations associated with this study.

4.2 Methodological considerations

Given this study's aim of examining quantitative differences in L2 Japanese acquisition rates, motivation profiles and kanji learning strategy usage (while also looking at qualitative aspects of study environment and language learning experiences), it was decided that a mixed methods approach would be appropriate. The purely quantitative elements of the study, including demographic and Japanese language learning data, allowed for the statistical measurement of differences in time-to-fluency, motivation profiles and strategy usage for individual language learners over time. The survey also included three questions on language learning challenges, inspirations and fluency milestones.

4.3 Quantitative survey design

Brown (2001) defined questionnaires or surveys as 'any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers' (page 6). The survey method is one that has been extensively used in investigating strategy usage in L2 Japanese learners (Bourke, 1996; Grainger, 1997). The kanji learning strategy usage section of this online survey design was based in large part on the work done by Bourke (1996) with her *Strategy Inventory for Learning Kanji* (SILK). It adopted a 5-point Likert-scale response system to record the importance of different types of strategy usage.

Dörnyei (2003) identified three types of surveys based on the type of data elicited: 1) facts (such as date of birth and language learning experience); 2) behaviour (language learner

strategy use and self-regulation); and 3) attitudes (views on environment and motivation). This survey has attempted to collect all three aspects via a single instrument.

4.4 Demographic data

Participants were asked to provide information about their gender, age, nationality, ethnicity and L1.

4.4.1 Japanese language experience

Participants were then asked to provide an approximate date when they began studying Japanese, an approximate date when they reached a level where they were comfortable referring to themselves as 'fluent in Japanese', and what their definitions of fluency included. Participants were asked to indicate whether they had a degree level qualification in Japanese and if / when they had passed L1/N1 of the JLPT.

4.4.2 Japanese language learning environment

Participants provided estimates on the percentage of time they spent studying / working / living in Japan during their time-to-fluency period. They were also asked how many hours per day on average they spent in a Japanese speaking environment and how many hours per day they spent actively studying the language during this period.

4.4.3 Japanese language learning motivation

The survey provided seven different static categories of motivation for learning Japanese. These were: 1) *Cultural – Traditional;* 2) *Cultural – Modern;* 3) *Academic;* 4) *Professional;* 5) *Social;* 6) *Intellectual;* and 7) *Personal*.

Participants were asked to indicate on a 5-point Likert Scale the importance of each of the motivation criteria for them when they were studying Japanese. 5 was the highest point on the scale representing 'Extremely Important' and 1 ('Not Important At All') was the lowest.

4.4.4 Kanji learning strategies

Participants were asked about the strategies they used to memorize kanji. 25 strategy-related statements were included in the survey. Participants were asked to indicate on a 5-point

Likert scale the importance of each of strategy for them when they were studying Japanese, ranging from 5 'Extremely Important' to 1 'Not Important At All'. The questions were divided into eight broad categories: 1) *Association*; 2) *Stories*; 3) *Component analysis*; 4) *Visual / emotive response*; 5) *Stroke order*; 6) *Planning*; 7) *Evaluation*; and 8) *Working with others*. The differences between the number of statements used per section in the original SILK and the current study are shown in the Table 4 below.

Table 4 Comparison of SILK (Bourke, 1996) and the current study

	Original Version	Modified Version
Association	11	5
Stories	4	3
Component analysis	4	2
Visual / emotive response	5	3
Stroke order	2	1
Planning	9	7
Evaluation	5	3
Working with others	2	1
Total	**42**	**25**

The rationale behind reducing the number of statements from 42 to 25 was driven mainly by time concerns. There was a risk that participants might lose interest in the survey with anything longer, especially since open-ended written responses were also required.

4.5 Open-ended responses

The survey design included three separate text boxes where participants were asked to provide open-ended feedback on their Japanese L2 learning experience. These are discussed in sections 4.5.1-4.5.3 below.

4.5.1 Challenges and difficulties question

Question 17 of the survey asked:

What were the main challenges or difficulties you experienced while learning Japanese and how did you resolve or overcome them?

This question was designed to see if there were any commonalities in the types of challenges and difficulties faced by successful L2 Japanese language learners from alphabetic L1 backgrounds and how they were overcome.

4.5.2 L2 Japanese-speaking role model question

Question 18 of the survey asked:

When you were learning Japanese, was there a specific person who inspired you to improve because their Japanese proficiency levels were high? If so, who was that person and why were they such an inspiration?

This question was designed to highlight if there were any common themes in the types of external influences, role models or linguistic mentors that inspired L2 Japanese language learners from alphabetic L1 backgrounds.

4.5.3 Fluency milestones question

Question 19 of the survey asked:

When you were learning Japanese, was there one particular event or milestone which made you comfortable referring to yourself as a 'fluent in Japanese', 'proficient in Japanese' and/or 'a fluent Japanese speaker'? If so, what was it?

This question was designed to identify any common themes in the fluency definitions that L2 Japanese learners from alphabetic L1 backgrounds used and at what point in their language learning did they feel comfortable defining themselves as '*fluent*'.

4.6 Follow-up interview design

The follow-up interviews focussed on differences in the language learning experiences of L2 Japanese learners from alphabetic L1 backgrounds based on the time period when they began studying Japanese. Three participants were chosen for follow-up interviews, one who began studying Japanese in the late 1960s, one who started in the late 1980s, and one participant who began studying Japanese after 2000. Two males and one female took part.

4.7 Participant selection

Participant selection for the online survey was based on a snowball sampling approach which initially utilized the researcher's extensive personal network of L2 Japanese-speaking friends,

colleagues and associates. The sample size was then supplemented by approaching various Japanese-English bilingual groups and JLPT L1/N1 certificate holders via LinkedIn.

4.8 Data collection methods

This survey was hosted on the SurveyMonkey website. At total of 156 questionnaire responses were received between March-June 2022.

Of the 156 responses that were uploaded successfully onto the www.surveymonkey.com platform, 6 had to be discarded because of errors made inputting the data by the participants. Given its focus on adult L2 learners from a non-Chinese character based L1 backgrounds, 5 responses from Chinese L1s and 30 responses from participants who begun studying Japanese before the age of 18 were also discarded. This left 115 accepted responses.

4.9 Rationale behind the Equivalent Fluency group

One of the key limitations of the study which will be discussed in Chapter 6 is that it relies on a self-assessed version of 'fluency'. Definitions of fluency are likely to vary significantly from person to person.

The proposed solution to this issue was to focus the quantitative portion of the study on participants who were believed to be of a roughly equivalent level of fluency. This was based on the participant having passed the highest level of the JLPT, and/or having graduated with a degree in Japanese.

This filter produced the Equivalent Fluency group (N = 56). Of these 56 participants, 29 had passed the JLPT exam only, 21 only had a degree, and 6 had both. The remaining 59 responses are referred to as the Other Accepted Responses group in the analysis below.

Table 5 Online response data analysis

Online surveys received	**156**
Incorrectly completed	-6
Chinese character background	-5
Started L2 Japanese younger than 18 years old	-30
Accepted Responses	**115**
Responses with Japanese degree and/or JLPT L1 or N1	58
Outliers (>25 years time-to-fluency)	-2
Equivalent Fluency Group	**56**

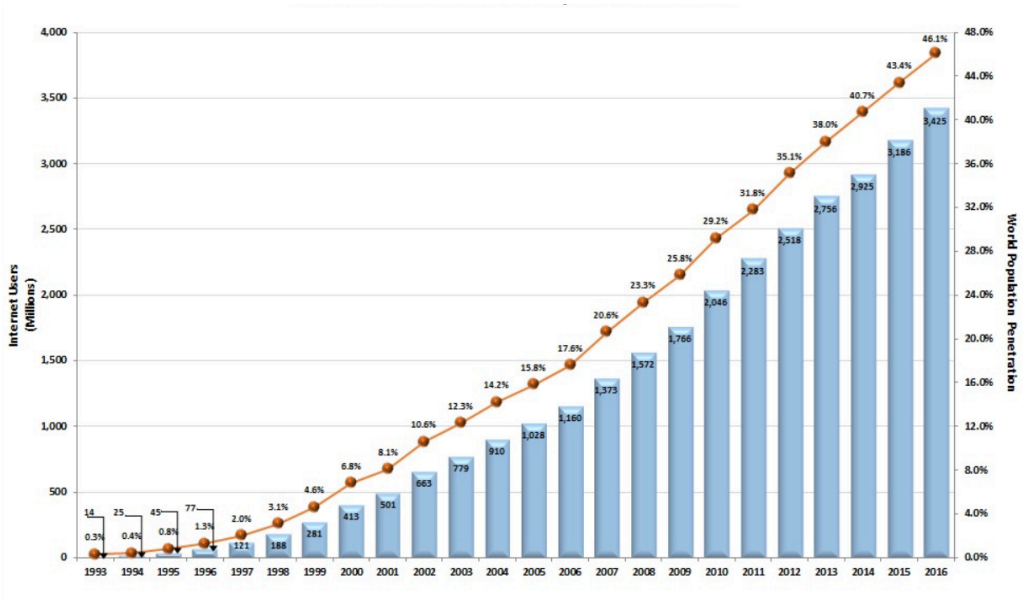
Since the study was aimed at measuring differences in time-to-fluency language acquisition rates between pre-Internet and Internet era learners, the decision then had to be made about what date would be the dividing point between the two groups. The decision-making process around this issue is discussed in section 4.10 below.

4.10 Rationale behind the pre-1997 and post-1997 groups

There was some debate about which date would represent (from a L2 Japanese acquisition perspective) the boundary between the pre-Internet and Internet time periods. It was eventually decided on a 1997 mid-point for 3 main reasons:

1. There was a clear acceleration in global internet users and penetration rates between 1997 and 1998 (see Figure 3 below). 1997 was the year that global internet users exceeded 100mn for the first time.
2. Microsoft's Windows 98 operating system was launched commercially in late 1998, which provided enhanced access to both the internet and to multimedia content such as DVDs.
3. The first version of Rosetta Stone's computer-assisted language learning software for learning Japanese as an L2 was also launched 25 years ago in late 1997 (Rosetta Stone, 2022).

Figure 3 Global internet ssers and penetration rates, 1993-2016



Source: International Telecommunications Union (ITU)

It is accepted that this date is an arbitrary one, and there are no doubt valid arguments as to why an earlier or later date could have been used instead. However, the line had to be drawn somewhere. Learners who studied in the Pre-1997 period were considered more likely to have used analogue methods of language learning and kanji memorization, while the Post-1997 learners were more likely to have had access to language learning software, specialist smartphone apps and a wide range of internet-based content.

In order to create a level of parity between the Pre-1997 and the Post-1997 samples, any time-to-fluency rates of over 25 years (2 participants) were removed. This was done because the maximum time-to-fluency possible with the Post-1997 group would have been 25 years (1997-2022). Including anyone in the Pre-1997 sample with over 25 years' time-to-fluency would have created an imbalance between the mean time-to-fluency rates of the samples.

4.11 Ethical considerations

Prior to data collection, the research procedures and the instruments to be used in this study were reviewed and granted ethical clearance by Oxford University's Central University Research Ethics Committee (CUREC). This approval is shown in Appendix 2. Participants were sent a URL link to the survey which included an introductory section highlighting the purpose of the study. It was emphasised that participation in the survey was voluntary and

that participants could opt out at any time without consequences by simply closing their internet browser. The risks and benefits of participation, as well the complaints process and relevant contact details, were also clearly stated before the start of the survey.

Participants were informed that survey responses would be confidential and anonymous, and that all information collected for the study would only be accessed by the researcher and the researcher's supervisor for the purposes of research and publication.

In the final section of the survey, participants were given the option of ticking a consent box and providing their email address if they wished to be considered for the follow-on interview phase of this study. Prior to conducting online interviews with three survey participants, they were all also asked to sign separate consent forms and return them to the researcher by email. The participant interviews were then recorded on Microsoft Teams (with excerpts from these transcripts shown in Appendix 9).

5 Results

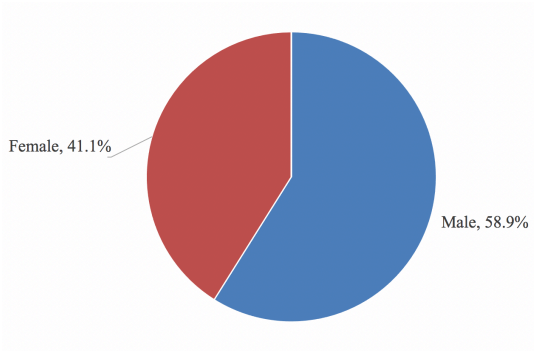
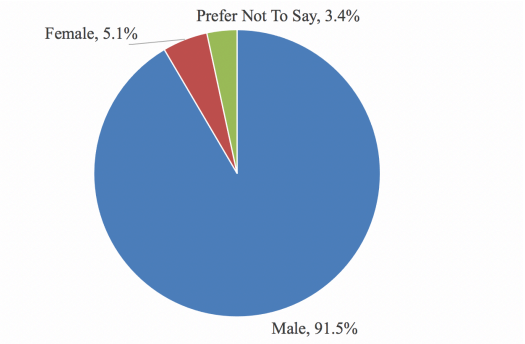
5.1 Chapter summary

This chapter presents the quantitative and qualitative results of the online survey and the follow-up interviews with three participants.

5.2 Demographic analysis of Equivalent Fluency vs Other Accepted Responses

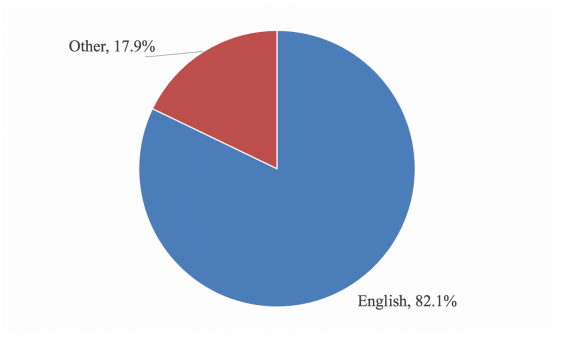
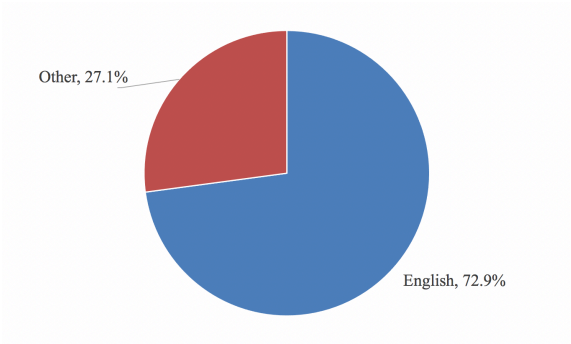
Within the 115 accepted responses, the current age range (as of 2022) was 28-73 years old. The earliest date for starting to learn Japanese was 1968 and the most recent date was 2015. 50 of the 115 participants took the time to write detailed open-ended responses. These responses provided some of the most interesting colour in the study and their documentation has been a particularly rewarding experience. They are shown in Appendices 5-7 and include some invaluable anecdotal insights into what it is like to study L2 Japanese to an extremely high level of proficiency.

Almost all of the female respondents (23 out of 26) were part of the Equivalent Fluency sample. This means that 90% of the Female respondents used the extrinsic motivation of a degree level qualification or an L1 / N1 pass in the JLPT as part of their L2 learning experience. In contrast, with the males in the survey, only 38% of total respondents (33 out of 87) adopted this approach. Two participants preferred not to disclose their gender.

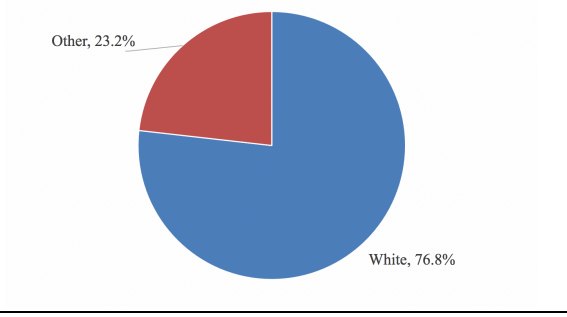
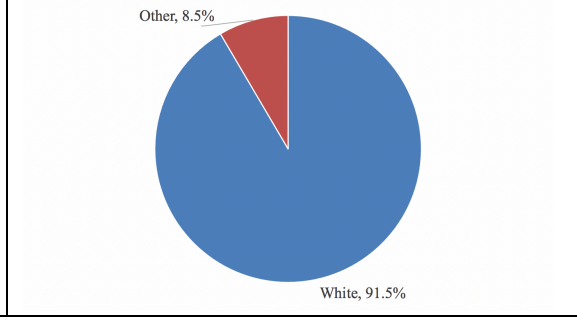
Figure 4 Equivalent Fluency breakdown by Gender	*Figure 5 Other Accepted Responses breakdown by Gender*
	

English was the main L1 in both the Equivalent Fluency and the Other Accepted Responses groups, but 17.9% of the Equivalent Fluency respondents were from non-English L1 backgrounds, compared with 27.1% of the Other Accepted Responses group. The other L1s

represented in the study were predominantly European (including French, German, Italian, Spanish, Danish and Romanian).

Figure 6 Equivalent Fluency breakdown by L1	*Figure 7 Other Accepted Responses breakdown by L1*
	

In terms of a breakdown by Ethnicity, the vast majority of both groups were White, reflecting in part the Inner Circle skew of the participants who responded to survey requests via LinkedIn. However, 23.2% of the Equivalent Fluency respondents were from non-White ethnic background versus just 8.5% of the Other Accepted Response respondents.

Figure 8 Equivalent Fluency Breakdown by Ethnicity	*Figure 9 Other Accepted Responses breakdown by Ethnicity*
	

5.3 Demographic analysis of Pre-1997 vs Post-1997

The Gender breakdown between the Pre-1997 (N = 32) and Post-1997 (N = 24) samples within the Equivalent Fluency group (N = 56) suggest that Female participation grew from 31.3% for Pre-1997 sample to 54.2% for the Post-1997 sample.

Figure 10 Pre-1997 breakdown by Gender

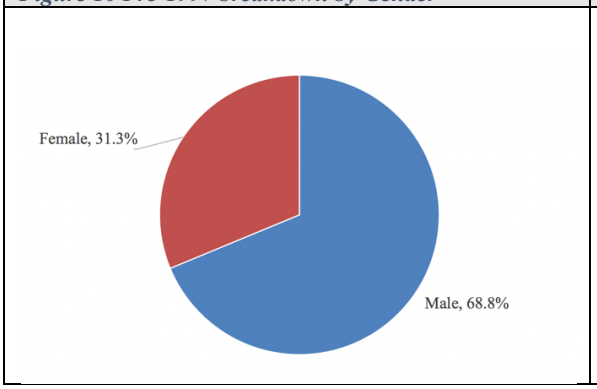
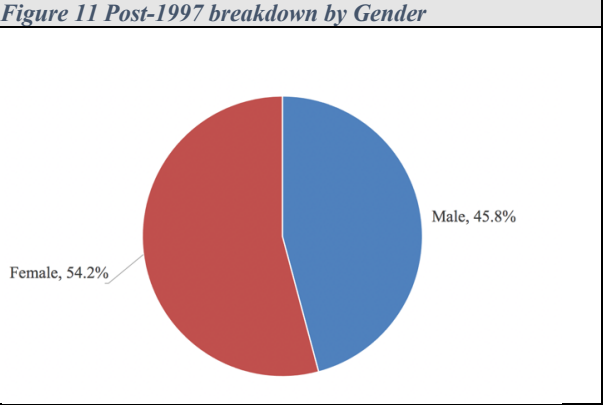


Figure 11 Post-1997 breakdown by Gender



There was very little difference in the L1 breakdowns of the Pre-1997 and the Post-1997 samples. English remained the dominant L1 in both groups, but with the percentage falling slightly from 88.4% to 79.2%.

Figure 12 Pre-1997 breakdown by L1

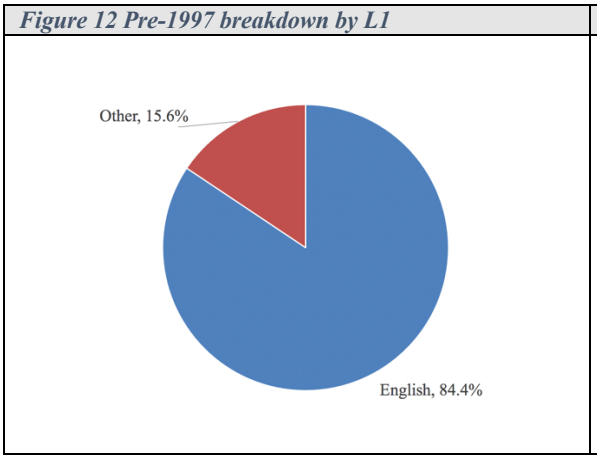
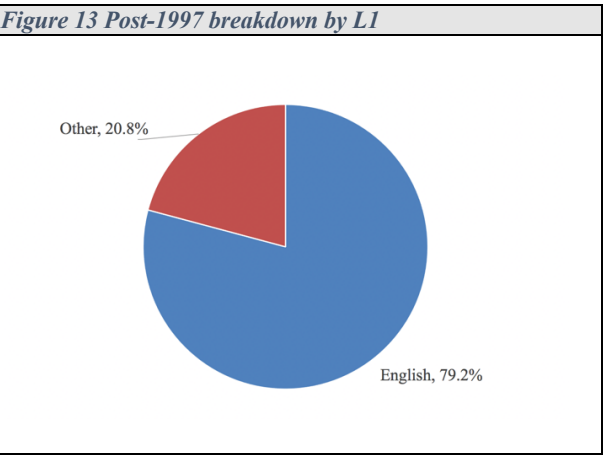


Figure 13 Post-1997 breakdown by L1



The Post-1997 sample was more diverse than its Pre-1997 sample in terms of Ethnicity. The percentage of non-White participants grew from 18.8% in the Pre-1997 sample to 29.2% in the Post-1997 sample.

Figure 14 Pre-1997 breakdown by Ethnicity

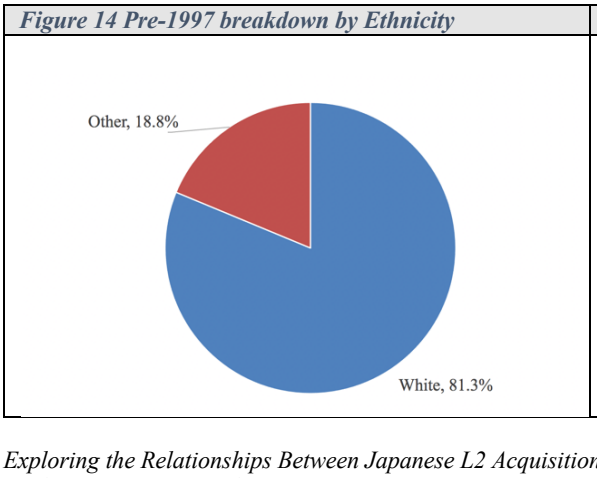
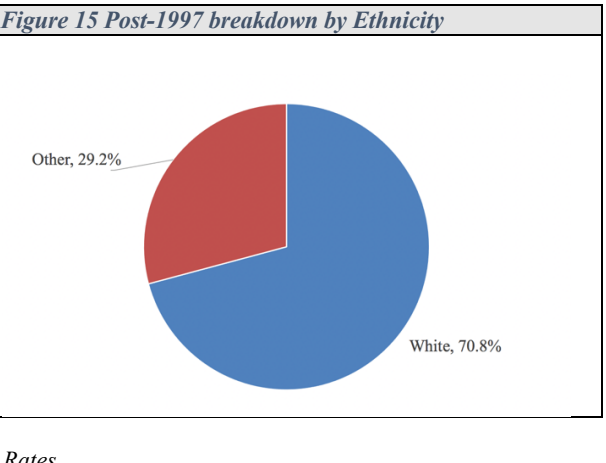


Figure 15 Post-1997 breakdown by Ethnicity



It is therefore possible to observe the trend of L2 Japanese language learning becoming somewhat more diverse over time in terms of Gender and Ethnicity within the Equivalent Fluency group. However, English remained the dominant L1 throughout.

5.4 Japanese language experience comparisons

Table 6 below provides an overview of the differences between the Equivalent Fluency and Other Accepted Responses groups in terms of L2 Japanese experience. The most noticeable difference is between the means in the time-to-fluency for the two samples (10.4 years for Other Accepted Responses vs 6.5 years for Equivalent Fluency). However, these are likely to be due to differences in both fluency definitions and actual proficiency levels between these two groups. Moreover, the Other Accepted Responses still included a number of outliers with over 30 years' time-to-fluency, whereas the Equivalent Fluency group excluded any time-to-fluency scores over 25 years.

Table 6 Comparison of Other Accepted Responses and Equivalent Fluency L2 Japanese experience

Means	Equivalent Fluency	Other Accepted Responses
Sample size	56	59
Current age of participants, years	47	54
Age of onset, years	22	23
Japanese start date range	1969-2014	1966-2015
Age of fluency, years	28	33
Time to fluency, years	6.5	10.4
Fastest time-to-fluency, years	1.0	0.9
Slowest time-to-fluency, years	17.6	35.0
Percent of time in Japan during fluency attainment	60%	64%
Months in Japan during fluency attainment	47	85
Hours spend in Japanese language environment per day	8	8
Formal study hours per day during fluency attainment	3	2
Hours of formal study to fluency	7,355	8,731

The Table 7 below provides a summary of the key language experience data for the Pre-1997 and Post-1997 samples. The difference in mean time-to-fluency measures is large (5.4 years vs 8.0 years). What is also noticeable is that the Pre-1997 sample estimated that on average it spent double the amount of time per day in a Japanese-speaking environment (10 hours vs 5 hours) and that the Pre-1997 sample spent a far higher percentage of their time actually studying in Japan than the Post-1997 sample during the time-to-fluency period (65% vs 52%). The Pre-1997 sample achieved fluency with an estimated 5,913 hours of formal study

versus 9,052 hours for the Post-1997 sample. This suggested that on average the Pre-1997 sample achieved fluency 2.6 years faster and with over 3,000 less hours of formal study.

Table 7 Comparison of Pre-1997 and Post-1997 L2 Japanese experience

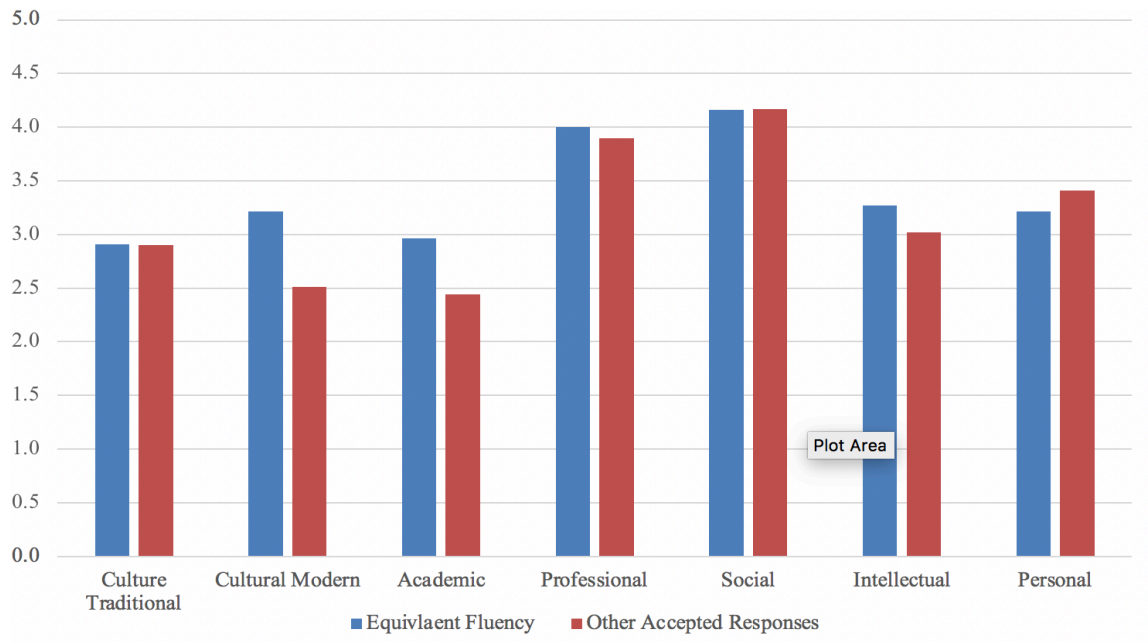
Means	Pre-1997	Post-1997
Sample size	32	24
Current age of participants, years	54	38
Age of onset, years	21	22
Japanese start date range	1969-1997	1997-2014
Age of fluency, years	27	29
Time to fluency, years	5.4	8.0
Fastest time-to-fluency, years	1.0	1.5
Slowest time-to-fluency, years	16.2	17.6
Percent of time in Japan during fluency attainment	65%	52%
Months in Japan during fluency attainment	42	54
Hours spend in Japanese language environment per day	10	5
Formal study hours per day during fluency attainment	3	3
Hours of formal study to fluency	5,913	9,052

5.5 Comparison of Motivation Profiles

In terms of the responses to the motivation questions in the online survey, the only differences of note between the Equivalent Fluency group and the Other Accepted Responses group were that the Equivalent Fluency group produced noticeably higher mean Likert scale scores in terms of Cultural Modern (3.2 vs 2.5) and Academic (3.0 vs 2.4).

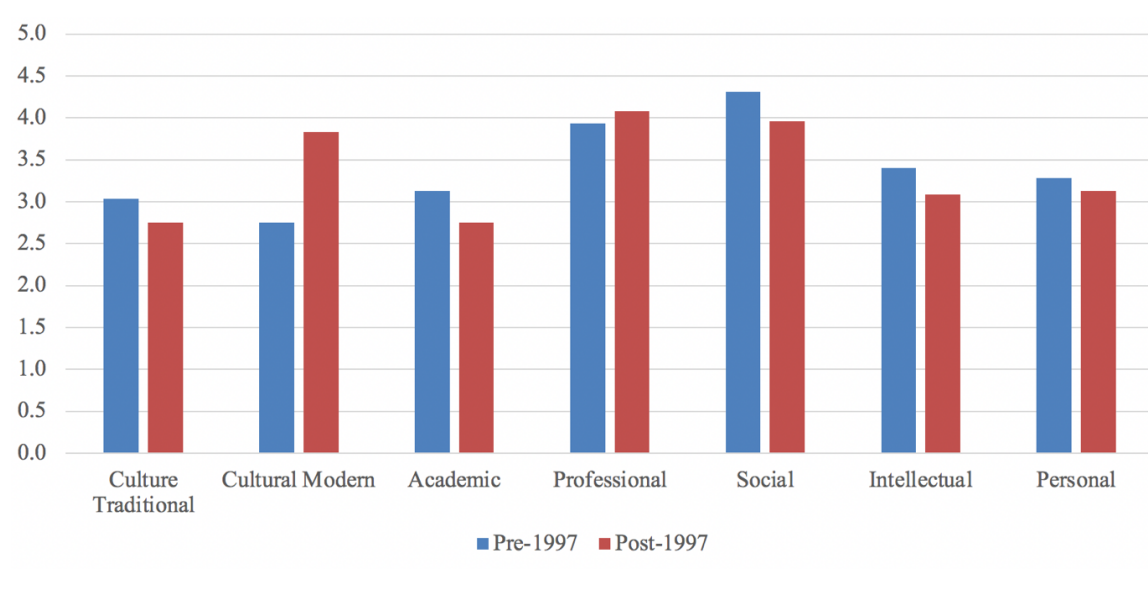
The former might be explained by the younger mean age of the Equivalent Fluency sample (47 vs 54), while the latter would tie-in with the fact that 48% of Equivalent Fluency sample held a degree level qualification in Japanese studies. Professional and Social were the two highest scoring motivations for both groups.

Figure 16 Equivalent Fluency vs Other Accepted Responses motivation profiles



With the Pre-1997 and Post-1997 samples, the Post-1997 Cultural Modern motivation mean Likert scale score of 3.8 was far higher than the Pre-1997 score of 2.8. However, this may also be due to the younger average age of the Post-1997 sample (38 vs 54). Professional and Social were also the two highest scoring motivations for both groups.

Figure 17 Pre-1997 vs Post-1997 Motivation Profiles

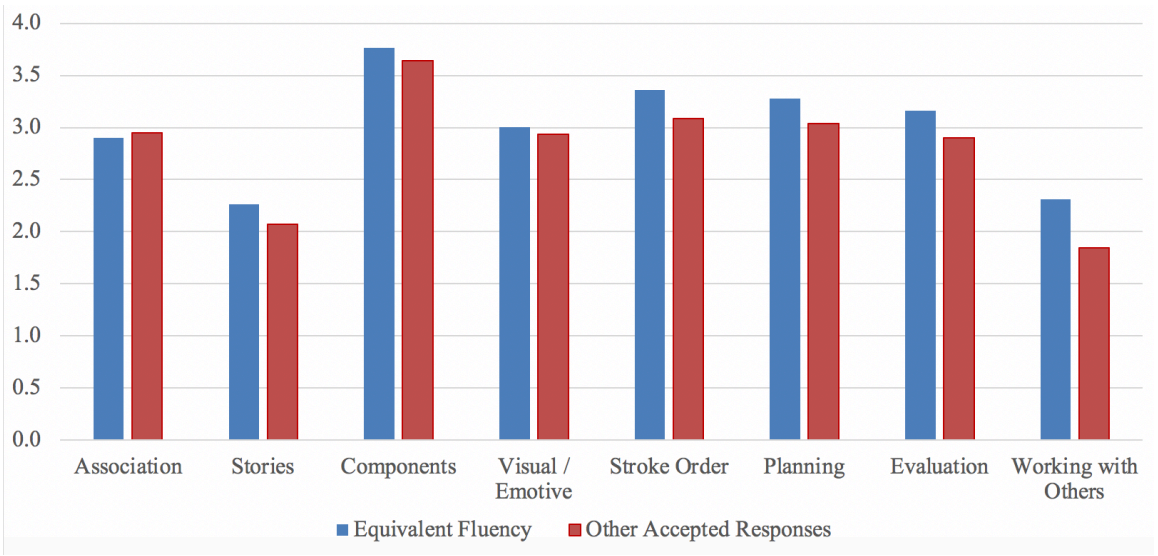


5.6 Strategy Usage

To compare strategy usage across groups, two measurements were employed. Firstly, a comparison of total strategy scores from the 25 statements in the strategy section of the survey was used (based on the 1-5 scores for each statement, with a response of 5 counting as 5 points and a response of 1 counting as 1 point, etc). This produced a possible range of 25-125 points for each participant. Secondly, the average score per question on a 1-5 scale for each of the eight separate categories in the motivation survey (Association, Stories, Components, Visual / Emotive, Stroke Order, Planning, Evaluation and Working with Others) were compared.

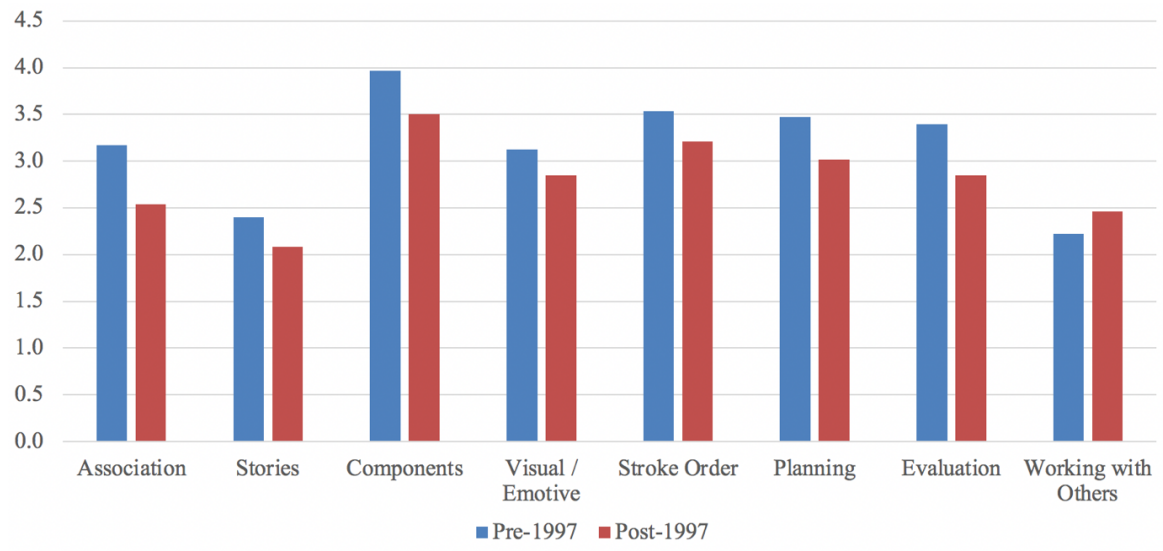
The Equivalent Fluency group had a slightly higher overall strategy usage score than the Other Accepted Responses group (76 vs 72). Figure 18 below shows the strategy usage differences per category between the Equivalent Fluency group and the Other Accepted Responses group. Equivalent Fluency scored higher than the Other Accepted Responses in all eight categories.

Figure 18 Equivalent Fluency vs Other Accepted Responses strategy usage



A comparison of the mean scores in each section is shown in Figure 19 below. It is interesting to note that the Pre-1997 group scored higher in seven of the eight categories of strategy usage. The only exception was in Working with Others where the Post-1997 sample scored marginally higher.

Figure 19 Pre-1997 vs Post-1997 strategy usage



When further analysis was carried out to see if there was any statistical significance in the mean differences for each of these categories for the Pre-1997 and the Post-1997 samples, it was only in the area of Association where a statistically significant difference could be found ($p < 0.05$). The Association section of the survey included statements such as *Comparing and contrasting kanji that look similar so as not to confuse them*. It could be argued that a Bonferroni correction for multiple comparisons across these 8 categories should have been used for the significance threshold ($0.05 / 8 = 0.00625$), but this was judged to be overly conservative.

Table 8 Pre-1997 and Post-1997 kanji learning strategy usage mean differences by strategy type

	Pre-1997		Post-1997			Sig.
	Mean	S.D.	Mean	S.D.	t	(two-sided p)
Association	3.169	0.9382	2.542	0.8737	2.548	0.014
Stories	2.394	1.0758	2.088	0.9598	1.103	0.275
Components	3.969	0.924	3.500	1.3188	1.565	0.124
Visual / Emotive	3.286	1.1892	2.867	0.8234	1.462	0.150
Stroke Order	3.531	1.5654	3.208	1.4440	0.789	0.433
Planning	3.472	1.0976	3.008	0.8905	1.692	0.096
Evaluation	3.400	1.2166	2.850	1.1394	1.720	0.091
Working with Others	2.219	1.3377	2.458	1.1413	-0.705	0.484

5.7 Independent Samples *t* Test results

The main Independent Samples *t* Tests were carried out for the Pre-1997 (N = 32) and Post-1997 (N = 24) samples to compare mean differences in time-to-fluency and strategy usage scores.

5.7.1 Pre-1997 versus Post-1997 time-to-fluency

An Independent Samples *t* Test was performed to compare the time-to-fluency scores of the Pre-1997 and the Post-1997 samples. The outcome variable was found to be normally distributed and equal variances were assumed based on the results of a Levene's test (F = 1.506, p = .225). There was a significant difference between the Pre-1997 sample: (M = 5.4, SD = 3.5) and the Post-1997 sample (M = 8.0, SD = 4.2); t (54) = 2.46; p = .017 (Two-Sided). The SPSS output tables are shown in Appendix 11. This implies that the mean time-to-fluency for pre-Internet L2 Japanese learners was significantly faster than the mean for those who began studying in the Internet era.

Table 9 Independent Samples t Test results for Pre-1997 vs Post-1997 mean time-to-fluency

Group Statistics

	Groupings	N	Mean	Std. Dev.	Std. Error Mean
time-to-fluency	Pre-1997	32	5.447	3.5005	0.6188
	Post-1997	24	7.971	4.1686	0.8509

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Differences	
		F	Sig.	t	df	Significance Two-sided p	Mean Difference	Std. Error Difference	Lower	Upper
time-to-fluency	Equal variances assumed	1.506	0.225	-2.460	54	0.017	-2.5240	1.0260	-4.5809	0.4670

Figures 21 and 22 below show the overall distribution of the Equivalent Fluency sample in terms of time-to-fluency (measured in years) and a comparison of the distributions between the Pre-1997 sample and the Post-1997 sample.

Figure 20 Equivalent Fluency sample time-to-fluency histogram

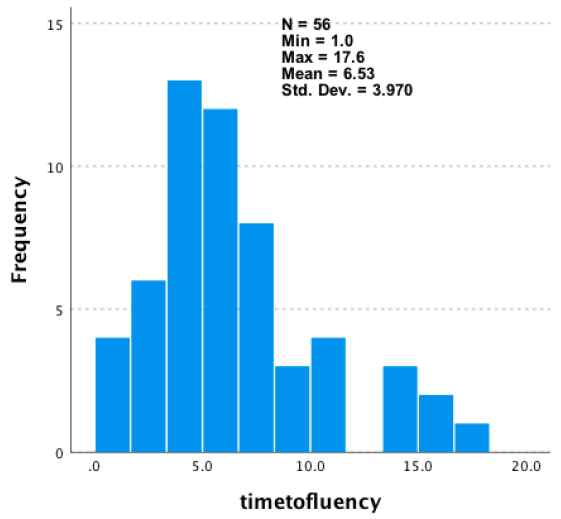
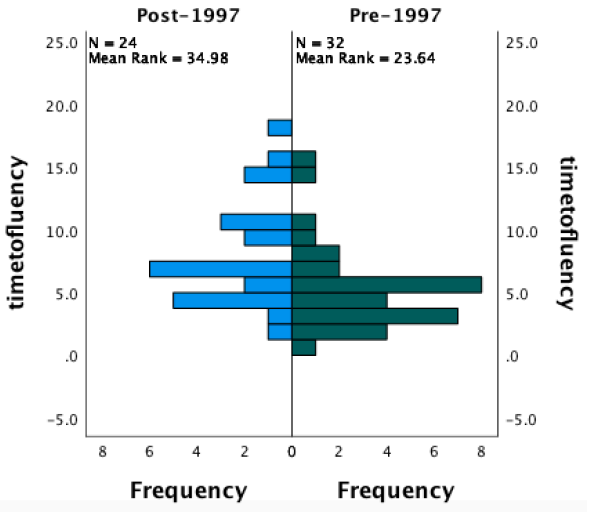


Figure 21 Pre-1997 vs Post-1997 time-to-fluency distribution



5.7.2 Pre-1997 vs Post-1997 mean strategy usage scores

An Independent Samples *t* Test was also performed to compare the mean strategy usage scores of the Pre-1997 and the Post-1997 samples. The outcome variable was found to be normally distributed and equal variances are assumed based on the results of a Levene's test (F = 2.703, p = .106). There was a significant difference between the Pre-1997 sample (M = 80.6, SD = 22.1) and the Post-1997 sample (M = 69.8, SD = 16.1); t (54) = 2.015; p = .049 (Two-Sided). The SPSS output tables are shown in Appendix 11. This implies that the mean strategy usage of the Pre-1997 sample was significantly higher than that of the Post-1997 sample.

Table 10 Independent Samples t Test results for Pre-1997 vs Post-1997 mean total strategy score

Group Statistics

	Groupings	N	Mean	Std. Dev.	Std. Error Mean
strategy-score	Pre-1997	32	80.594	22.1110	3.9087
	Post-1997	24	69.833	16.1074	3.2879

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Differences	
		F	Sig.	t	df	Significance Two-sided p	Mean Difference	Std. Error Difference	Lower	Upper
strategy-score	Equal variances assumed	2.703	0.106	2.015	54	0.049	10.7604	5.3407	0.0530	21.4678

Figures 23 and 24 show the distributions in total strategy scores (with a possible range of 25-125) for the total Equivalent Fluency group and between the Pre-1997 and Post-1997 samples.

Figure 22 Equivalent Fluency sample total strategy score histogram

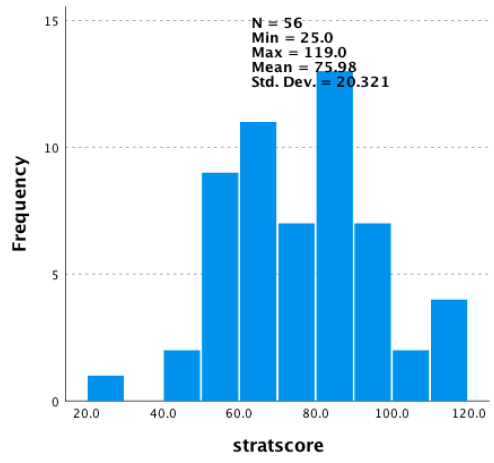
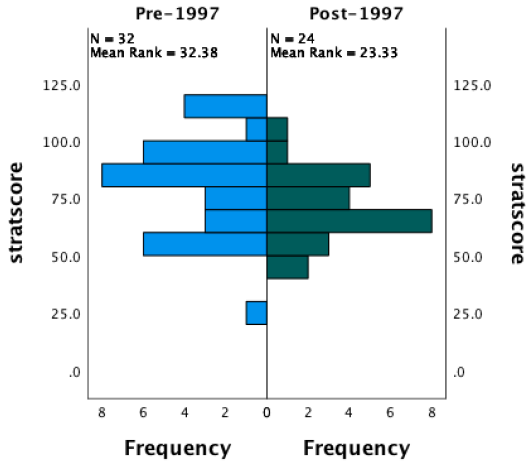
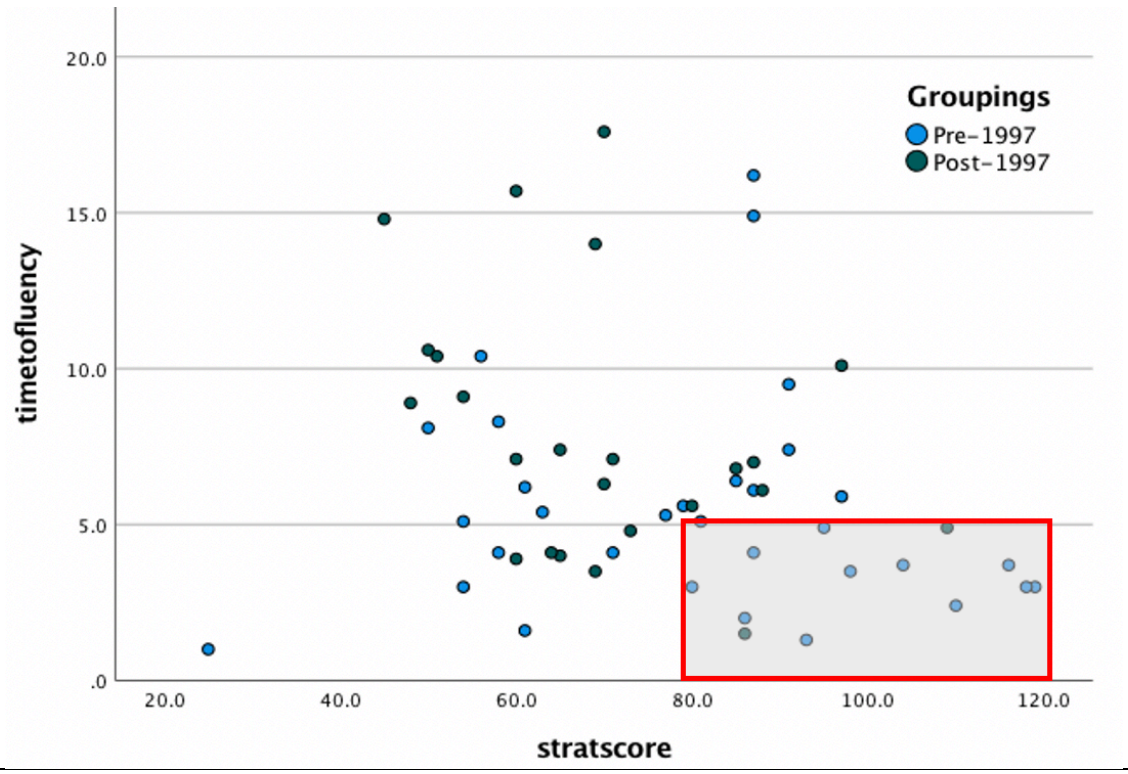


Figure 23 Pre-1997 vs Post-1997 total strategy score distribution



Plotting time-to-fluency versus total strategy usage illustrates that within the Equivalent Fluency group the participants who had a time-to-fluency of less than 5 years and a total strategy score of over 80 (N =13), 85% (11) were from the Pre-1997. Visually at least, this suggests a strong correlation between high strategy usage and accelerated time-to-fluency for the Pre-1997 sample.

Figure 24 Pre-1997 vs Post-1997 comparison of time-to-fluency and total strategy score

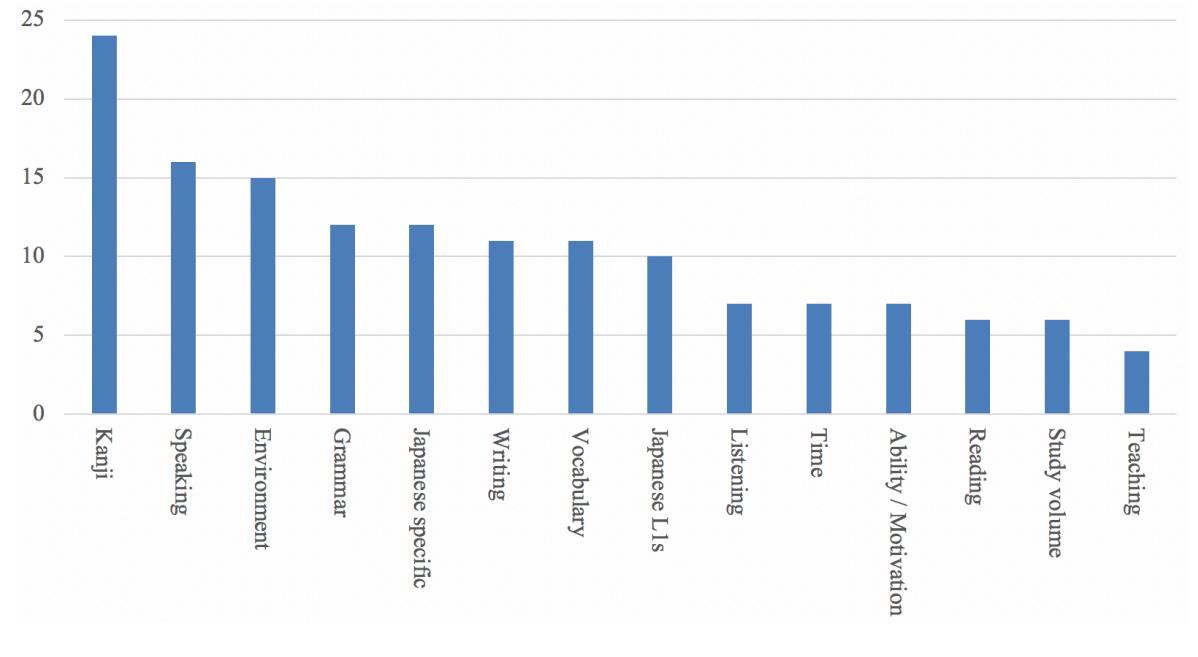


5.8 Qualitative analysis of open-ended survey responses

The three open-ended responses in the survey provided an incredibly detailed insight into the collective mindset of highly proficient L2 Japanese learners from alphabetic L1 backgrounds.

Question 17 dealt with the main challenges or difficulties participants had while learning Japanese and how these challenges were resolved or overcome. Participants were allowed to list multiple challenges in a single response. The results are shown in Figure 26 below.

Figure 25 Question 17 responses



- **Kanji**: Perhaps unsurprisingly, kanji learning was identified as the biggest challenge of (24 specific mentions out of a total of 148). The most frequently cited methods for overcoming the challenge of learning kanji were flash cards, writing by hand, rote learning and *Remembering the Kanji* (Heisig, 2011). However, within the other responses that had 10 or more mentions from the participants, there are a number of common threads that have important pedagogical implications for L2 Japanese learning.
- **Speaking**: In general, challenges around speaking tended to focus on difficulties experienced in pronouncing words correctly, and in being misunderstood by Japanese L1s. Factors such as introversion and a fear of 'not making a fool of myself' were cited as reasons why this was so challenging. The solution often involved 'putting myself outside of my comfort zone' and resisting the urge to hold back.

- **Environment**: This factor is particularly interesting. References to environmental challenges were almost exclusively focussed on the difficulty of learning Japanese when not immersed in an all-Japanese environment (either in a foreign country or at home with an English-speaking partner, or when Japanese L1 colleagues used English exclusively.) An all-Japanese speaking environment was generally seen as an essential pre-requisite for effective language learning.
- **Grammar**: Grammatical challenges tended to cluster around the use of particles, verb endings and tenses. The resolution to these challenges usually involved immersion in a Japanese-only environment, and repeatedly writing down the words and phrases until they stuck.
- **Japanese specific**: This factor included a number of Japanese language specific challenges such as the use of honorifics (keigo, 敬語), using the appropriate levels of respect in a conversation, and various other cultural elements of the language such as 'vagueness'.
- **Writing**: The main challenges around writing involved trying not to come across as a foreigner in written communication and using the right words rather than those that would tend to be used in spoken Japanese.
- **Vocabulary**: The sheer volume of new vocabulary required to learn Japanese on top of the additional workload of logographic learning were also seen as big challenges. The common approach to resolving these types of problems was a combination of rote learning, creating an immersive Japanese learning environment and constant study.
- **Japanese L1s**: There were two main (and perhaps conflicting) issues that L2 Japanese learners had with their L1 counterparts. The first was when their attempts at speaking rudimentary Japanese were being ridiculed by L1 speakers, which was seen as 'confidence destroying' and demotivational. The other complaint was that L1s were not vocal enough in correcting grammatical and word choice mistakes by L2 Japanese learners. It appears as if Japanese L1s were being asked to walk a fine line between proactively correctly Japanese mistakes by L2 learners when they occurred, but not belittling L2 learners when they made these mistakes. L1s 'dumbing down' their Japanese to suit the L2 learner's perceived level was also seen as a negative.

Some sample quotes from the survey on challenges and responses are shown below (with all quotes included in Appendix 5):

1) The large number of syllables used in Japanese compared with English. I practised by repeating tongue-twisters. 2) The totally different grammar and logic of Japanese compared with English. It took a long time before I could speak Japanese without feeling tired. 3) The kanji! I bought what was probably the first-ever edition of 'Remembering the Kanji' and copied the kanji onto flash cards (real ones, secured in bunches of 100 on large key rings!).

Orthography. There's no way round it: learning written Japanese is just a slog. These days spaced-repetition apps like Anki would make is so much easier. Used Anki for Chinese - huge improvement.

I found it extremely hard to learn Japanese because of how Japanese people treat foreigners. They often will only speak to you in English or dumbed down Japanese so it's hard to practice learning natural unless you watch a lot of movies/tv. It also severely limits the chances to have to use Japanese and improve.

Learning kanji was the hardest thing (if I remember rightly - it was a long time ago!) and I mostly solved it by staying up late writing and rewriting kanji!

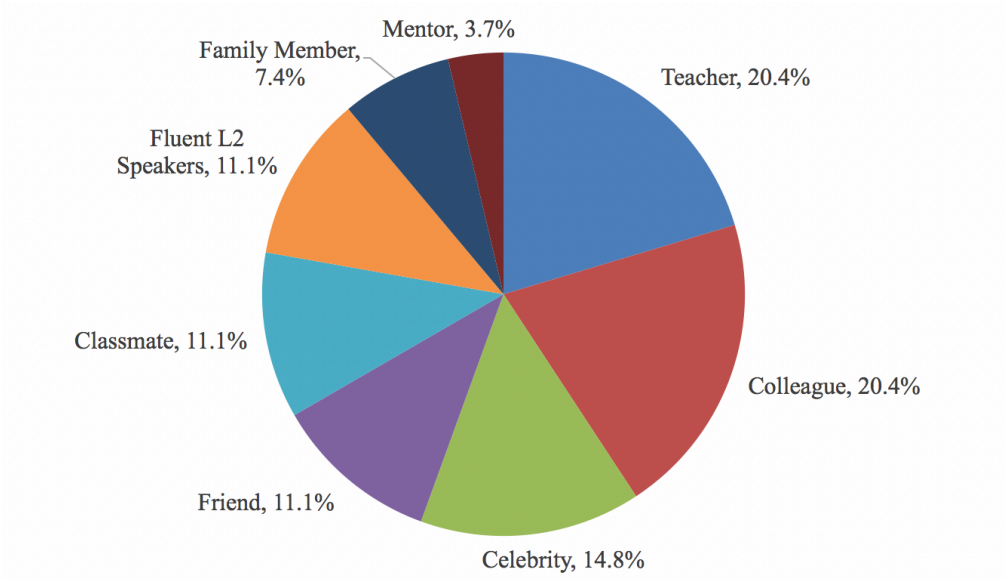
The main difficulties were reading/writing. Learning Kanji was only one part of it, mostly the difficulty was understanding the grammar and structure of the language…The solution was to continue to practice reading as much and as widely as possible.

Being plunged into a Japanese workplace where nobody spoke English, there was no learning curve, more of a learning cliff (to climb). I overcame this by ignoring my awkwardness and throwing myself into learning as a child would learn.

Question 18 asked if there was anyone who acted as a role model or a motivator for the participant when they were learning Japanese. The responses to Question 18 were more clustered around teachers (20%, usually non-Japanese teachers who could speak the language fluently), colleagues and classmates (31% combined), non-Japanese celebrities or TV personalities who appeared frequently on Japanese TV (15%) and non-Japanese friends (11%). The commonality that runs through these responses is that for Caucasian participants in particular seeing another Caucasian speak Japanese fluently was a significant inspiration in

that it proved that it was possible for someone like them to speak a language like Japanese. Seeing a foreigner from a similar background speaking in fluent Japanese appeared to remove a mental block. This was seen as proof that the participant could also reach a similar level of fluency. Given the debates around native and non-native language teachers, specifically NESTs vs NNESTs, it is interesting to note that almost none of the respondents viewed a L1 Japanese teacher as inspirational or motivational. The participants wanted frequent contact with native speakers and wanted to be in a native-speaking environment as much as possible, but this did not extend to their teachers and role models. Adult learners from their own ethnic background were seen as extremely inspirational.

Figure 26 L2 Japanese-speaking role-models



Some sample quotes from the survey on L2 Japanese role models are shown below (with all responses included in Appendix 6). The actual names have been removed:

> *My teachers (many dead now) were the prime source of inspiration. Most of my teachers were actually Sinologists, so they were able to give us a powerful perspective which helped with kanbun, classical Japanese and kanji generally.*

> *[NAME] of SEAS, Sheffield University. He just radiated enthusiasm for learning the language that was infectious.*

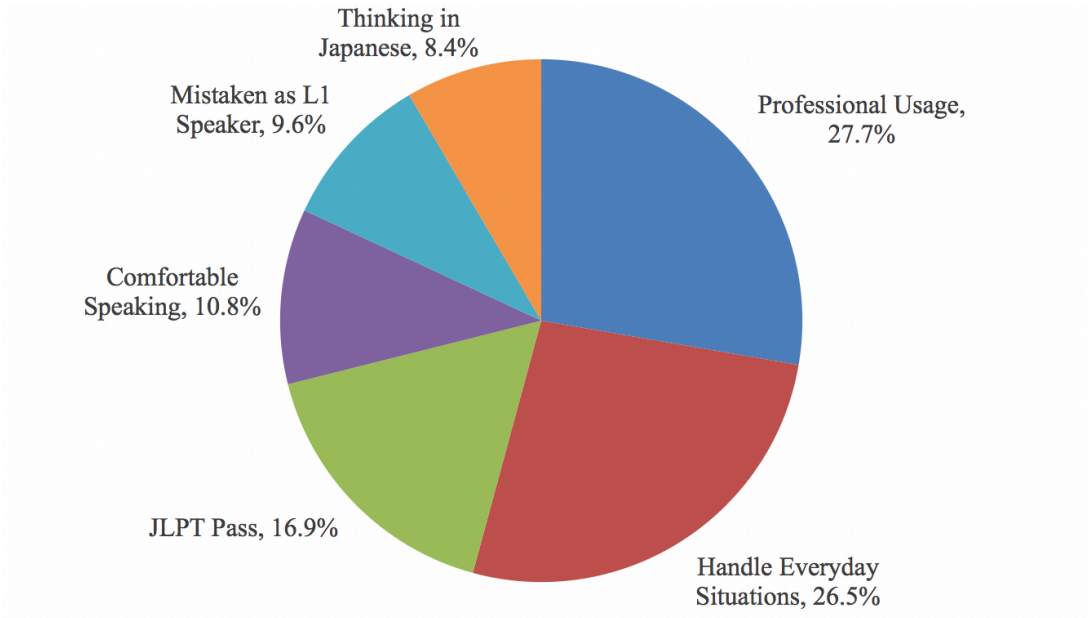
[NAME] was from my same university. He is really smart. His Japanese was really good. He took the gai-muin shiken (Japanese version of the US Series 7 securities test). He scored higher than any of the other Japanese that took the test with him.

My British professor who was teaching us Japanese culture. His kanji was insane, and when he graduated, he was immediately hired by a Japanese newspaper…He was also a great and inspiring teacher overall, everyone loved him.

Yes, I had two friends who had a greater mastery on Kanji then me, as they were able to handle a wider spectrum of vocabulary…Seeing how they were able to handle Kanji motivated me to improve even further as I wanted to be able to read and write Japanese as comfortably as they did.

Question 19 asked participants to say what event or milestone convinced them that they were actually fluent in Japanese. The most popular response related to when the participant completed an extremely complex professional task in Japanese (28% of responses). The second most popular response related to being able to handle all or most everyday situations in Japanese (26% or responses). Passing L1 / N1 of the JLPT was considered as a key milestone for fluency in 17% of the responses. Interestingly, 10% of the responses cited being mistaken for a Japanese L1 on the phone. This was seen as an important confidence boost, and also a sign that the participant had achieved a significant level of linguistic acceptance in Japanese society. Finally, 8% of responses stated that it was when they found themselves thinking or dreaming in Japanese that they felt they had achieved fluency.

Figure 27 Fluency milestones



Some sample quotes from the survey about events and milestones that convinced participants that they were fluent in Japanese are shown below (with all quotes included in Appendix 7):

> *When I could read most of the Nikkei newspaper (summer of 1990). Also, when I realized I could read simpler Japanese literature (like Akutagawa) with pleasure rather than discomfort and frustration.*

> *Rode a taxi home on a dark rainy night. Spoke to the driver in Japanese the entire time. When I arrived, he turned on the light and said in surprise 'Eeeehhh - Gaijain Da' ['What? A foreigner!'].*

> *In 1994, I was working for a securities company in IT. We were moving offices. I had to speak to lots of vendors all day. One day a vendor came to meet me at the office. When I went out to meet him, he was shocked that I was a foreigner. My Japanese had gotten good enough he couldn't tell I was a gaijin on the phone.*

> *It was after my time working at for a Japanese Company. There came a point where I noticed I was no longer translating things in my head before speaking anymore and that conversations were going much more smoothly. It was a very passive moment. I did not notice at first, but after someone pointed out how much I had improved to me I realized it.*

5.9 Follow-up interviews

Three follow-on interviews were conducted in July 2022. Each session was recorded on Microsoft Teams and excerpts from the transcripts have been included in the Appendix 9. The names of the participants have been pseudonymized, but some high-level background information is shown below:

- **Mr SE**: a mixed-race, English L1 British male in his early 70s. He began studying Japanese at university in the UK in 1969 at the age of 18, and then moved to Japan in 1974 (where he has lived ever-since). He is an established broadcast journalist, appearing regularly on Japanese TV and radio (part of the Pre-1997 sample).
- **Ms PF**: a white, English L1 American female in her early 40s. She began studying Japanese at college in the US from 2000. The programme included a 12-month study abroad period in Tokyo. After graduation, she lived and worked in Japan on two separate occasions (part of the Post-1997 sample).
- **Mr NZ**: A white, English L1 American male in his early 50s. He started studying intensive Japanese in 1987 for 2 months before being sent to Japan as a Christian missionary. After his missionary assignment, he returned to the US and worked as a Japanese-speaking tour guide before moving back to Japan to work for a Japanese corporation. He currently resides in the US (part of the Pre-1997 sample).

The interviews focussed on a wide range of topics related to L2 Japanese learning. For the purposes of this study, however, the analysis has been limited to 4 mains areas: 1) language learning motivation and how that changed over time; 2) strategy usage for the language in general and kanji in particular; 3) thoughts on studying Japanese in a pre-internet environment versus now and 4) advice to new learners of L2 Japanese.

5.9.1 L2 Japanese motivation

For two out of the three participants, their L2 Japanese language learning experience began almost by accident rather than by design.

After leaving school, Mr. SE was debating whether to go to university (which was free at the time) or to start working. He eventually decided that he was not ready to enter the workforce and therefore looked around for a course that might interest him. He had been good at European languages at school, and because of his Asian (non-Japanese) family heritage

thought that studying an Asian language might be interesting. This sort of random walk towards L2 Japanese learning appeared to be the case for most of his classmates as well.

Mr. NZ's experience was similarly accidental. As a member of the Church of Jesus Christ of Latter-day Saints in the US, he had volunteered to do missionary work overseas and was randomly assigned Japan as his destination. Prior to this decision, he had had no real interest in Japanese language or culture: 'My motivation was simply my desire to serve as a missionary and it just so happened that the language became Japanese'.

Ms. PF's experience was somewhat different. She had what she later described as 'a natural affinity' for Japanese culture and that is what motivated her to start learning the language: 'I was traveling after my first year of university in the Caribbean, I was seeing lots of people who I thought looked Japanese, who looked really cool, Japanese travellers, but I wanted to talk to them. I wanted to know Japanese so I could talk to them, but I was too shy'.

5.9.2 Language learning strategies

Mr. NZ's experience as a Christian missionary in Japan was particularly interesting. He was initially sent to a missionary training centre in Provo, Utah, for two months of intensive Japanese language training: '[t]he first thing they told us was SYL. Speak Your Language. In other words, don't use English. Only use Japanese as much as possible. Learn what you're using. Use what you're learning. You know, every day'.

After arriving in Japan, Mr. NZ was placed in an apartment with three other missionaries, another new arrival and two senior missionaries who had been in Japan for a while and had a high level of L2 Japanese proficiency. Although all four were native English speakers, they were expected to follow the same immersive SYL approach at all and only speak Japanese to each other. Self-study focussed on learning the specific vocabulary and sentence patterns around interacting with L1 Japanese speakers about his missionary work. He was constantly learning Japanese vocabulary to the point where he had flashcards attached to his bicycle handlebars so that he could take a multi-tasking approach to studying.

Mr. SE initially studied in an English-speaking environment at university in the UK where the focus was more on written Japanese ('[m]y spoken Japanese was almost non-existent when I graduated'). It was only when he arrived in Japan to work after graduation that he found himself in a completely immersive environment. This is when his spoken proficiency

levels improved extremely quickly. However, he found speaking Japanese all-day particularly exhausting at first, but with telephone calls back to the UK unaffordable at that time, there was no option but to persevere: 'I wanted to get up to speed in Japanese as quickly as I could, so I decided to go for immersion as far as possible, which was very exhausting for the first few weeks, maybe months'. His only sanctuary from complete immersion was listening to US armed forces radio a couple of hours in the evening to get some much-needed down-time in the English language: 'that was like my little dose of the English drug'.

For Ms. PF, her L2 Japanese university-level education began in the US followed by a 12-month exchange programme at a Japanese university. Her approach in the US was to create a virtual Japanese environment by associating mostly with L1 Japanese exchange students. During her time in Japan, she got involved with a multitude of club activities in her Japanese university and participated in other Japanese cultural activities like Taiko drumming. This forced her into speaking exclusively in Japanese with native speakers (rather than with her English-speaking classmates on the exchange programme).

In terms of kanji learning strategies, there was general consensus that there no easy way to avoid 'the dog work' of learning kanji (Mr. S.E: 'The biggest downside is the writing. There's no other way around you. You have to learn it. The dog work needs to be done'). This is a theme that was picked up in the survey's open-ended responses as well. The interviewees were all aware of the types of strategies that could be used such as component analysis, stroke order and mnemonics. However, for the Pre-1997 interviewees (Mr. SE and Mr NZ), there was a far stronger emphasis on physically writing down the kanji until they were memorized, whereas Ms. PF (a Post-1997 learner) focussed more on electronic learning: 'I didn't focus so much on being able to write kanji. More on being able to read it, and so I don't remember sitting for hours on end practicing writing kanji or anything like that. I just more remember using electronic flashcards'. Mr NZ took a very different approach in the late 80s:

> *I love drawing, and to me it was just a lot of fun to take the kanji and make pictures out of them and things like that. And to me it was just the fascination with it, so that was able to keep my momentum going.*

5.9.3 Pre-1997 and Post-1997 counter factual responses

The two Pre-1997 interviewees were asked if they would find it more or less difficult to study Japanese with access to language-learning apps and L2 Japanese content (but with the

ubiquitous distractions of English-language online content and social media). They were also asked if their relative isolation from the outside world had any positive impact on their L2 Japanese progress. Mr. SE's response was:

> *There weren't any distractions. I suppose. I mean, if I had had lots of English-speaking friends to hang out with and drink beer with, perhaps I would have done that and it would have impeded the progress of my learning Japanese, but because I didn't have those people to hang out with, I just got on with it because I didn't have anything else to do with the rest of my life.*

Mr NZ also felt like a lot of discipline would be required to recreate his Japanese learning experience in a more modern setting:

> *I would think you'd have to be highly disciplined to do it without having a circle where you can immerse yourself in, which is hard to replicate…I mean, if you're very disciplined, it can probably be done with all the technology and stuff like that. But I just don't see you can beat regularly hanging out with native speakers of Japanese… But it's hard to stay motivated if you're not actually using it for anything…You find something where you have to use it for to drive you. For me, that was being a missionary and telling people about Jesus Christ. Find something where you're driven to use it because otherwise, if I just don't see how it sticks.*

For Ms. PF (from the Post-1997 sample), she relied on the internet and email to find out about a lot of the Japanese social activities she participated in with native speakers. She therefore worried how she would have achieved this if she had been studying Japanese in Japan before the Internet.

5.9.4 Advice for beginner L2 Japanese learners

Finally, with regards to advice for beginner L2 Japanese learners, Mr SE observed:

> *When people ask me what is important for learning languages, I always give them two things. I say you need the desire to do it…And you need the ability to mimic, to imitate, because basically that's how children pick up language. They imitate the adults around them and to a shocking degree, when you have your own kids…If you can get rid of yourself [self-]consciousness to the point where you can just mimic*

people like a child does, that is I think the most important thing because you're just listening and repeating.

Mr NZ made the following points in an email after the interview about what it takes to really learn a language to fluency:

> *Like I said, I just don't know how anyone can truly acquire a language without having something that 'forces' (immersion) them to speak it frequently in meaningful ways (work, hobbies, everyday life, etc.)…Something that motivates them to speak it…The SYL (Speak Your Language) approach is kind of flawed in the sense that it can force you to speak in an unnatural manner at first…but it makes up for that flaw in the long run because your brain starts to make the connection as you try to speak and then hear how native speakers you are interacting with actually say the thing you were trying to say.*

Ms. PF had the following advice for any new L2 learners:

> *I think my success was just attributed to the natural affinity I have for Japanese culture or Japanese people or Japanese society or Japanese language… I think there has to be that that kind of natural inclination…Realizing that it's like a lifelong challenge and even though you can master the JLPT N1, or you can have these different milestones of success…you take it as a lifelong challenge and enjoy that learning journey, that's better than wanting to be at any certain level by any certain time.*

6 Discussion

6.1 Chapter summary

This chapter discusses the main findings of the study presented in Chapter 5, setting them in the context of the literature reviews and the research questions presented in chapters 2 and 3.

6.2 A re-cap of the research questions from Chapter 3

The three research questions were:

1. Did the Pre-1997 and Post-1997 samples achieve L2 Japanese fluency at different rates?
2. Could statistically significant differences in kanji learning strategy usage explain any differences in L2 acquisition rates between the Pre-1997 and Post-1997 samples?
3. Could more qualitative differences in terms of environment, motivation and language learning experiences also explain any differences in L2 acquisition rates?

6.3 Research question 1 discussion – time-to-fluency

The Independent Samples *t* Test confirmed that there was a statistically significant difference in the time-to-fluency for the Pre-1997 and Post-1997 samples. Other elements in the survey provided answers to why this was the case. Pre-1997 L2 learners spent far longer in Japan during their time studying in Japan that the Post-1997 sample (65% vs 52%), which may have been driven by cost of travel / ease of travel issues. The Pre-1997 group also spent a lot more time per day in a Japanese-speaking environment (10 hours versus 5 hours). This more immersive environment could have been caused by a lower number of foreigners and/or less fluent English-speaking Japanese L1s in Japan at that time. There was also a distinct lack of foreign language content via TV, the internet and smartphones which must surely have contributed. Apart from English language newspapers such as *The Japan Times* and some foreigner friendly radio programming, there was very little English language content available for foreigners.

The immersive environment was a factor that many participants cited for as a reason why their Japanese improved so quickly once they moved to Japan. There was no access to electronic translators or Google Translate, so L2 Japanese learners were put into situations where forced output (Swain, 2005) was definitely required. Outside of a few districts in

major metropolitan centres such as Tokyo or Yokohama, it was very difficult to function without some level of Japanese language ability. This may still be an issue in Japan, but most non-Japanese residents now have access to L1 social media, L1 streaming content, and real-time L1 news on TV and radio, etc.. There are definitely more "distractions" now versus in a pre-Internet era and globalization has no doubt made Japan a more foreigner-friendly place to live. However, these factors appear to have negatively impacted L2 Japanese acquisition rates in a significant way.

6.4 Research question 2 discussion – strategy usage

It is open to speculation why this difference exists. Within the survey responses there appeared to be a very clear trend towards Pre-1997 learners relying more on rote-learning and physically writing out kanji, whereas the later learners relied on using app-based memorization. Although most participants were aware of the different kanji learning strategies that could be used, very few had clear thoughts about what was the best one of use.

6.5 Research question 3 discussion – other factors

There were some fundamental differences in the way that the Pre-1997 and Post-1997 samples approached L2 Japanese learning. It appears clear that they were operating in very different environments, especially when comparing those who studied in the 1970s and 1980s with those who were studying in the 2010s. In terms of motivation, it is also true to say that all successful L2 Japanese learners must have had extremely high levels of motivation to get them to fluency. However, it is interesting to see below how their self-defined motivations seem to map better on Gardner's (1985) framework than Dorynei's (2005) L2 Motivational Self system.

6.5.1 Environment

Two of the biggest differences between the Pre-1997 and Post-1997 samples were environmental: 1) the amount of time they spent in Japan; and 2) the number of hours they estimated they spent each day in a Japanese-speaking environment. All three of the interviewees studied in immersive environments (either actual in Japan or created overseas) and the common theme amongst the open-ended responses was that language acquisition only really accelerated when the participants were in an immersive environment.

6.5.2 Motivation

With regards to motivation, it is noteworthy that the highest motivation factors for the Pre-1997 and Post-1997 samples within the Equivalent Fluency group were Professional and Social (this was also true for the Other Accepted Responses group). These map well onto Gardner's (1985) concepts of *instrumental* (with Professional) and *integrative* (with Social) motivation for language learning. For the Pre-1997 sample, who were studying in a more immersive and isolated environment, the motivation to learn Japanese in order to get a better job and have social interaction appeared to be extremely strong. In the modern age, social integration may be easier in English in Japan (given trends in globalization), or perhaps not as necessary (given the ability to engage with friends and family globally for free via social media).

When questioned about the suitability of Dörnyei's (2005) concepts of the Ideal Self and the Ought-to L2 Self as a motivation framwork, two of the three interviewees pushed-back hard against the concepts:

> **Mr SE**: '*I don't think I fit into either of those groups, actually. That's probably because I didn't have a specific goal for studying Japanese. I was really taking it a day at a time, working fairly hard to memorise the kanji, of course, but my motivation was not tied to an idea of what kind of Japanese speaker I wanted to be'*.
>
> **Ms PF**: '*I don't think those concepts align with my experience. My journey with Japanese stemmed from a curiosity that organically, step-by-step, kept leading me deeper and deeper into fluency, rather than being driven by some kind of envisioned self*'.

However, Mr NZ saw Japanese very much as a tool to achieve his own goals ('it was clear I would need to learn Japanese for the purpose of teaching the people of Japan about Jesus Christ'). This sentiment was also evident in some of the open-ended responses. In general, highly motivated learners were going to use their fluency to achieve another goal that was important to them. This could be something as simple as just being able to have a social life, to wanting to use Japanese to further their careers, or (in Mr. NZ's case) to do missionary work. There was more of an integrative / instrumental drive to their motivation than a clear future image of themselves as an Ideal Self or an Ought-to Self.

6.6 The difficulties associated with L2 Japanese learning

There is an overwhelming sense from both the literature, the survey results and the follow-on interviews that learning Japanese as an L2 is hard, particularly for learners coming from an alphabetic L1 background. And while the analysis shows that it is possible for extremely hard-working and motivated individuals to achieve fluency quickly, there does not (unfortunately) appear to be any silver bullet that can magically take the grind out of learning Japanese.

Given the high attrition levels in L2 Japanese learning programmes, a realistic assessment of the time and effort that is invariably needed to achieve a high level of proficiency is probably required early in the language learning journey. Some learners may need to understand that they are signing up for something which is a life-long pursuit.

7 Conclusions

7.1 Chapter summary

This chapter starts by discussing the limitations of the present study. It then presents some pedagogical implications and concludes with suggestions for future research.

7.2 Limitations

The limitations of this study can be divided into four main categories: 1) sample size; 2) self-assessment; 3) milestone definitions; and 4) survivorship bias.

7.2.1 Sample size

Out of the 156 completed survey responses received, adjustment had to be made for incorrectly completed responses, responses from Chinese L1s and responses from learners who began studying Japanese before the age of 18. This left only 115 valid responses. Of these responses, 56 had passed JLPT L1/N1 and/or held a degree in Japanese. A far larger equivalent fluency group would have been preferred, especially if more of a balance could have been created between the size of the Pre-1997 and post-1997 samples.

7.2.2 Self-Assessment

The survey requires participants to provide a self-assessment of when they achieved 'fluency', which in itself is a relatively vague concept. There is no way of verifying the times given when the participant began studying Japanese as an L2 and the date when they first felt comfortable describing themselves as fluent, but this forms the basis of the analysis.

7.2.3 Definitional differences of fluency

The results of the survey showed that there was no single standard definition of fluency. Some participants defined fluency as being when they found themselves thinking or dreaming in the L2, others when they performed a particularly complex task in the workplace. The only commonality in definitions was with a JLPT L1/N1 pass or a degree in Japanese. Although the exam format did change in 2010, passing the JLPT N1 does still denote someone who has reached a similar level of functional literacy as the L1.

7.2.4 Survivorship bias

One important limitation of this study is that it only focuses on the L2 learners who were successful in achieving some level of fluency in Japanese. It would have been more instructive to also have had data from L2 learners who stopped studying Japanese. In particular, it would have interesting to have had information that could have provided clues about what triggered the discontinuation of L2 Japanese studies, and exactly when in the language learning process the largest levels of attrition occurred.

7.3 Pedagogical implications for L2 Japanese instruction

While it is tempting to suggest that a return to the immersive, isolated, sink-or-swim approach to Japanese language learning embodied by the pre-Internet age is all that is required for improved acquisition rates, it is unlikely that this would be an acceptable study environment for most modern language learners. However, it does appear as if being in an immersive environment with a substantial part of the day spent communicating exclusively in the target language produces superior results. Nevertheless, it is unlikely that many modern language learners would appreciate such an extreme monolingual approach given the importance of social media and content. Boundaries would need to be set and respected. Perhaps L2-only social media and content could be a compromise.

The Pre-1997 participants spent more of their time-to-fluency period in Japan (65% versus 52%), and they spent longer per day in a Japanese-speaking environment (10 hours vs 5 hours), but on average they studied roughly the same amount of time per day as their Post-1997 peers (3 hours vs 3 hours). Their progress was significantly faster despite not putting in more formal study hours.

From a qualitative perspective based on the open-ended responses and interviews, the Pre-1997 participants were more focussed on developing study techniques for learning, they put in the hours working through the kanji because there was nothing else to do, and they had more inspiration around them in the form of other highly proficiency L2 Japanese speakers.

In terms of pedagogical implications, there are some suggestions that could be made based on the results of this study:

- **Immersion is crucial, but it needs to be managed**: An environment where learners have to problem-solve and communicate exclusively in the L2 appears to be one where the biggest gains in proficiency are made. However, it can be exhausting to be in this type of environment for too long without a break and lead to demotivation. Moreover, the temptation to retreat into L1 social media apps and content is going to be ever-present in the modern world. Therefore, placing mutually agreed boundaries around when, where and for how long an immersive environment can be imposed on L2 learners would be key.
- **Keep study abroad programmes away from big international cities**: L2 Japanese or L2 Chinese study abroad programmes are likely to produce better results if they are located in very remote locations with few L2 English speakers. The temptation to revert to English in big global metropolis like Tokyo or Shanghai could be challenging for some learners.
- **Creating an immersive environment regardless of physical location is possible**: Successful L2 Japanese and L2 Chinese leaners from alphabetic L1 backgrounds have attempted to create virtual immersive environments for themselves even in their home countries. This sort of approach would be useful for students who are unable to study in country 100% of the time. Introducing a number of fluent L2 role models from similar L1 linguistic backgrounds to act as effective role models could also have a positive effect.
- **Setting linguistic boundaries with L1 interactions is crucial**: For L2 language learner, interactions with L1s can have a huge impact on motivation levels. Having L1s either misunderstand or ridicule attempts to speak the target language or insist on only speaking in the language learner's L1, can be incredibly frustrating and demotivating. Conversely, not having errors corrected by L1s in a sincere / sympathetic manner can create equally negative consequences.
- **Strategy usage is essential in accelerating Chinese character learning**: For learners without a Chinese-character L1 background, L2 literacy requires character acquisition rates that condense what is learnt in 10+ years of L1 schooling into a more manageable timeframe. This requires the use of whatever language learning strategies that work best for each individual leaner. Instructors should therefore be able to present a wide variety of strategies that could be used and then allow each learner to use whatever works best for them.

- **Introducing an additional motivation to speak the language**: One common factor amongst the survey responses and interview transcripts was that very successful learners tended to have a non-linguistic motivation that was driving their pursuit of fluency. Sometimes that was related to career advancement, or a desire to learn some aspect of Japanese culture, or just to integrate themselves into the local community. Regardless, in general, the stronger the desire to achieve that non-linguistic goal, the stronger the language learning motivation was. This should be considered as a way to frame language learning in a more motivational manner. Find the *why* to ensure that the learner can endure the *how*.
- **Access to technology and content has its downside**: This is the key question the researcher wanted to answer. For most of the early-to-mid 1990s, learning Japanese was a labour-intensive, analogue process. Unknown kanji compound words had to be looked up based on their stroke order or the radicals used for each character. Kanji practice tended to involve a lot of physical writing and re-writing, which was supplemented by the use of hand-written flashcards. There was no Google Translate or language learning apps to help with unknown words, but somehow the manual process worked in terms of retention. Perhaps a reassessment of the value of technology needs to be carried out for language learning. Resistance training is supposed to encourage physical transformation. If technology makes vocabulary acquisition too easy, then perhaps there is not enough resistance or effort involved to encourage longer-term retention.

7.4 Recommendations for future research

Mori et al (2021) noted the need for studies that examine individual perceptual change over a period of time and that there is a distinct lack of 'in-depth examinations of individual learners, their personal growth or demotivation, and their surrounding contexts tend to be missing and information about how motivational change relates to the subsequent learning remains insufficient' (page 108).

Given the extended time-to-fluency periods for L2 Japanese learners from alphabetic L1s versus other languages, a longitudinal study focussed on these learners (preferably studying in Japan) which looks at their changing levels of motivation over time would be an extremely useful addition to the research on L2 Japanese learning. A comparative longitudinal study of Chinese L1 versus alphabetic L1 motivation would also be very informative.

While the effectiveness of kanji instruction needs to be validated by systematic assessment, only a limited number of studies systematically evaluate assessment instruments or the testing processes. A study that provides a more standardized and quantifiable way of measuring the effectiveness of different kanji learning strategies is currently lacking in the literature.

This study has identified some interesting commonalities in terms of the characteristics of effective L2 Japanese learners and how to encourage accelerated L2 Japanese and L2 Chinese language acquisition by alphabetic L1s. It is hoped that its findings can also provide ideas for future research in this field.

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Appendices

Appendix 1 – Online survey

University of Oxford

Applied Linguistics for Language Teaching

Motivation survey for learners of Japanese as a second language

I would like to ask for your help with regards to a survey I am conducting as part of my MSc in Applied Linguistics for Language Teaching at the University of Oxford's Department of Education, under the supervision of [NAME].

This online survey should take less than 10 minutes to complete. It is designed to help me understand the motivation of learners of Japanese as a second language and how this may have changed over time.

It is aimed primarily at adult learners of Japanese as a second language. Ideally, I am looking for learners who have, at some point, reached a level of proficiency where they have been comfortable describing themselves as 'fluent in Japanese', 'proficient in Japanese' and/or 'a fluent Japanese speaker'.

The results of this survey will be used only for research purposes. If you decide at any time that you would prefer not to participate in this survey, you will be free to opt out without any consequences, by simply closing your browser window. Any responses collected up until that point will then be discarded.

The survey can be completely anonymous. However, if you do not mind me contacting you via email to arrange a short follow-up interview on MS Teams, please tick the consent box below and provide your contact details at the very end of the survey. I will subsequently remove your name and address from the dataset and store them separately.

Before beginning the survey, I would be grateful if you could please read through the information below, to familiarize yourself with the format of the survey. This will also provide you with details on how the research data will be used and how your personal data will be protected. If you would still like to participate in this survey after reading through the information below, please click the consent boxes at the very end before proceeding to the survey.

What will I be asked to do if I take part in this research?

You will be asked to answer this online questionnaire on your experiences while learning Japanese as a second language. The total time needed to complete the survey will be approximately 10 minutes.

Do I have to take part?

No. Even if you do decide to take part and begin the survey, you may still withdraw at any point for any reason, without incurring any penalty. You can withdraw before submitting your questionnaire answers by simply pressing the 'Exit' button or closing the browser window. Even after submitting your answers, you can withdraw by emailing me using the contact details below.

Are there any potential risks and benefits in taking part?

As far as we are aware there are no risks attached to participating in this study.

There will be no direct benefit from taking part in this research, but by taking part in the study you will help researchers understand more about learning Japanese as a second language.

How will my data be used?

Your survey answers will be stored confidentially using a password protected computer and will be backed up to a secure, password-protected folder on OneDrive (an online data storage facility used by the university).

I ([NAME]) will have access to the data and I will share relevant data with my supervisor ([NAME]) as needed. Responsible members of the University of Oxford may be given access to data for monitoring and/or auditing of the research.

The data in the survey will be collected on an anonymous basis. However, at the end of the survey, you will be asked if you would like to take part in a short interview, to provide more details on your responses. This would be via an MS Teams call with me. If you choose to volunteer for this follow-up interview, you will be asked to provide your name and email address, so that I can contact you to arrange the interview.

If you do volunteer to participate in an interview, you will be asked to complete a separate email consent form, if you are selected. This email consent form will explain how your personal data will be stored and protected during this second phase of the study.

However, please note that participation in the follow-up interview is purely voluntary. Your decision on whether or not to participate will have absolutely no impact on the way your survey responses are treated.

The responses you provide in the survey will be stored in a password-protected electronic file. They will be analysed and my overall findings will be written up in my MSc dissertation. The data may also be used for further academic publications and presentations. In any publications and presentations arising from this work, participants will be completely anonymous.

Identifiable information will be deleted as soon as it is no longer required for the research. Research data (including consent records) will be stored for three years after publication or public release.

As part of the university's normal data processing and storage procedures, the data that I collect from you may be transferred to, stored and/ or processed at a destination outside the UK and the European Economic Area ('EEA'). By submitting your personal data, you agree to this transfer, storing or processing.

Who will have access to my data?

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the study. The University will process your personal data for the purpose of the research outlined above. Research is a task that we perform in the public interest. Further information about your rights with respect to your personal data is available from https://compliance.admin.ox.ac.uk/individual-rights.

Who has reviewed this study?

This project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee.

Who do I contact if I have a concern or I wish to complain?

If you have a concern about any aspect of this study, please email me ([E-MAIL ADDRESS]) or my supervisor [NAME] ([E-MAIL ADDRESS]), and we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at the University of Oxford (ethics@socsci.ox.ac.uk) who will seek to resolve any issues.

1. Consent:

Electronic consent: Please confirm the following information for participating in this survey.

I certify that I am 18 years of age or over.

I am a non-native speaker of Japanese.

I have read the information above and agree to participate, with the understanding that the data I submit will be processed accordingly.

Please be as open and candid as you can in the sections that require written comments. Thank you very much for your help with this research project.

Finally, if you know of any other individuals who would fit the criteria for this study and who might be willing to participate, I would be grateful if you could please forward the online survey URL to them

https://www.surveymonkey.com/r/8BNLWBY

2. Sex:

Male

Female

Prefer not to say

Other (please specify)

3. What year were you born in?

...

Date

4. What is your Nationality?

Select

5. What is your race or ethnicity?

Select

6. What is your First Language?

Select

My Japanese language experience

7. When did you first begin studying Japanese (an approximate date is acceptable)?

…

Date

8. When did you reach a level where you were comfortable referring to yourself as 'fluent in Japanese', 'proficient in Japanese' and/or 'a fluent Japanese speaker' (an approximate date is acceptable)?

….

Date

9. Which of these factors were part of your definition of being fluent in Japanese? Please check those which apply

Awarded a degree level qualification in Japanese language

Passed Level 2 / N2 of the Japanese Language Proficiency Test

Passed Level 1 / N1 of the Japanese Language Proficiency Test

Able to read and understand a Japanese novel or newspaper

Able to watch and understand Japanese TV and movies

Able to carry out most daily tasks completely in Japanese

Able to function in an office environment in Japanese

Able to function in an academic environment in Japanese

Able to function in a social environment in Japanese

Able to communicate in written Japanese

Able to communicate in spoken Japanese

Other (please specify)

10. If you have passed Level 1 / N1 of the Japanese Language Proficiency Test, when did you take the exam (an approximate date is acceptable)? Please leave blank if this does not apply to you.

...

Date

11. If you have passed Level 2 / N2 of the Japanese Language Proficiency Test, when did you take the exam (an approximate date is acceptable)? Please leave blank if this does not apply to you.

...

Date

My Japanese language learning motivation

12. During the period from starting to study Japanese to achieving fluency, how long did you spend studying / working / living in Japan?

0-100% Percentage

13. During the period from starting to study Japanese to achieving fluency, how many hours a day on average were you in an all-Japanese or predominantly-Japanese language environment? Enter number of hours per day, maximum of 16

0-16 hours

14. During the period from starting to study Japanese and achieving fluency, how many hours per day on average were you actively studying the language (ie, formal group classes, 1x1 tuition, self-study, online learning, language learning app, etc)? Enter number of hours per day, maximum of 8.

1-8 hours

15. During the period from starting to study Japanese to achieving fluency, what were your main motivations for learning the language?

From the list below, please choose an appropriate level of importance for each of motivations during that period. Choose from one of the 5 options below for each category (5. Extremelyt Important, 4. Quite Important, 3 Neutral Importance, 4. Not That Important, 5. Not Important At All).

- Cultural - Traditional (you had an existing interest in an aspect of traditional Japanese culture such as martial arts that you felt could be expanded through learning the language)

- Cultural – Modern (you had an existing interest in an aspect of modern Japanese culture such as anime or gaming that you felt could be expanded through learning the language)
- Academic (Japanese language proficiency was required to achieve an academic qualification or pursue a certain course of study)
- Professional (you needed Japanese language proficiency to progress in your career)
- Social (you needed to be able to function socially in an all-Japanese environment)
- Intellectual (you were studying the language purely as an intellectual exercise
- Personal (you were in a personal relationship where it was necessary or desirable for you to achieve fluency in Japanese

16. During the period from starting to study Japanese to achieving fluency, what learning strategies did you use to memorize kanji?

From the list of 25 suggested strategies below, please choose an appropriate level of importance for each of learning strategies that you might have used during that period. Choose from one of the 5 options below for each type of learning strategy.

Please note that there are no right or wrong responses with this question. Each individual will have approached the task of learning kanji in their own unique way. The question is designed to build up a profile of what kanji learning strategies were used by a high-achieving Japanese learner like yourself.

Creating associations between the new kanji and a picture related to its meaning.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Creating associations between the new kanji and other kanji I already knew.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Creating associations between the new kanji and other symbols or letters.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Creating associations between kanji and my existing knowledge of Chinese characters and their readings (for Chinese speakers).	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All

Comparing and contrasting kanji that look similar so as not to confuse them.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Making up my own stories according to what the kanji or its components looked like to me.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Using stories told to me by my teacher or described in language learning materials.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Using rhymes to remember kanji.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Grouping the kanji with other kanji containing the same components or radicals.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Associating the kanji with the meaning of one or more or its components.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Remembering what the kanji looked like on the page or screen where I learnt it.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Associating the kanji with the other kanji in the sequence or list I first learnt it in.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Placing the new kanji in a sentence and then remembering it in that context.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All

Remembering the kanji because I committed the stroke order to memory.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Establishing a set time each day or week which I spent memorizing kanji.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Using physical flashcards to repeatedly practice memorizing kanji.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Using an electronic dictionary or app to repeatedly practice memorizing kanji.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Writing out kanji repeatedly until they were memorized.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Using kanji as often as possible (in class notes, homework assignments, etc).	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Setting myself goals and objectives for what I wanted to achieve each week.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Setting myself long-term goals for how many kanji I wanted to learn by a certain date.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Testing myself on a regular basis.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Keeping a separate list of kanji I wanted to learn by a certain date or deadline.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All

Regularly testing myself on old kanji so that I would not forget them.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All
Studying with others and practicing together.	5 - Extremely Important	4 - Quite Important	3 - Neutral Importance	2 - Not That Important	1 - Not Important At All

Other (please specify)

17. What were the main challenges or difficulties you experienced while learning Japanese and how did you resolve or overcome them?

Open-ended response

18. When you were learning Japanese, was there a specific person who inspired you to improve because their Japanese proficiency levels were high? If so, who was that person and why were they such an inspiration?

Open-ended response

19. When you were learning Japanese, was there one particular event or milestone which made you comfortable referring to yourself as a 'fluent in Japanese', 'proficient in Japanese' and/or 'a fluent Japanese speaker'? If so, what was it?

Open-ended response

20. This survey is completely anonymous unless you are happy to be contacted to arrange a short follow-up interview. Please click one of the options below

I do not wish to be contacted

I consent to being contacted by a researcher from the University of Oxford by email to discuss the results of this survey in more detail. I understand that the initial contact will be made via email from an Oxford University email address after which I can choose to disclose my telephone number to the researcher.

21. If you consent please enter your details below

Name

Email Address

SUBMIT

Appendix 2 – CUREC approval

From: Pinar Kolancali <pinar.kolancali@education.ox.ac.uk>
Date: Friday, 11 February 2022 at 22:07
To: [NAME], [NAME]
Cc: Student CUREC <student.curec@education.ox.ac.uk>
Subject: Ethics Approval CIA-22-091

Dear [NAME] and [NAME],

'AN ANALYSIS OF JAPANESE L2 LEARNING MOTIVATION AND STUDY TECHNIQUE'

The application for the above study has been considered on behalf of the Departmental Research Ethics Committee (DREC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants.

I am pleased to inform you that, based on the information provided to DREC, the proposed research has been judged as meeting appropriate ethical standards, and accordingly, approval has been granted. I would like to inform you that you will be required to update us on any amendments to your study should you need to change your research methods and may need to complete a data protection impact assessment if you use online platforms to conduct and record interviews. There is an application for this, and it is kept separate from the ethics committee. Please see the link below for more information.
https://researchsupport.admin.ox.ac.uk/policy/data/checklist

Please continue to follow all current guidance issued by CUREC during the pandemic, notably COVID-19: CUREC guidance on research involving human participants, https://researchsupport.admin.ox.ac.uk/governance/ethics/coronavirus

If needed, please follow the guidance on online data collection and research methods issued by the University,
(1) https://researchsupport.admin.ox.ac.uk/covid-19/data#collapse2299911
(2) https://infosec.web.ox.ac.uk/article/guidelines-for-using-zoom

If relevant, please also check the CUREC website for their best practice research guides, https://researchsupport.admin.ox.ac.uk/governance/ethics/resources/bpg

Yours sincerely,

Pinar
LiFT: http://www.education.ox.ac.uk/research/lift-learning-for-families-through-technology/

Appendix 3 - A personal perspective on L2 Japanese learning

Appendix summary

This appendix provides some personal background information on the researcher's L2 Japanese learning experience, studying mostly in Japan as an adult learner from an alphabetic L1 background in the early-to-mid 1990s. It is designed to help explain some of the motivations behind this research, and perhaps also to shed light on the inevitable biases that will exist in the analysis. It should also hopefully explain rationale for undertaking the study. Unlike the rest of this dissertation, it has been written in the first person.

Initial encounters with the Japanese language

My first formal encounter with the Japanese language took place in April 1991 at the University of London's School of Oriental and African Studies (SOAS). I was 23 years old. The company I was working for at that time, a British telecommunications firm called Cable & Wireless (C&W), had asked if I would be interested in learning Japanese from scratch on a 12−month intensive full-time business Japanese course before being sent out to C&W's Tokyo office. I immediately accepted their offer.

Full-time intensive Japanese course structure

The course structure involved an initial 6-month period of intensive study at SOAS in London. During this period, there was a focus on basic grammar structures, pronunciation drills, business-focussed sentence patterns and the rote-learning of target vocabulary and kanji compounds (4-5 hours of classroom study, five days a week, with 2-3 hours of homework every evening and more homework at the weekends). This was then followed with a 3-month study abroad and internship programme in the Japanese city of Sapporo. The final 3-month period was spent consolidating the all the language learning back at SOAS in London.

They were a total of nine students on the course, two of whom in their forties, four in their thirties and three (including myself) in their twenties. There were eight males in the group and one female. Most of the students had some prior knowledge of Japanese or had lived in Japan previously. The class cohort consisted of six British students, one German, one Japanese-Canadian and a Chinese L1 from Hong Kong.

I had very little interest in the Japanese language before starting the course and was only chosen to participate by my company because I had learnt some Cantonese while working in Hong Kong during a previous assignment. I very much somebody who had Japanese 'thrust upon them' rather than making a conscious choice to become fluent in the language.

However, over the course of the year, I became completely obsessed with the complexity and beauty of the Japanese language and quickly became fixated on achieving fluency. I also really liked the thought of being someone who could speak an unusual language like Japanese fluently. At that time, there were a significant number of non-Japanese students and teachers at SOAS who were completely fluent in Japanese, and they (along with some of the non-Japanese TV personalities I had discovered on Japanese TV when I was in Sapporo) provided the motivation to continue when progress was slow. The fact that there were people who looked like me, and were from the same linguistic background as me, but who had all achieved near-native fluency in Japanese was a powerful motivation to continue studying hard. I scored well in the final exams and was immediately posted to Tokyo to start work for C&W in May 1992.

On-the-job language learning in Tokyo, 1992-1995

My first assignment involved being based at one of C&W's local joint venture (JV) companies in central Tokyo. The company employed ~50 people, mainly Japanese L1 secondees from the local Japanese JV partner. There was one British CEO from C&W and it was my job to support him in the day-to-day running of the company. I was the second British employee in the company. From a linguistic perspective, I was effectively thrown into the deep end upon my arrival in Tokyo. The company had made an investment in paying for me to study Japanese and (after 12 months of full-time study) I was expected to speak it well. Additionally, given that a large part of my identity was now built upon the foundations of being 'a Japanese speaker', I was generally unwilling to admit any linguistic weaknesses. Moreover, I was determined not to give up. My main role was to act as C&W's interpreter during business negotiations with various Japanese counterparts. Initially, there was a lot of guesswork involved, but as my understanding of context and the knowledge of specialised words improved, the role became less exhausting and more manageable. I was also required to provide a daily written translation of any Japanese news articles about C&W or the broader Japanese telecommunications industry into English for senior management. Outside of the interpretation and translation assignments, I was working mainly in an all Japanese-speaking

office environment throughout this period. And compared with other Western friends I had in Tokyo, I did feel that my Japanese proficiency level was relatively high. But I needed something that could prove that empirically.

The Financial Services industry in Tokyo was still seen as an attractive destination for fluent Japanese-speaking foreigners in the early-to-mid 1990s. Therefore, the challenge of being good enough to get a job at one of the top institutions became the next motivation for my language learning. Passing the highest level (L1) of the JLPT was seen as the benchmark for fluency so that became my goal. I sat and passed the Level 1 exam in early December 1994, three years and eight months after starting to learn the language. If there is one event that I would identify as confirmation of me being fluent in Japanese, it would be the passing of the JLPT L1 exam.

I did eventually switch industries from Telecommunications to Finance in the early 2000s (somewhat later than I had originally expected) to work as an equity research analyst and was immediately struck by just how different the attitudes towards Japanese language proficiency were. The assumption in the office was that every foreigner in the equity research department should be completely fluent in written and spoken Japanese, and that anyone who was not at the level should not be working there. There was therefore a lot of daily pressure to operate at near-native fluency level because that was the level that most other foreigners were operating at. This was a very extrinsic Ought-to Self type of motivation.

Key observations on the Japanese learning experience

The sections below provide some observations on the Japanese language learning experience that myself and a large number of friends and colleagues went through in the 1990s. It is these observations that formed part of the motivation to embark upon current study.

Observations on study environment

The most rapid increases I achieved in Japanese language proficiency took place when I was in a completely Japanese-speaking environment. During the pre-Internet / pre-mobile / pre-globalization early-to-mid 1990s, L2 Japanese learners in Japan were often isolated from the rest of the world. A three minute daytime call between Japan and the US cost ~Y1,000 or ~US$8.50 / ~£5.00 which was at that time the equivalent of buying four packets of cigarettes or five cans of beer. Communication with friends and family back in the home country was

therefore conducted primarily via written letters which took around one week to reach their destinations. Language learners who were unable to plug into an established network of foreigners in Japan were effectively isolated and friendless until they learnt to speak Japanese. Many foreigners found this understandably discouraging and attrition rates after the first 6-12 months in Japan were extremely high.

However, for those that were willing to embrace the immersive environment, the linguistic payback was huge. This was obvious even during the 3-month study abroad / internship phase during my 12-month intensive Japanese course at SOAS.

Study abroad experiences

During our 3-month study abroad, the cohort from SOAS seemed to divide itself into two distinct groups soon after arriving in Sapporo. One group was actively engaged both socially and professionally with Japanese company employees in Japanese during the various different internships we were on Monday to Friday (each student was in a different company), and would then meet up with the main group of study abroad students on a Friday or Saturday night to compare notes. The other group seemed to spend far more time socialising together with the other English-speaking students from our course during the week and tended to avoid socializing after work with Japanese company staff. Upon returning to SOAS after the study abroad period, it was obvious to our professors that the group which had operated in an almost exclusively Japanese environment over the course of the study abroad had achieved far greater levels of proficiency improvement than the other group.

Setting up a virtual immersive environment

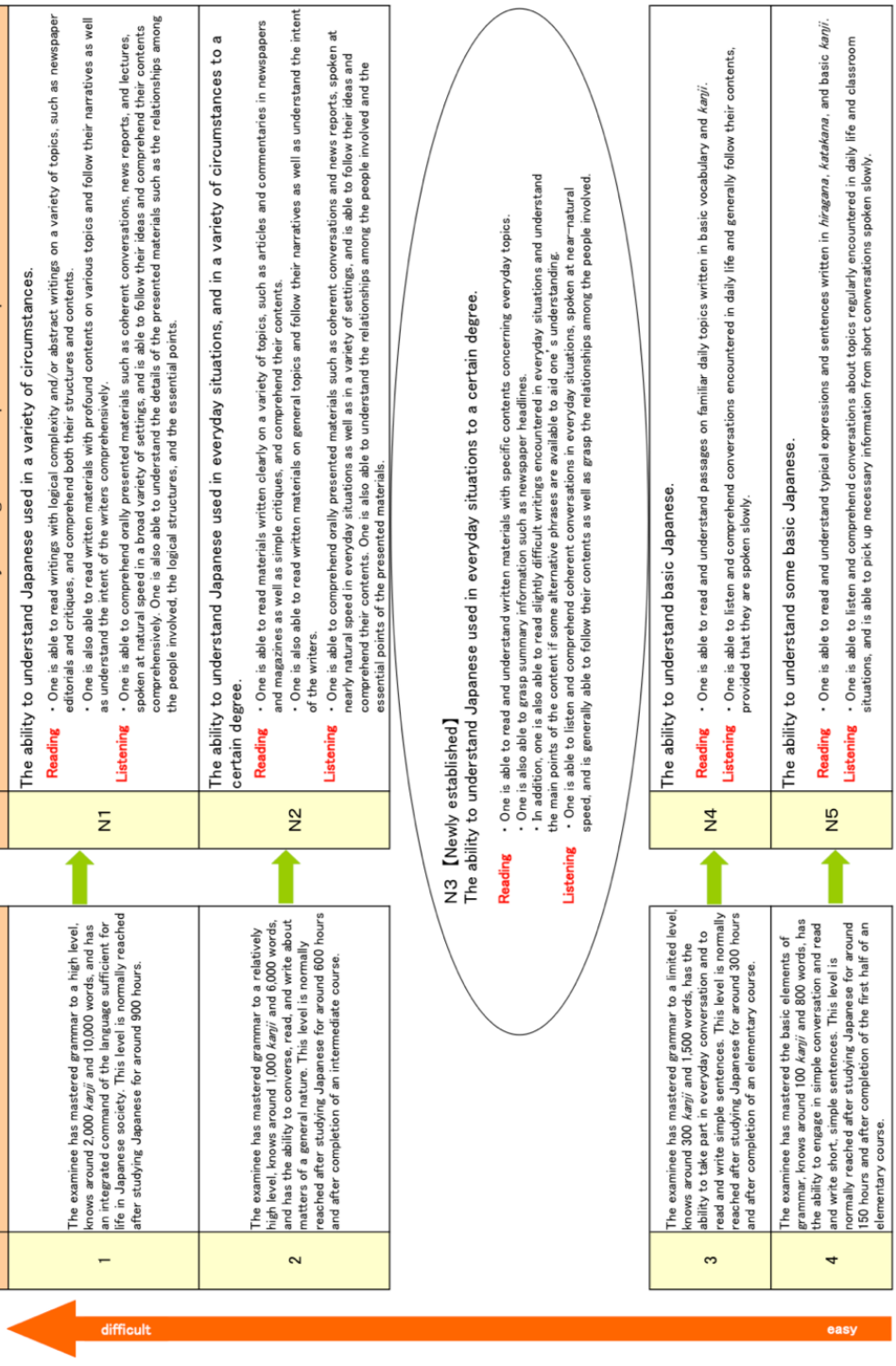
After returning to London for the final three months of the course, I attempted to construct a predominantly Japanese virtual speaking environment. I found a group of Japanese study abroad students at SOAS to hang out with and tried to engage in Japanese conversation with any Japanese tourists who looked lost in the vicinity of the British Museum. I ate at Japanese restaurants as frequently as my finances would allow (especially in the staff were Japanese) and was studying the language at least 8-10 hours per day (4-5 hours of formal classes and then another 4-5 hours of independent study per day). A lot of the written study was done in public places like trains, cafes and restaurants and was driven predominantly by a desire to

show off to other people that I could write Japanese script. In short, I absolutely embraced being a student of Japanese.

Immersion appears to be key

After graduation in Tokyo, I was operating in a similarly immersive environment in Tokyo with daily pressure to display my proficiency in Japanese. I also had a Japanese-speaking social group outside of the office, but still needed to have English-language interaction with some foreign friends on at least a weekly basis just to re-charge. Speaking Japanese all the time can be very tiring during the first few years of study. However, it does appear as if the greatest improvements in proficiency take place in an immersive environment. It is therefore essential to find a manageable balance between the L2 and L1 environments. And in the modern age, with the additional distractions of the internet and smartphone L1 content and social media connectivity, it takes a lot of discipline to operate in a purely immersive environment.

Appendix 4 - Old and new JLPT formats



Source: JEES (2022)

Appendix 5 – Question 17 responses

Question 17: ***What were the main challenges or difficulties you experienced while learning Japanese and how did you resolve or overcome them?***

Answers:

Vowel length when speaking. Over stressing individual words. Practice but still far from perfect.

a) The large number of syllables used in Japanese compared with English. I practised by repeating tongue-twisters. b) The totally different grammar and logic of Japanese compared with English. It took a long time before I could speak Japanese without feeling tired. c) The kanji! I bought what was probably the first-ever edition of 'Remembering the Kanji' and copied the kanji onto flash cards (real ones, secured in bunches of 100 on large key rings!).

Vagueness.

Lack of similarity to any other language I was familiar with. Sheer memory work was the key to resolving that for me.

Verbs in Japanese are a pain. I've put together Anki data sets for verbs based on the kanji used (classified by grade and Kanji Kentei class).

Understanding native spoken vernacular Japanese; e.g., television shows, news broadcasts. Exposure and reading captions and subtitles (in Japanese) while watching has been my principal strategy.

Kanji remembering was the biggest challenge. After 40 years I am still very poor at it. The newness of the language. (I never studied in a class) . . . and still fast-spoken Japanese can be un-understandable.

I never found studying Japanese a chore as I loved it so much. I had ascertained before I took Japanese that I had an aptitude for languages as I lived abroad for the year prior to starting my course, but taking on an Oriental language in those days was still considered a formidable task, and plenty of people tried to discourage me from attempting it. The greatest difficulty I encountered when learning Japanese was the pitch accent and intonation. When I learned Japanese, there was i) no Japanese TV available, no VTRs and very few Japanese people to practice with. We therefore spent the entire time reading and writing. Moreover, the teachers (mistakenly I believe) told us not to bother learning the accent because the context would assist understanding. Accordingly, my accent still lets me down on the spken side. Younger people who have learned their Japanese from anime and TV generally have better accents than the older generation of students.

False friends. The use of loan words in Japanese has been a bugbear, but it also convinced me that beginners should learn katakana first: They are only used in whole words, so success instantly reveals meaning, whereas reading hiragana only leads to conjugations, honorifics and particles. It took a while to realize that there are FOUR different kana on the のぼり at petrol stations, ガソリン, but once learned the differences were unforgettable. The multitude of terms for the word 'you' has been difficult, as well as the overuse of 敬語, and the associated verb forms, particularly on the phone, and by young Japanese who have mislearned them. Resolve? Just keep trying. Miming, drawing pictures; there are endless ways to communicate without being fluent.

Some syllables were difficult to pronounce (hya) and also the long vowels and whether a small tsu was included in the word were difficult for me. But I just persevered because I needed Japanese language skills for everyday life. That was the main motivation.

A very busy life, leaving little time for study. The complications of the written language: I would probably have learnt more quickly if the writing system was more straightforward (e.g. alphabetical).

Poor quality of Japanese teaching in Japan.

Japanese people could not understand what I was saying, destroying my confidence daily.

Main problem: directional factor (meaning status of one speaker in relation to others) in language use generally, not just polite language. How resolved? Practice, watching how native speakers use the language Heavy reliance on context and status rather than directly stated subjects and objects. Problem: time sense - difference between English and Japanese use of tenses, particularly future tense versus present tense.

Many Japanese people prefer to speak English. Kanji have so many different pronunciations.

When I was learning, they never taught you in the order you needed to know. Best example, every text book has a dialogue of a conversation on a telephone. No one tells you what to say if the person your calling isn't available! So until you learn that, you can't take a message or ask for a message to be taken. You can't use the fricking phone if you don't know that. nowadays, you just google it.

At that time, it was quite difficult to make Japanese friends even if you could speak reasonable Japanese. So, the social context was a little unsatisfactory. Not living in a big city would have made it easier in some ways, but more difficult in others. Also, I am a rather lazy language learner. My ambitions rarely extend beyond what I actually need.

Not very good at languages.

Finding opportunities to make actual use of what had been 'learned' in theory. This was key to reinforcing the significant efforts made in academic study and to establishing real ownership of my Japanese language capabilities.

My main problem, even now, is listening comprehension and speaking, since the language I speak at home is English and now being self-employed I don't get so many opportunities to interact with Japanese people. Reading is no problem at all.

My handwriting is terrible.

Moving above a certain level has been challenging because there are too many words, idioms and shortcuts to remember.

The sheer volume of ideograms was truly confronting at first. After finding two important books published by Japan Times, this systematic approach to memorizing the country while reviewing previous lessons was of a measurable help. The books are the Kanji in Context series.

Poor teaching.

Initial challenge was that the Japanese I heard around me (based in Kyoto) was very different from what I was taught in the classroom. It was only after I moved to Tokyo that people said I spoke in Kansai-Ben, and I needed to speak correct Japanese. Also, Keigo was a pain.

Main challenge: workload; solution: hard work.

Financial terms not found in dictionaries. Needed to ask co-workers.

The difficulty of remembering new vocabulary. Overcame this by first learning the kanji and then by reading novels, at the same time as living and working in Japan and using my language for employment and in my personal life.

Reading and writing. I just had to slog through it.

Kanji was the hardest - flash cards and rote memorization.

I experience some difficulty in understanding spoken Japanese because of congenital hearing loss. I just power through as best I can.

When I first went to Japan full-time to learn Japanese. I would have class with all non-Japanese. We would then have lunch together, speaking English, and I had a job teaching English a couple of days a week. During that period, my Japaneses didn't improve that much. Not until I started working with a group of people who didn't speak English.

The writing system - how to remember kanji and their meanings. I'm not sure I ever really 'overcame' this difficulty - it's just that as my knowledge improved incrementally, it became less important. Understanding the discourse structure of texts: again, there are still texts I find difficult, but now I both have strategies for working out meanings, and am more confident that about when I know enough of a text for the purposes I need.

Wa vs Ga. Getting used to the word order, and lack of precision. Discovering that Japanese text I had written was 'correct' but for cultural reasons would make no sense to a Japanese reader. Not learning intonations until far too late. All these issues resolved by immersing myself in a Japanese environment (no English speakers anywhere), and continually questioning those around me.

It would sometimes be difficult to look up a word or phrase. I kept a small J-E dictionary on hand at all times (this was pre-internet). The entries were in romaji, which made it much easier to find something I heard in the street or on TV. Also, learning to use new vocabulary properly. One of the best bits of advice I ever received was when looking up a word in a dictionary, read the entire entry and all the example sentences. That's how you learn nuance and context that even native speakers are often unable to explain.

Time allocation. Practice appropriate to my level.

Kanji and getting to a level where I could speak without making a fool of myself.

Time. It takes a lot of time to learn Japanese.

Speed....just came with time....speaking and listening everyday with people about my church (missionary for Church of Jesus Christ of Latter-day Saints).

I was 23 when I started -- too old. Overcame deficiencies with brute memorization.

Trying to work and study at the same time. Initially I worked at a Japanese company which helped reinforce the learning. Subsequently, I have worked at foreign firms so I feel my study has not progressed (maybe even gone backwards!).

As I had an informal foundation in Japanese from a Japanese/Chinese speaking family environment, I found it difficult to learn from a book or understand the various conjugation pattern/rules in an

academic manner. I resolved it by immersing myself in Japanese and trusting in my foundation of knowledge/experiences to improve my Japanese.

Not being surrounded by kanji when I first started learning them in the UK. It was much easier once I was actually in Japan.

Orthography. There's no way round it: learning written Japanese is just a slog. These days spaced-repetition apps like Anki would make is so much easier. Used Anki for Chinese - huge improvement.

Overcoming my shyness and fear of embarrassment when speaking was my biggest problem. Solved by having a nice, native Japanese language partner. We still speak weekly on Skype 28 years later!

Time constraints. I was very disciplined.

Reading. I solved it by reading the most I could.

The main benefit I had was immersion. When I subsequently tried to learn Mandarin in Singapore I didn't have that - so how to create that?

Many different pronunciations for the same kanji. I wrote entries in a notebook after researching them in my electronic dictionary when I saw a new word on TV subtitles.

Relatively few resources available to English-speaking foreigners to practice and learn Japanese on their own. Studying for JLPT L2 with the help of a Japanese teacher helped me overcome that challenge.

Kanji.

Main difficulty was writing Japanese in a professional setting (reports, emails etc) without sounding non-Japanese. Best solution I've found was to get a native Japanese to check and correct my writing in the first few years.

When learning a new language, the main challenge is to stop falling back on your native language as a point of reference. As I like to put it, 'Japanese and English are as alike as apples and dinosaurs.' There is no middle ground. It was only when I'd learned enough to stop thinking in English and think in Japanese that I (feel that I) became truly fluent. I also threw myself into the deep end in terms of learning material, because I went after it all: books, TV shows, technical manuals, online forums, porn - everything. All in the name of language study.

The word order was the biggest challenge. I overcame it by reading and watching hours and hours of TV.

I started learning Japanese pre-internet so just finding opportunities to speak / use Japanese was a challenge while living in the US. I studied abroad and moved to Japan after graduating from college.

Interest levels dropping off. Performance improved when I discovered Heisig method and after that Anki.

The speed required to use it. I should add that although I studied at university, doing so did not allow to gain a great deal of fluency. The lack of immersion and context that is all-important in Japanese was just not available. I have noticed the same in other language learners who came to Japan able to e.g. read a newspaper but unable to actually communicate with others; they knew words and grammar forms but not how or when they should be used.

Kanji, Vocabulary memorization - solution: Kanji/vocab software Reading comprehension: Speed reading text; Daily reading of Nikkei.

I found written Japanese much more difficult than spoken. I read a lot of short stories (e.g. Hoshi Shin'ichi) and other short-form texts to get used to reading kanji. My handwriting in Japanese is still terrible.

Pronunciation - as I am a Chinese speaker.

I found the initial stage hard to get the foundation set in stone. Once I understood the logic, then it was easy to build the language ability up.

Lack of access to native Japanese speakers in the UK, and lack of confidence in trying to speak to them! Had to step out of my comfort zone.

Being plunged into a Japanese workplace where nobody spoke English, there was no learning curve, more of a learning cliff (to climb). I overcame this by ignoring my awkwardness and throwing myself into learning as a child would learn.

Verbs, vocab, kanji. Constant practice and review.

Retaining and expanding my vocabulary - I read a lot and made notes of new words I came across, then tried to use the words in context.

Retaining and expanding my vocabulary - I read a lot and made notes of new words I came across, then tried to use the words in context.

Remembering On and Kun readings. And the context of using similar meaning words.

I work in a hybrid environment and my wife is a native English speaker (though is Japanese by family origin), which has reduced the pressure to be perfect in Japanese. I learnt Japanese 'on the job' without formal instruction and through self education, which has had the downside of a patchy foundation - I am really strong in some areas but unusually weak in some areas.

The completely different form of a language.

Need to live in Japan to learn conversation.

Philosophy of the culture/language.

Motivation. Focusing on my goals.

Honorific form and usage in daily life. Practice and mistakes in social setting.

Just too much to memorise.

Vocabulary.

Classical Japanese - different grammar and word construction - specialist texts help. Oxford language teaching was very poor, in my experience.

Kanji is the most difficult part so I wrote down all the N2 Kanji in separate notebooks.

The main difficulties were reading/writing. Learning Kanji was only one part of it, mostly the difficulty was understanding the grammar and structure of the language. The other thing is that

Japanese can use a lot of colloquial language, especially when reading speech, that isn't easily looked up in a dictionary. The solution was to continue to practice reading as much and as widely as possible and speak to native speakers to explain the parts I didn't understand.

Diffcult to understand the differences between Wa, Ga, Wo. Still I have a problem with these. - Difficult to understand the differences between counting object types (-satsu, -ko, -mai). I still have problems with these.

Learning kanji was the hardest thing (if I remember rightly - it was a long time ago!) and I mostly solved it by staying up late writing and rewriting kanji!

Having the opportunity to apply the language helped my learning. However there were not so many opportunities until I started working in a full-time job in a Japanese environment.

Kanji.

The fact that Japanese people would typically not correct me. I also felt a wall when dealing with people in service positions. I realized over time that foreigners should refrain from using keigo too much because it places too much distance when used with native Japanese speakers, who already organically have a sense of distance based on the difference in nationality.

Modulating politeness, transitive/intransitive pairs, vowel length for o and u, getting good feedback and corrections from Japanese speakers.

Learning kanji well enough. In the lead-up to JLPT 1, I spent a lot of time studying radicals and using an online flashcard app.

The number of countries we have to memorize is much higher than in any other Western culture where we just use the alphabet. The challenge was to learn kanjis in the Japanese way, as the western way wouldn't work for such a high volume of characters. To do so we have to think like Japanese, and we have to accept the fact that our regular method wouldn't work, so we have to understand and assimilate Japanese culture before, in order to accept the kanjis studies technique.

In my first year, many of my classmates had studied in high school. It was hard to feel okay about being a 'beginner'.

I had difficulty at the beginning with verb conjugation. I overcame this with rote memorization and frequent speaking in Japanese. When I got to be a higher level, I struggled with the difference between written Japanese and spoken Japanese and was often scolded for using 'spoken' Japanese words in Academic writing. The only way to overcome this was to be corrected and try to not make the same mistake again.

Learning to read and write kanji.

Kanji was the big one.

I found it extremely hard to learn Japanese because of how Japanese people treat foreigners. They often will only speak to you in English or dumbed down Japanese so it's hard to practice learning natural unless you watch a lot of movies/tv. It also severely limits the chances to have to use Japanese and improve.

Since I've never lived in Japan, it was finding speaking practice opportunities. I found an online language exchange partner, but working in a Japanese owner company with Japanese colleagues was the most helpful for that.

One of the main challenges of learning Japanese for me was working to understand the nuance of grammar and cultural phrases that had no way of being translated or understood from an English Language context.

Not forgetting. Keep going back regularly and working through old textbooks to refresh memory.

To know enough vocabulary to understand Japanese literature. I overcome it by keep on reading even if I didn't know all the kanjis.

The main difficulty I had while learning Japanese is that for most of my learning experience, I had no formal 'teacher' who was guiding me through a set curriculum (I learned through immersion and self-tutoring). Thus, there were sometimes surprising blindspots in my knowledge of the language or in my ability to name certain linguistic concepts.

Not knowing how to write emails using the correct tone. For a long time I would constantly look up 'XX メール書き方' online for every sentence until I eventually got an understanding.

I often learn a language through reading materials (books, comics, internet). With studying Japanese this is the most difficult aspect as to be able to read materials it is required to have a certain mastery of Kanji. Thus, my main approach in studying languages works less applied to Japanese, as I cannot read as much material with the same pace as I would for languages written in the latin alphabet.

Appendix 6 – Question 18 responses

Question 18: ***When you were learning Japanese, was there a specific person who inspired you to improve because their Japanese proficiency levels were high? If so, who was that person and why were they such an inspiration?***

Answers (actual names removed):

There were many.

[NAME], among others. Not only could he speak Japanese fluently, but he was also a master of the shakuhachi.

Wife.

No. I was largely on my own. More an irritation than an inspiration were the Korean and Chinese students at Todai (this was 1979) who were running rings around me learning Japanese since they already knew the kanji...

No. I was just jealous of fluent speakers.

Foreigners who came to Japan earlier than me.

My teachers (many dead now) were the prime source of inspiration. Most of my teachers were actually Sinologists, so they were able to give us a powerful perspective which helped with kanbun, classical Japanese and kanji generally. But my main source of inspiration was Dr Jiri Jelinek, formerly of Charles University Prague. He introduced me to Classical Japanese and gave me an undying love of the texts we read. His erudition and enthusiasm and support were a tremendous impetus. I have dedicated my own book to him.

No. When I started, there were, but I soon found it was relative. it didn't take long to overtake them. Living in an environment where there were plenty of English speakers of all nationalities slowed their progress.

My non-Japanese colleagues at work in Tokyo.

[NAME], an Austrian roommate, who had perfect pronunciation and studied kanji religiously. It became a competition with me. He also was a good guitar player and spoke English and German well.

Yes. My wife was indispensable. We only speak Japanese at home. That is ultimately what I think allowed me to go from just competent to fluent.

A translator I worked with early in my career.

Yes many friends were much better than me which pushed me.

No, although there were a few impressive 'senpai' around to aspire to.

[NAME]. He challenged me to learn and his Japanese is perfect.

There was no one person. But when I started to work my boss mainly spoke to me in Japanese. It was a sink or swim type existence.

Many - joining co-workers in visits to companies.

[NAME] of SEAS, Sheffield University. He just radiated enthusiasm for learning the language that was infectious.

My Japanese professor at Sophia University had the biggest influence - She was very traditional and wanted her students to learn 'proper' Japanese.

[NAME] was from my same university. He is really smart. His Japanese was really good. He took the gai-muin Shiken (Japanese version of the US Series 7 securities test). He scored higher than any of the other Japanese that took the test with him.

[NAME] - head of the Centre for Japanese Studies at Sheffield University when I was an undergraduate. He was relaxed and confident about his Japanese knowledge and an inspiring teacher.

My professor - known to be 'the best Japanese scholar in Europe', and 'better at Japanese than most Japanese people'. He answered all my questions!

No one person in particular, though meeting a lot of bilingual people helped me overcome the resistance to foreign language I think I internalized growing up in the American Midwest.

Professionals at the time who has careers established and informed me that Japanese was required to progress.

Not really. I suppose I copied the Japanese around me and adopted their inflections, vocabulary, etc. The goal was to sound like a Japanese, if perhaps not a particularly articulate one. After a couple of years out of the country and not using the language as much I suspect I now sound like a polite but not very smart dropout from a Tokyo high school.

I am always impressed with gifted speakers in Japanese. Dave Spector was always the gold standard for Japanese back in the day -- never liked his clothes or his taste in cars.

A guy in the profession I am in now. He told me to study Japanese and introduced me to the school I went to.

[NAME]. I met him in 2000 and was inspired by his understanding of Japanese history, culture, and language. He had a true understanding and appreciation without losing himself in his learning. I met many foreigners in the past who were at [NAME]'s level of fluency but we're trying to be Japanese (and not being American or British or whatever). [NAME] was able to be fluent in Japanese and be appropriately respectful of all the required phrases and actions (bowing, respect, keigo, etc) without seeming to pander. That was super impressive and something I wanted to learn to do as someone who was born in US, grew up in Taiwan and spoke Japanese at home. Also, my Japanese teacher in 2000 was an inspiration. He was a former shosha executive who taught me the business Japanese that was needed in the office environment. He was effective in inspiring me thru his stories as an executive in Japan and the various ways in which language was used. And then he would assign homework for me to present in Japanese based on real life meeting opportunities and experiences.

An American guy on JET. His Japanese was awesome. He's the head of Amazon in Japan now.

My late husband, [NAME]. He was an inspiration because he liked a challenge, and never quit.

A few foreign coworkers with an excellent command of Japanese language provided the early inspiration for me to persevere.

Yes, having colleagues and friends in Japan speaking at a native level is a strong motivation.

Yes. Friends at dormitory while I was a student (1996-2002). One American and a Belgian who had off the charts Japanese.

Not really. I found the teachers at my Japanese school very inspiring as they were very invested in our success and were keen to help us develop our strengths and work on our weaknesses.

No-one particularly comes to mind, but it's always inspiring to see people conversing fluently in a foreign language.

An American friend I met on my ryugaku [study abroad] year in Kyoto. His Japanese just sounded so natural and colloquial. He first started visiting Japan in his early teens.

A friend. He had organised himself to self-study, which I just copied.

My work colleague. I was impressed by the way they could speak and communicate at ease in Japanese and was fluent enough to play with the language (jokes, word puns, etc.).

Yes, I had a friend who had native Japanese ability and could appear naturally on regular TV, for instance.

When I was studying in Japan, most of my classmates from Korea, Vietnam, Australia, Hong Kong, etc. were at a much higher level than me to begin with. I was definitely inspired by them, and by the end of our year together I was probably on a par. The fact that I was living in Japan and immersed in Japanese at the time definitely helped!

The main inspiration I had was a half-British, half-Japanese co-worker at a restaurant I worked at in college before going to Japan. It is not necessarily that his level was high. Rather he was able to communicate using the vocabulary he had. That inspired me because I could understand him most of the time (I knew the same vocabulary) but I was trying to translate my thoughts from English rather than working with the vocabulary I had.

Yes, I had a classmate who picked up the language extremely quickly, which inspired me. He is a Taiwanese American who went on to become an MD after spending a few years in Japan.

Actually, nobody really inspired me, but there were many people who made me feel that I wasn't good enough yet and I had to keep up the good work. Those people were all Chinese in my classroom. Actually, after the first year of studies, I was the only non-Chinese student left in the class. The problem is that after the first year, we know most about what we should know, about grammar, building a sentence, and the language structure. After that, it's all about kanji knowledge to be able to make more complicated sentences writing, and reading. So I was basically fluent in Japanese after a year or so, and I could not keep up with all the Chinese, who knew already what kanji was about before we even started studying it. So I stopped Japanese school and I bought myself some good books from my own country, so I could memorize kanjis, one by one at my own pace and not at the Chinese pace because he was way too fast for me.

A French teacher told me I would never be able to speak French. So I learned Japanese.

My university teacher.

My partner studied Japanese's and has native level Japanese. That really helped me to push myself seeing as he could do it.

It wasn't really while I was studying, but once I started working I met Allyson Sigman (Japanese interpreter and now member of the JAT board). She inspired me to continuously improve my Japanese skills.

When I was working for a Japanese company there was another non-native speaker whose proficiency was very high and it was very inspiring to see where I would be able to get to if I work hard and applied myself.

No, everyone learns languages differently and Japanese is hard, so I took it at my own pace. No point comparing yourself to other people in anything you do, it'll just bring negative energy to something that should be fun.

Not a specific person, I tried to keep myself motivated because I wanted to be good at something.

Two other foreigners who I worked with had achieved N1 and generally helped me with any questions I might have.

My British professor who was teaching us Japanese culture. His kanji was insane, and when he graduated he was immediately hired by a Japanese newspaper. At the time I wanted to be a journalist so that inspired me to do the same. He was also a great and inspiring teacher overall, everyone loved him.

Yes, I had two friends who had a greater mastery on Kanji then me, as they were able to handle a wider spectrum of vocabulary. Their proficiency was between N2 and N1, especially regarding reading and writing skills. Seeing how they were able to handle Kanji motivated me to improve even further as I wanted to be able to read and write Japanese as comfortably as they did.

Appendix 7 – Question 19 responses

Question 19: ***When you were learning Japanese, was there one particular event or milestone which made you comfortable referring to yourself as a 'fluent in Japanese', 'proficient in Japanese' and/or 'a fluent Japanese speaker'? If so, what was it?***

Answers:

The ability to go about my daily life in Japan with few language problems.

When I had a conversation on the telephone and the person I was speaking to thought I was Japanese (until I told them my name!).

I never would refer to myself as fluent. Possibly 'proficient'.

Attaining a familiarity with keigo, and thus becoming comfortable talking on the telephone made me feel I had finally gained a degree of fluency.

I suppose it was when I had to spend time in hospital after a road accident and managed interactions there entirely in Japanese.

Being able to have a normal conversation without any understanding problems.

One is always learning more about a language (including one`s own), so I still hesitate to claim fluency, but acting as an interpreter in numerous meetings with Japanese companies from 1980 onwards raised my game rapidly. By the time I was employed in court interpreting from as a legal interpeter and translator 2011 on I felt that I had reached another milestone. Now I`m looking at tackling other linguistic challenges - the goals get harder to master and further away.

1) Passing JLPT 1 at the first attempt. Of the other candidates I had the opportunity to speak with, most were Chinese and unable to converse! 2) Almost winning a place in a translation contest. Nevertheless, there is still plenty of room for improvement.

I suppose when I achieved what was then the top level for JLPT. It was the first and last time I took that test.

Being happy to undertake business meetings in Japanese with no other members of my company present.

When I found I could conduct a business interview without misunderstandings and the Japanese native speaker appeared to be comfortable to speak quickly and naturally.

No. I still don't really consider myself fluent.

Yes. I won a court case against a former employer speaking in Japanese against a team of Native-speaking lawyers. They were not getting paid to lose, and I prevailed, so yes, that's when I convinced myself I'm not so bad at this.

Imho, fluent in Japanese is a very vague concept. I still hesitate to call myself fluent despite working as a J-E translator for a couple of decades, earning a master's degree in the language, understanding

films etc., reading and writing Japanese. I guess it's been a gradual process of building the skills. Nothing specifically stands out. As an aside, Japanese is my fourth (or fifth) language.

It was all a rather evolving process. Sometimes you feel in near total command of communication in Japanese, and then in another (unfamiliar) context, you realise there is still a vast amount to learn….

Finding myself able to follow what was going on in meetings at work and participate in discussions. Before that I was already feeling comfortable with friends out socializing, but the office environment was more challenging.

Year three I started to dream in Japanese. Year five I gave the invocation to client event in Japanese.

Comfortable presenting in Japanese at the morning meeting.

Writing reports, preparing presentations, conducting interviews etc.

Being able to read a Bank statement without using a dictionary.

Looking back, passing level one of the Japanese proficiency exam in 1992 was a solid milestone. At work, being able to make presentations in Japanese in front of a room of 20-30 investors and not messing up gave me confidence to think I was proficient.

N2 of the Japanese Language Proficiency Test.

Being able to conduct a business meeting entirely by myself in Japanese with no help.

Being able to read novels. Also, undertaking a published academic translation that was peer reviewed.

I am still not at that point. Japanese is a never ending study.

Rode a taxi home on a dark rainy night. Spoke to the driver in Japanese the entire time. When I arrived he turned on the light and said in surprise 'Eeeehhh - Gaijain Da' 😂😂😂

The first time I realized I was laughing at the right places while watching a comedy performance.

In 1994, I was working for a securities company in IT. We were moving offices. I had to speak to lots of vendors all day. One day a vendor came to meet me at the office. When I went out to meet him, he was shocked that I was a foreigner. My Japanese had gotten good enough he couldn't tell I was a gaijin on the phone.

Probably when I was lying in a hotel room in Hiroshima at some point in the early 2000s and realised I was understanding more or less everything which was being said in the TV drama I was watching.

Calling home after several months in Japan, and struggling to find the English words. Also a Japanese friend getting perplexed at why I didn't understand a word, then realizing 'Oh, I forgot you're not Japanese'.

It was much more of a gradual process, but I suppose when I felt comfortable leaving the house without my dictionary, that's when I became 'proficient.'

A good interview which required reading and translation and responding in both languages.

Passing L1.

When I could read most of the Nikkei newspaper (summer of 1990). Also when I realized I could read simpler Japanese literature (like Akutagawa) with pleasure rather than discomfort and frustration.

Probably, but I don't remember details. I was 19 at the time. Now 53. Studied for 2 months every day with three teachers in missionary training center in Provo, Utah, then went to Japan. About 4 or 5 months after that, didn't feel any difficulties in talking to people or understanding them and was often praised for my fluency and lack of an accent.

Giving presentations in Japanese and getting questions in Japanese from Japanese friends that speak English well.

Company visits on Japanese, reading financial statements.

Doing a town hall in Japanese to 200 employees.

1996. I rang a hotel to make a booking and the receptionist didn't twig that I wasn't Japanese.

Yes. Was an intern in Kanazawa. Got home, thought about getting a drink from jido hanbaiki in the entrance to the block of flats. Didn't. Went upstairs, had a bath. Bath too hot, sat in it wishing I had a cold drink. Thought (in Japanese) 'I wish I'd bought that coke.' (あ、コラ買えばよかった or something like that.) First time my internal monologue expressed itself in Japanese.

Translating during a business trip in Tokyo for the president of the American company I was working for.

Part 1 exams at Cambridge.

When I felt I had understood the way the brain construed 'meaning'.

Level 2 passing.

Relationships.

Dreaming in Japanese.

Passing N1.

Being able to handle conversations on various topics with my former coworkers provided the comfort that I was on the right track in terms of becoming fluent in Japanese.

When some native professional counterparts said they thought I was Japanese when speaking on the phone.

I burned through easily a dozen texts terrified of failing the N2. By the time the N1 rolled around, I got bored and just started reading Japanese novels instead of studying. I was also doing technical translation, so was feeling pretty good about being at fluent level - at that particular time. I really felt fluent a few years later when I was translating technical materials and doing client consultations in Japanese.

Passing JLPT 1. (That alone would not be enough, but I was already functioning well socially and in an office environment in Japan.)

I have probably been 'fluent' in the eyes of others for nearly a decade, but I wasn't comfortable with the label until recently. Over the last few years I've noticed fewer obstacles and stumbles.

Not converting to English in my head.

Being able to watch a show filled with wordplay called Majikaru Zuno Powa and understand it.

I thought I had achieved a fluency milestone after watching (and mostly understanding) the Japanese TV drama 'Long Vacation'.

Passing the gaimuin shiken in Japanese.

Functioning in a Japanese office environment where people over the phone only detected that I wasn't native after a couple of minutes.

Not really. There were times when I realised that I no longer translated in my head and could speak Japanese without having to think about what I was saying, it was important to me to be able to make people laugh (and tell when they expected me to laugh), and a year of intensive language study, followed by JLPT1 and getting a job because of my language skills all helped.

N1 but missed it by 1 pct.

I chose above to say I was fluent after living in Japan for 2 years after graduation. I was working in an office in Kyoto and functioning entirely in Japanese. There would be days going by that I didn't speak any English.

JLPT Level One was a big confidence booster.

Answering the phone at the school I worked at.

Acquiring JLPT L1 in 2001, being accepted to study the Master of Arts in Japanese Interpreting and Translation course at Queensland University in 2003.

There were two. The first was reading an entire novel in Japanese and feeling I understood the whole story. The second was when I realized I could fully function independently in society, handling all my own banking and tax affairs in Japanese.

Able to converse with people.

When we had to start presenting on certain topics in front of a group of native speakers. I had to pitch for 30 mins to 1 hour to groups of investors. I was not perfect, but neither was I unable to get the messages across.

When I got my first job, getting paid very well, still being a student at the university.

When I was living in Japan and didn't really notice myself speaking Japanese.

Level 1 + functional work in Japan.

Writing in Japanese.

Hmmm I don't think so. I guess watching the News on Tv and thinking, wow I got most of that. Or being able to cancel a mistaken purchase via chatting with an AI robot in Japanese on Amazon Prime.

No one particular event, but reaching a point where I felt comfortable in an all Japanese work environment.

Being able to converse and understand / hold my own in complex social / business situations.

Being able to actively participate in Clubhouse.

Translating for overseas research analysts at my first job in Tokyo in 2005.

At the end of my year in Japan (4th year of university) I felt able to converse in Japanese without having to think about each word, as I had at the start of the year. This is what made me feel fluent.

I think passing the N2 and being able to function in all situations while living in Japan.

As I'm an English teacher, but I'm not a native speaker, my first full-time job was with a dispatch company. They hired me, as my English level was good, and so was my Japanese level. They sent me to a prefecture in the countryside, where nobody else could speak English, and obviously, nobody could speak French either. When I first introduced myself to the staff, all the teachers and the principal were amazed about my Japanese level, and my fluency. The fact that I could easily talk to them like anyone else in the class was for them the definition of being fluent. Even though I couldn't really read all kanjis, they did not consider this as non-fluency. They clearly understood that kanjis are way too hard for most non-Japanese people so they never seem to consider the lack of kanji knowledge as a non-fluency in the Japanese language. To them, I was fluent as I could speak fluently.

This was fuzzy for so long. I think publishing my first book length translation put the question to rest.

After I passed JLPT N2.

Being able to communicate freely in Japanese in an academic/business environment.

Passing N1.

Making phone calls and not having someone realize I'm not Japanese until I give my name.

No specific milestone, but a feeling, that I was comfortable speaking the language, rather than feeling nervous or overwhelmed.

It was after my time working at for a Japanese Company. There came a point where I noticed I was no longer translating things in my head before speaking anymore and that conversations were going much more smoothly. It was a very passive moment. I did not notice at first, but after someone pointed out how much I had improved to me I realized it.

When I was able to talk to people randomly with a natural flow in conversation.

When I noticed that I could read entire sentences without the use of the dictionary.

I told a joke in conversational Japanese and Japanese people laughed (for the first time). That made me feel 'fluent' to a degree.

Thinking that I even had a chance in passing N1. Also when my idea of 'fluent' changed. I used to think 'fluent' meant native-level with no mistakes, but now I think it means able to spend an entire day only using Japanese without getting lost or stuck.

I think such milestone could be the fact that I can interact with Japanese on a daily level conversation. I was able to conduct two ethnographic fieldworks in complete autonomy in Japan for a month each. I conducted interviews and interacted with locals regarding both their customs and their lives. I could say that being able to conduct such study would be my milestone in thinking that I was 'fluent in Japanese'.

Appendix 8 – Follow-up interview questions

1. *Why Japanese? What was your motivation for learning the language and how did that change over time?*
2. *Please describe your Japanese study environment when you began studying Japanese? Were you based in Japan or another country? Were you in a predominantly Japanese-speaking environment? If you were based in Japan, what level of contact did you have with non-Japanese people such as friends, family and other Japanese learners during this time?*
3. *How did you approach the kanji learning? Were there any specific techniques, goals or strategies that you used to either learn the kanji or manage your learning activities and how effective do you think they were in accelerating your learning?*
4. *What approach did you take when communicating with L1 speakers of Japanese – some respondents found it demotivating to have native speakers either not understand them or make fun of their Japanese in the early stages of learning, while other wanted native speakers to be more proactive in correcting any mistakes that they made. What was your experience?*
5. *If you were starting to study Japanese today (for earlier learners) / 30-40 years ago (for more recent learners) what do you think would be the key differences or challenges you would face in learning Japanese?*
    a. *For earlier learners: Would access to technology-based learning apps, Japanese online content, etc, accelerate your learning speed, or would the distraction of the internet, smartphones, streaming services, etc, be a distraction?*
    b. *For more recent learners: Would the sense of isolation of being in Japan in the pre-Internet era help you focus more on your studies or would the mental challenge of being out of contact from the rest of the world be too much of a challenge?*
6. *The data analysis of mean time-to-fluency between earlier and more recent learners of Japanese suggests that there is a difference between the 2 groups. What do you think the results show and how would explain the difference in these mean time-to-fluency?*
7. *Finally, you have successfully mastered one of the world's most difficult language to learn. What do you attribute this success to and what would your advice be to any students starting to learn Japanese now?*

Appendix 9 – Follow-up interview transcript excerpts

Three follow-on interviews were conducted in July 2022. Each session was recorded on Microsoft Teams and excerpts from the transcripts have been included below. The names of the participants have been pseudonymized, but some high-level background data is shown below:

- **Mr SE**: a mixed-race, English L1 British male in his early 70s. He began studying Japanese at university in the UK in 1969 at the age of 18 and moved to Japan in 1974 (where he has lived ever-since). He is an established Japanese-speaking broadcast journalist, appearing regularly on Japanese TV and radio (part of the Pre-1997 sample).
- **Ms PF**: a white, English L1 American female in her early 40s. She began studying Japanese at college and then university in the US from 2000. Her university programme included a 12-month study abroad in Tokyo. After graduation she lived and worked in Japan on two separate multi-year periods, and currently resides in Europe (part of the Post-1997 sample).
- **Mr NZ**: A white, English L1 American male in his early 50s. He started studying intensive Japanese in 1987 for 2 months before being sent to Japan as a Christian missionary. After his missionary assignment was completed, he returned to the US and worked as a Japanese-speaking tour guide before moving back to Japan to work for a Japanese corporation. He currently resides in the US (part of the Pre-1997 sample).

Question: Finally, you have successfully mastered one of the world's most difficult language to learn. What do you attribute this success to and what would your advice be to any students starting to learn Japanese now?

> ***Ms PF**: I think my success was just attributed to maybe to the natural affinity I have for Japanese culture or Japanese people or Japanese society or Japanese language… I think there has to be that that kind of natural inclination. My daughter has it. But if she didn't have it, there's no way she would have been able to go to a Japanese school or keep learning kanji. I think you have to have that natural affinity…In terms of success, I think yeah, it's just like…Realizing that it's like a lifelong challenge and like, even though you can master the JLPT one, or you can have these different milestones of success, if you take it as a lifelong challenge and like, enjoy that learning journey, that's better than wanting to be at any certain level by any certain time. Like just one advice that my*

Japanese teacher gave me before I went to Japan, which was great, was make lots of mistakes. And it's really true. The more mistakes you make, the more you're not afraid to make mistakes. The more you learn and I've my experience with learning Japanese to learning Spanish in a much more relaxed way because I was able to learn Japanese in a very structured way and I had all those different experiences. I was able to learn Spanish and a very unstructured way just by being not afraid to speak, not afraid to make mistakes. And you know, not comparing yourself to anyone else and just having the end goal just be to continue learning it forever maybe.

***Mr. NZ**: Like I said, I just don't know how anyone can truly acquire a language without having something that 'forces' (immersion) them to speak it frequently in meaningful ways (work, hobbies, everyday life, etc.). Something that motivates them to speak it (as you said, sink or swim). So, perhaps that is why students trying to use the Internet with all its wonderful resources struggle. Even a student with high discipline. They probably have lots of opportunities to listen (anime, YouTube, etc.), but very few opportunities to speak it in a meaningful way…The SYL (Speak Your Language) approach is kind of flawed in the sense that it can force you to speak in an unnatural manner at first (because you try to say things you haven't learned to say correctly yet), but it makes up for that flaw in the long run because your brain starts to make the connection as you try to speak and then hear how native speakers you are interacting with actually say the thing you were trying to say. Things start to click much more rapidly that way. So, in summary, I just don't see how you can get around finding ways to force the student to speak and interact with native speakers frequently in ways that are meaningful (more than just classroom settings, that is, actual motivated settings such as work, volunteering, projects, etc.)*

***Mr. SE**: When people ask me what is important for learning languages, I always give them two things. I say you need the desire to do it…And you need the ability to mimic, to imitate, because basically that's how children pick up language. They imitate the adults around them and to a shocking degree, when you have your own kids…If you can get rid of yourself [self-]consciousness to the point where you can just mimic people like a child does, that is I think the most important thing because you're just listening and repeating. And you [can] be very honest about your ignorance.*

Appendix 10 – High-profile near-native fluency case studies

There appear to be commonalities in the approaches taken by high profile, highly proficient speakers of L2 Chinese and L2 Japanese. These can be summarised as follows:

- **Proficiency though performance**: Several extremely fluent L2 Japanese and L2 Chinese speakers have used some sort of performance element to drive their language learning. This can involve taking on performance arts such as Chinese cross-talk (traditional comic stage performance) or Japanese rakugo (traditional comic monologues), or more modern stand-up comedy, variety performances and talk shows. Participation in speech contests, skits and presentations in the target language has also been used extensively. It is unclear whether these L2 speakers were initially chosen to perform these roles because of their proficiency, or whether their willingness to perform and present in the L2 raised their proficiency to a level where they could eventually present in the L2 on TV and radio easily. Regardless, it is an approach that appears to suit obsessives, exhibitionists and perfectionists. One high-level L2 Chinese speaker who is a TV personality on Chinese TV was a former concert level cellist. He took a similarly obsessive approach to learning Chinese that he taken with the cello.
- **Set ambitious but realistic goals**: A high-proficiency L2 Chinese speaker from Vietnam set herself the goal of getting to a level where even L1 Chinese speakers would not be able to tell if she was a foreigner. After setting this goal, she wrote it on post-it notes and placed it all around her home so she would be reminded of her goal no matter where she looked. This exact same goal was also used by other high-profile speakers.
- **Work incredibly hard every day**: The main common thread that runs through interviews with most of these high-profile speakers of L2 Japanese and L2 Chinese is the amount of work that they have put into their studies. There is no-one who claims to have found a technique that does away with the requirement to be completely obsessive about studying the language for an extended period of time. There does not appear to be any way that learners can just 'pick-up' languages like Chinese and Japanese without putting in the work.

Here are a few notable quotes from some of these high-profile near-native speakers of L2 Japanese and L2 Chinese:

Mark Rowswell / Dashan (a Canadian, L2 Chinese-speaking TV personality):

On studying traditional Chinese cross-talk comedy:

> 我刚接触的时候，我觉得它（相声）是一种，非常深入老百姓心里，一种非常现实的，生活化的一种艺术，并不是学一种，很传统的中国书法呀，唐诗宋词这种，这种，传统的东西，是学一个现在老百姓喜闻乐见的，一种艺术形式，一种非常深入生活的一种艺术形式，一个相声演员在台上把你逗乐了，是必须说到你心里去。
>
> Translation: *When I first came into contact with [cross-talk], I felt that it was a kind of art that deeply penetrated into the hearts of ordinary people, a very realistic and life-like art, not like learning something traditional like Chinese calligraphy, or Tang poetry and Song poetry. [Cross-talk] is about learning an art form that the common people like to see, an art form that has a very deep connection with their lives. For a cross talk actor to be entertaining on stage, it must reach your heart.*
>
> (Dashan, 2020)

Dave Spector / デーブ・スペクター (an American L2 Japanese speaking comedian and TV personality):

On the study of kanji:

> 日本語を勉強方法は、手書き、アナログに意味がある。僕は,漢字はパズルとして覚えた。漢字を覚える場合には,偏や旁書く順序や画数、その意味まで覚える必要がある。それは全部やっていたのはとてつもない時間と努力がかかってしまう。だから、もっと楽しみながら漢字を覚えることができないかと思って、ゲームに挑んだんだ。
>
> Translation*: When it comes to studying Japanese, there is real meaning in writing things out by hand and taking analog approach. I memorized kanji as a puzzle. When you are learning kanji, it is necessary to memorize the components, the stroke order, the number of strokes, and the meaning. But it is going to take a tremendous amount of time and effort to do it all by that method alone. So I wondered if I could have more fun learning kanji and that's when I started to challenge myself through making up kanji learning games.*

(Spector, 1998), page 43-44

Fan Qingling (the Chinese name of a highly proficient L2 Chinese-speaker from Vietnam):

On how to achieve near-native fluency in L2 Chinese:

> 我自己总结一下可能就有几个重点。第一个就是给自己立的目标。第二个是决心和坚持。然后第三个就是厚脸皮，先不管别人怎么评价你。第一个目标就是我收到录取通知书，然后快要上学的时候，我先给我自己定了目标，虽然当时听起来很荒唐我竟然给自己这么一个目标，就是我要我学到一种，就母语者他们听不出来我是外国人。
>
> Translation*: I can summarize in a few key points. The first is to set goals for yourself. The second is have determination and persistence. Then the third one is being brazen and not caring what others say about you. When I received my university admissions letter, and when I was about to go to school, I set the first goal for myself. Although it sounded ridiculous at the time, I gave myself the goal that I wanted to get to a level where even native speakers would not be able to tell that I am a foreigner.*
>
> (Learn Chinese With Rita, 2022)

Julien Gaudfroy (a French L2 Chinese-speaking TV and radio broadcaster and classical musician):

On goal-setting a putting in the hours to become fluent in L2 Chinese:

> *My mentality is very particular. You have to imagine a high-level athlete or a high-level cello player, which is basically what I am. Our only standard is the highest level possible in the world, in history. This is what we are after and this is what high level athletes are after. Not everybody gets to it, but this is our state of mind. This is the only standard that we accept for ourselves…My goal was to speak [Chinese] just like my mother tongue. To become totally fluent to the point that I could read, write, speak and hear and understand like a native. It was just a challenge and the more I was working towards that challenge the more I thought it was possible. But you have to be completely deranged to do this. It's not normal.*
>
> (Xiaoma, 2021)

Appendix 11 – Independent Samples *t* Test SPSS output tables

Pre-1997 vs Post-1997 time-to-fluency:

Group Statistics

	Groupings	N	Mean	Std. Deviation	Std. Error Mean
timetofluency	Pre-1997	32	5.447	3.5005	.6188
	Post-1997	24	7.971	4.1686	.8509

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
						Significance				95% Confidence Interval of the Difference
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
timetofluency	Equal variances assumed	1.506	.225	-2.460	54	.009	.017	-2.5240	1.0260	-4.5809	-.4670
	Equal variances not assumed			-2.399	44.522	.010	.021	-2.5240	1.0521	-4.6437	-.4042

Independent Samples Effect Sizes

		Standardizer[a]	Point Estimate	95% Confidence Interval	
				Lower	Upper
timetofluency	Cohen's d	3.7994	-.664	-1.205	-.118
	Hedges' correction	3.8532	-.655	-1.188	-.116
	Glass's delta	4.1686	-.605	-1.157	-.042

a. The denominator used in estimating the effect sizes.
Cohen's d uses the pooled standard deviation.
Hedges' correction uses the pooled standard deviation, plus a correction factor.
Glass's delta uses the sample standard deviation of the control group.

Pre-1997 vs Post-1997 strategy scores

Group Statistics

	Groupings	N	Mean	Std. Deviation	Std. Error Mean
stratscore	Pre-1997	32	80.594	22.1110	3.9087
	Post-1997	24	69.833	16.1074	3.2879

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
						Significance				95% Confidence Interval of the Difference
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
stratscore	Equal variances assumed	2.703	.106	2.015	54	.024	.049	10.7604	5.3407	.0530	21.4678
	Equal variances not assumed			2.107	53.971	.020	.040	10.7604	5.1077	.5200	21.0008

Independent Samples Effect Sizes

		Standardizer[a]	Point Estimate	95% Confidence Interval	
				Lower	Upper
stratscore	Cohen's d	19.7780	.544	.003	1.081
	Hedges' correction	20.0581	.536	.003	1.066
	Glass's delta	16.1074	.668	.099	1.225

a. The denominator used in estimating the effect sizes.
Cohen's d uses the pooled standard deviation.
Hedges' correction uses the pooled standard deviation, plus a correction factor.
Glass's delta uses the sample standard deviation of the control group.