

**Japanese EFL Learners' Pragmatic Development in  
the Production of Speech Acts Drawing on ACT-R  
Model and Skill Acquisition Theory**

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## **Declaration**

I, Mai Oyama, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

## Abstract

This mixed-methods quasi-experimental study explored the development of pragmatic competence of lower-proficiency EFL learners in their university English classes in Japan. Although pragmatic competence has emerged as a key topic within the field of interlanguage pragmatics (ILP), almost all studies have examined L2 learners' language use rather than pragmatic development focusing on learning outcomes than process. This study investigates both learners' language use and development, in order to draw a more comprehensive picture of pragmatic development. It also attempts to identify the mechanisms that drive this development by employing a framework of Adaptive Control Thought-Rational (ACT-R) theory in tandem with skill acquisition theory, which is a promising but underexplored framework in the L2 pragmatic development context. As such, this study aims to fill a gap in the research literature and make a theoretical contribution by showing the potential of the framework to account for learners' pragmatic development.

For this study, I recruited 120 Japanese EFL learners making up four intact classes to examine the development over one term (14 weeks) of their skills for producing speech acts after receiving pragmatic instruction. The development was examined both in terms of knowledge and processing ability with more focus on the latter to produce speech acts. Four types of speech acts were chosen for this experiment: request and refusal speech acts, for which specific instruction was provided; and complaint and disagreement speech acts, for which no instruction was provided. Request and refusal were selected as they were most widely studied, and complaints and disagreements were selected as they are relatively similar in nature to request and refusal speech acts and a good candidate to examine learners' ability of knowledge extension.

Quantitative and qualitative analyses were employed to see how much learners improved their production of request and refusal speech acts - in light of the effectiveness of instruction they had received. A similar analysis was carried out on the uninstructed speech acts of complaint and disagreement to assess their capability to extend their learned knowledge from request and refusal making to the production of new speech acts, namely to assess their processing capability.

The results showed that the participants in the treatment groups (TGs) improved in

the production of both instructed and uninstructed speech acts by developing their knowledge and processing ability. The development of such knowledge was assessed by measuring the TGs' improvement in the use of politeness strategies, which are associated with declarative knowledge. As for the development of their processing ability, this was assessed in two ways: in terms of their ability to select contextually appropriate strategies and to apply their learned knowledge sufficiently to produce uninstructed speech acts, these being associated with procedural knowledge. Since the application of the learned speech act schema enables learners to produce ostensibly 'new' speech acts with relative ease, not from scratches. This frees up most of the working memory to be available for other purposes, such as planning what to say next, and looking for more sophisticated expressions. This was reflected in the results of this experiment that showed, following instruction, the use of a wider range of strategies and more sophisticated lexical and syntactic expressions. However, the results did show that the participants were still in an early stage of proceduralisation and needed further practice to improve their processing ability to move toward automatisisation.

This study has pedagogical, theoretical, and methodological implications. Pedagogically, there are several implications afforded by a clearer understanding of learning processes that can be used to revise the EFL curriculum. Theoretically, by showing how pragmatic competence develops in an EFL classroom, this study shows the potential of the ACT-R model, partially revised to apply to this study, to elucidate the operational mechanism of pragmatic ability. Methodologically, this study shows how the application of the revised model I formulated through adaptation and clarification of a range of interpretations of the ACT-R model can better account for proceduralisation in pragmatic development, raising implications for allowing related research to move forward in an otherwise muddled ongoing discussion in the field.

## **Impact Statement**

Through examining the development of pragmatic competence in EFL learners studying at a university setting in Japan, focusing on their knowledge and processing ability to construct speech acts, this study sought to identify the underlying mechanism that drove the development. The study makes pedagogical, theoretical, and methodological contributions to academic, educational and social disciplines in the field of second language learning, which I will highlight in this impact statement.

Today, as globalisation progresses, it is becoming increasingly important to have English proficiency in order to communicate effectively across cultural boundaries. Japan has made continuous efforts toward the realisation of communication-oriented English education since the mid-1990s, as seen in the implementation of the 2003 Action Plan that targets fostering students with English proficiency sufficient to communicate in English in a business setting. The implementation of this plan was supported by the business community, hoping to secure global human resources. However, despite this sustained endeavour of institutions and educators over 20 years, the desired outcomes have yet to be achieved. This study offers pedagogical implications that elucidate ways some English education in Japan has not been successful, and proposes an alternative approach to this question that draws on cognitive theories of the ACT-R model and skill acquisition theory.

Concerning the pedagogical implications, first, understanding the learning process and key factors that promote development is crucial to designing and implementing effective EFL teaching in the classroom setting. Second, language teaching that focuses both on developing declarative knowledge and on developing processing ability fosters students' communicative proficiency. Traditionally, the relatively poor outcomes of English teaching in Japan have been attributed to its heavy focus on knowledge acquisition and grammar centred translation methods of English teaching. However, this does not explain why Japanese students do well with written English tests but not speaking tests. Instead, what is starkly missing in conventional EFL teaching in Japan, I assume, is a sufficient practice to develop learners' procedural knowledge. Although the proposal for whatever specific teaching method might best develop procedural knowledge is left to future research, this study suggested several important areas. These include the

teaching of vocabularies and grammar not independently but in context, repeated output practice to enhance processing ability through pattern practice of using formulaic expressions and simulations such as roleplay with timely feedback being given, which would greatly aid proceduralisation and progress the development of pragmatic competence.

My study also raises some theoretical contributions. The research I conducted was guided by the ACT-R model in tandem with skill acquisition theory. These theories were adopted for their capability to account for L2 pragmatic development both in terms of knowledge and processing ability. The findings from the research indicate that, after pragmatic instruction, participants could improve both knowledge and processing ability significantly. However, they still have a problem in selecting contextually appropriate politeness strategies smoothly. This suggests the need for more practice to improve their processing ability, and prompts further research on English teaching designed to enhance processing ability.

A further theoretical contribution in this study is made by showing the potentiality of the ACT-R model that can elucidate the operational mechanism of pragmatic ability. This was done in two steps. First, while the ACT-R model appears promising, it also has some drawbacks (e.g., some inconsistencies in the terminology and definition used, confusing understanding of the interaction among modules) and cannot be applied directly to my study. Therefore, I proposed a model that can illustrate the process of learning development more clearly, while nevertheless, closely adhering to Anderson's principle ideas of his model. My model illustrates more precisely how modules are interacted and connected through Central procedural system, specifically, the interaction between Declarative module and Central procedural system where the processing device and production rules interact. This enables my model to better account for the benefit of proceduralisation and direct access to specific production rules, which play a key role in promoting smooth and proficient performance in the target language. Second, by using the model, I tried to elucidate ways learning develops from stage to stage, which corresponds to the developmental stages posited in the skill acquisition theory.

Finally, this study also makes an integrated theoretical-methodological contribution by proposing a model that explains how pragmatic competence develops, which in turn serves to develop global human resources that have such an important role in promoting

global business. The model I put forward provides a useful tool to explain more precisely how pragmatic ability develops from stage to stage, making it easier for researchers to apply. Thus, it has the potential to bring further research to this field. More research brings more findings that may serve to create a better learning environment to promote learners' pragmatic ability. Consequently, it will further the development of global human resources, and ultimately promote global business in Japan.

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## **List of Abbreviations**

<b>ACT-R</b>	Adaptive control of thought rational
<b>ACTFL</b>	American Council on the Teaching of Foreign Languages
<b>ANOVA</b>	Analysis of Variance
<b>CCSARP</b>	Cross-Cultural Speech Act Realization Project
<b>DCT</b>	Discourse completion test
<b>EFL</b>	English as a foreign language
<b>ESL</b>	English as a second language
<b>FTA</b>	Face threatening act
<b>ILP</b>	Interlanguage Pragmatics
<b>L1</b>	First language
<b>L2</b>	Second language
<b>MEXT</b>	Ministry of Education, Culture, Sports, Science and Technology
<b>ODCT</b>	Oral discourse completion test
<b>RQ</b>	Research question
<b>SLA</b>	Second language acquisition
<b>TOEIC</b>	Test of English for International Communication
<b>WDCT</b>	Written discourse completion test

## **Chapter 1: Introduction**

### **1.1 Introduction**

This study investigates the development of L2 pragmatic competence of lower-proficiency Japanese EFL learners in a university classroom context in Japan. In this introductory chapter, I present an overview of this study, the research background, the purpose of the study, the significance of the study, the research questions, definitions of key terms, and the organisation of the study.

### **1.2 Research Background**

With rapid globalisation, social and commercial interaction among people from different cultural and social backgrounds has increased, and the need for international communication has become prominent. Today, English has become a necessary tool for global communication (McKay, 2002; Pennycook, 2017). Accordingly, fostering students to be communicatively competent in the English language has been a top priority of language education in many countries. While the importance of developing communicative competence has long been recognised by language teaching practitioners, educational administrators, and policymakers, what exactly is meant by *developing* communicative competence, and how exactly the development is to be brought about are discussions that have not reached a consensus. This study deals with this question by narrowing down this topic to focusing on pragmatic competence.

Pragmatic competence is an essential part of communicative competence (Wyner, 2014; Wyner & Cohen, 2015). In recent years, there has been a growing interest in the development of pragmatic ability in the field of second language acquisition (Taguchi, 2012). Since the explication of communicative competence by Hymes (1972), who argued that communicative competence is better understood as an important component of linguistic competence, contrary to Chomsky's notion of linguistic competence being exclusive of performance, the focus of second language (L2) teaching had shifted from

being mostly grammar-focused to one that follows through to broader attainments, most especially the accomplishment of functional abilities.

Pragmatic competence is defined as the ‘ability to use language appropriately in a social context’ and is claimed to be an essential component of communicative competence (Taguchi, 2007b). Research into L2 pragmatic competence has shown that ‘grammatical development does not guarantee a corresponding level of pragmatic development’ (Bardovi-Harlig & Dörnyei, 1998, p. 234). This means even those who have extensive knowledge of grammatical rules in the target language may still have difficulties at the interpersonal level when communicating in the target language. This imbalance between grammatical and pragmatic knowledge of L2 learners has attracted the interest of research in the SLA studies, which led to the development of interlanguage pragmatics (ILP).

ILP is defined in a narrow sense as the investigation of ‘non-native speakers’ (NNSs’) comprehension and production of speech acts, and how their L2 related speech act knowledge is acquired’ (Kasper & Dahl, 1991, p. 216). Kasper and Schmidt (1996, p. 150) redefined ILP as ‘the study of the development and use of strategies for linguistic action by non-native speakers’. As can be seen from both definitions, ILP is a research field that captures how L2 speakers use and learn the target language from the perspective of pragmatics. It is an interdisciplinary field between SLA and Pragmatics, as described by Taguchi (2017, p. 153) as ‘a branch of second language acquisition’ (see Kasper & Blum-Kulka, 1993, for details).

The majority of ILP studies have been devoted to exploring the production of speech acts (e.g., requests, refusals) by L2 learners and assessing learners’ ability to appropriately use a range of speech acts, which is considered a gauge of their pragmatic competence. In fact, Taguchi (2007b) defines pragmatic competence as learners’ ability to comprehend and produce speech acts.

The earlier studies of ILP in the 1980s were dominated by crosslinguistic research where variation in the realisation of speech acts across languages was investigated (e.g., Blum-Kulka et al., 1989; Blum-Kulka & Olshtain, 1984). The Cross-Cultural Speech Act Realization Project (CCSARP) (Blum-Kulka et al., 1989) was probably the most influential research in this field. It involved international cooperation, with ten researchers from various countries joining together to develop a framework for collecting cross-cultural data on request and apology making. Other main lines of research of ILP

focused on the comparison between L1 speakers and L2 learners in the realisation patterns of speech acts and use of indirect strategies (e.g., House, 1996; Kobayashi & Rinnert, 2003; Kondo, 2008).

In the 1990s, the focus of studies shifted to the teachability of pragmatics, since the results of several studies suggested that for learners to develop pragmatic competence, just by living in the country where the target language is spoken, was not, in fact, sufficient (Bardovi-Harlig & Bastos, 2011). Instead, providing learners with a learning environment where they can obtain sufficient input, together with the opportunity for output, and moreover, feedback on that output, were all necessary for the development of pragmatic competence. Having established that instruction does indeed have a significant positive effect on pragmatic development (e.g., Alcón Soler & Guzmán Pitarch, 2010; Fukuya & Clark, 2001; Ishihara & Cohen, 2010; Takahashi, 2010; Usó-Juan & Martínez-Flor, 2008), the next point of consideration concerned the relative effectiveness of different instruction methods. For example, studies compared explicit with implicit learning (e.g., Alcón Soler, 2007), deductive with inductive (e.g., Glaser, 2014; Takimoto, 2008) and input with output-based instruction (Alavinia & Rahimi, 2019; Toth, 2006). The majority of research conducted shows explicit instruction yielded better outcomes (Bardovi-Harlig, 1999; House, 1996; Norris & Ortega, 2000; Takahashi, 2001) and more recently in the meta analysis on L2 pragmatic instruction (Plonsky & Zhuang, 2019) or that an explicit-inductive combination proved most beneficial for learners (Glaser, 2013).

To date, research in ILP has tended to focus on language use rather than its development (Bardovi-Harlig & Dörnyei, 1998; Kasper, 1996; Timpe-Laughlin, 2016). As Kasper (1992, p. 204) described, much of previous research in ILP has not necessarily 'even implied anything about development'. In addition, much of the research in this line has been descriptive rather than theoretically oriented (Kasper & Rose, 2002). Accordingly, Timpe-Laughlin (2016) argued the need for theory-guided research, saying it was important to distinguish between theories for L2 pragmatic use, which focus on learning outcomes, and theories for L2 pragmatic development, which focus on the learning process. She further argued that theories oriented to guide L2 pragmatic development research should 'place primary focus on processes that account for putative mechanisms by which L2 learners develop their pragmatic ability' (Timpe-Laughlin, 2016, p. 2).

More recently, however, theoretical approaches have been adopted to account for L2 pragmatic development. Kasper and Rose (2002) categorised theories explaining ILP development into five: the acculturation model, cognitive-processing theories, sociocultural theory, language socialisation, and interactional competence. Of these five theories, the cognitive-processing theories that focus on the learning process are most relevant to the current study.

Informed by the cognitively oriented theories, ILP developmental studies focusing on the learning process have come to the fore. The most well-applied in ILP research includes Schmidt's (1993a, 1995, 2001) Noticing Hypothesis, Swain's (1995, 2000, 2005) Output Hypothesis, and Smith's (1993) Consciousness Raising Model. Schmidt's Noticing Hypothesis claims noticing the target features is the primary condition to initiate SLA, since, for learning to occur, learners need to notice pragmatic features of the target language, and that while being aware, the *input* could convert to *intake*. Similarly, Smith's Consciousness Raising Model, later renamed Input Enhancement, emphasises the importance of raising learners' awareness and input enhancement. It describes how language input becomes salient to the learner through input enhancement. With a high degree of input enhancement, learners effectively learn the target pragmatic features. Swain's Output Hypothesis stresses that in addition to input, the output is equally important in contributing to acquisition. Common to the aforementioned cognitive-based theories is their focus on the initial course of acquisition, or 'initial input selection' (Kasper, 2001b, p. 551), and little attention is paid to the progression of the acquired knowledge and the process through which the acquired knowledge develops.

Cognitively oriented theories that go beyond explaining the initial course of acquisition and focus on subsequent psychological process includes Bialystok's (1993) two-dimensional model and skill acquisition theory (e.g., DeKeyser, 2017), and the ACT-R (Adaptive Control of Thought-Rational) model (e.g., Anderson, 1993, 1996, 2007; Anderson & Schunn, 2000). The two-dimensional model explains L2 proficiency development progresses through two cognitive processes: analysis of knowledge representation and control of processing. According to Bialystok, while children need to develop both analyses of knowledge representation and control of processing, adult L2 learners need mainly processing control over existing (L1) representations. The important insight from Bialystok's theory is the distinction between a knowledge component and a

processing component. It assumes that to get appropriate access to pragmatic knowledge, developing control over attention is necessary. As many studies have reported (e.g., Hosni, 2014; Ibnian, 2019), the fact that even advanced EFL learners have difficulty with conversational fluency is due partly to the lack of practice for developing ‘the processing control in utterance comprehension and production’ (Kasper & Rose, 2002, p. 27).

The distinction between a knowledge component and a processing component was made clear in both the ACT-R model and DeKeyser’s skill acquisition theory which this study adopted as guiding theories when designing and carrying out the current research. They explain how knowledge acquired is processed and develops through three cognitive stages (declarative, procedural, and automatised), which will be discussed in detail in Section 3.2.1.

Common to these two theories is the consideration of the processing capacity involved in language development. The ACT-R model, in particular, explains adequate control of the limited-capacity system (working memory) for retrieval and processing the existing knowledge is vital for enhancing proficiency since the limitation of memory constrains access to the knowledge and procedures available. It accounts for knowledge-processing operating in the human mind using a ‘computational metaphor’ (Ormerod, 1990, p. 63), such as regarding how information is processed, stored and retrieved. This conceptual approach, conceiving language learning as a matter of processing memory, provides another way to look at the development of L2 pragmatic knowledge.

In addition, the recent development of neuroscience technology has enabled researchers to identify which parts of the brain are active in facilitating knowledge processing, including where language is processed, as well as when, and to some extent, how it is processed (Ullman, 2005, 2008). Advances are such that data from neurocognitive science research are now utilised in SLA studies to provide evidence in support of their discussion on L2 language processing (Reiterer, 2010; Xue et al., 2004).

As solid theoretical bases have become available, along with data from neurocognitive science research, and as DeKeyser (2015) pointed out, there has been a lack of empirical data from L2 learners on which to test (a specific variant of) skill acquisition theory. As such, the current study addresses this gap by providing data from classroom-based research, in this case, conducted with Japanese EFL learners, guided by the ACT-R model and skill acquisition theory (see Section 2.3.4 for more detail).

### **1.3 Current English Education in Japanese Secondary and Higher Education**

To cope with rapid globalisation, fostering students to be communicatively competent users of English has become one of the core objectives of recent English education in Japan (Butler & Iino, 2005). Along with this transition, the focus of English language teaching has shifted from grammar-centred translation to a communication-centred practice that emphasises students learning effective use of language for communication.

Particularly since 2003, when the Ministry of Education, Culture, Sports, Science and Technology (MEXT) introduced a plan called Action Plan (MEXT, 2003), which proclaims the urgent need to improve university learners' skills in their command of English, the focus of English language courses at university in Japan has shifted markedly to developing 'learners' communicative competence and speaking skills' (Thompson & Millington, 2012, p. 161). MEXT set this as a specific goal. 'On graduating from university, graduates can use English in their work'. The implication is that acquiring knowledge of the English language no longer fulfils the learning goals unless a student can also put that knowledge to use as a communication tool in a business context. In other words, students are expected to develop pragmatic competence in English sufficiently to successfully perform communication in the global business context.

For example, in a business setting, negotiations are often necessary. People make requests to the other party, reject, or oppose the other party's proposal, or express dissatisfaction with the other party. How well people perform such speech acts is often the key to a successful negotiation. As Chen, et al. (1996) showed, there were cases where Japanese businessmen mistakenly understood that in the U.S., people prefer saying things directly and telling their colleagues 'Do something.' or 'Get that.' Obviously, using such 'very impolite' expressions can lead to negotiations going wrong. In global business settings, such negotiation skills in English are particularly important. In a country like Japan, where social interaction with English speaking people is limited, English teaching designed to develop students' L2 pragmatic ability is essential.

Despite this endeavour of institutions and educators, the desired outcomes have yet to be achieved (Van Amelsvoort, 2014; Wang et al., 2003). The reason most often put forward for this is how High-School English teaching has long been co-opted, along with four other High-School subjects, as a determining credential for university entrance

examinations. This means that at this academic juncture, testing procedures for English attainment are tailored to be uniform with testing procedures for the other four subjects that comprise the overall assessment, and since those subjects are inherently knowledge-based, this testing procedure sits at odds with MEXT's more recent shift to more pragmatic goals in English performance. As AJET (Association for Japan Exchange & Teaching) National Council (2014) acknowledged, Japanese English teaching puts emphasis on the students learning the complex grammatical rules and difficult vocabulary that will feature in the test (see also, Fujiwara, 2018). Despite the pressure toward communicative language teaching (CLT), there has been little change, and the traditional grammar centred translation method remains dominant (Mitchell, 2017; Van Amelsvoort, 2014), as the primary purpose of teaching English still remains the same, the preparation for an entrance examination in which the students' grammatical and vocabulary knowledge is evaluated. In other words, Japanese English teaching focuses on fostering students' declarative knowledge, knowledge about facts and things (e.g., grammatical rules).

Spending time on developing students' declarative knowledge, at least initially, is perfectly in line with DeKeyser's skill acquisition theory, with its clear assertion that learning starts with developing declarative knowledge, and, in any case, at this stage, learning is slow. However, as things progress in the same vein, given that Japanese English teaching is not designed to give students sufficient meaningful practice to develop commensurate procedural knowledge (knowledge of how to do things). As a result, an accumulating deficit of knowledge regarding how to perform actions (procedural knowledge) emerges. To elaborate, due to the lack of practice, students cannot make better use of learned knowledge in behaviour, not so much because they lack (factual) knowledge per se, but because they cannot readily access that knowledge at a sufficient pace to serve the needs as they arise during communication. More succinctly put, it is a matter of processing capacity (Bialystok, 1993). As Li (2019) pointed out, a challenge for L2 learners lies in developing a processing capacity sufficient to select accurately and access the most relevant pragmatic knowledge efficiently during and at pace with the communication. In fact, Japanese EFL learners, in general, have not been given enough training in the classroom to sufficiently develop processing capacity for smooth and accurate retrieval of declarative knowledge. Thus, many Japanese students, despite

performing well with written English tests that requires difficult grammatical and vocabulary knowledge, still face difficulties during real-time communication.

Another dilemma concerning Japanese English teaching is found even with decontextualised vocabulary and grammar centred teaching methods. That is, in many cases, vocabulary and grammar are taught quite independently of context, or how they are used in a specific situation. Therefore, for example, ‘Can you...?’, and ‘Will you...?’ are generally taught in terms of grammatical rules on auxiliary verbs of *can* and *will*, or ‘Do you mind if...?’ and ‘I am wondering if...’ are taught in terms of grammatical rules on the subjunctive mode of *if*. They are often not taught in association with request making speech act schema. Thus, students simply memorise these rules for the test (in many cases using multiple-choice format) without learning how these expressions are used in actual communication. Therefore, after the test, many students forget what they learned, as it is often the case that they scarcely have a chance to use them in their everyday life.

DeKeyser (2015, p. 98) argues that learning abstract rules in combination with concrete examples is necessary for learners to move past the declarative threshold into proceduralisation, and that ‘precisely this is often lacking in language teaching in general’. Therefore, if these grammatical rules are taught in association with context, for example, a request making context in this case, learners can remember the rules and expression along with the scene in which they are used, and store them as episodic memory or subjective experience of remembering (Souhay et al., 2013) rather than simply as semantic memory (memory of concept and fact), thereby making them more retrievable for future use. Furthermore, the repeated practice of using such expressions as ‘Can you...?’ or ‘I am wondering if...’ appropriately in a specific context helps students internalise the knowledge and makes available smoother retrieval of the knowledge, and thus use of it to perform speech acts whenever they encounter a request-making scenario.

English teaching problems may also be caused by teachers’ low proficiency. Amelvoort (2014) pointed out that many teachers in Japan were not proficient users of English themselves, not proficient enough to provide good input for their students, nor to activate and build schema and provide feedback in English, either in, or beyond the classroom. He argued the need for teacher training to develop ‘the L2 language proficiency, as opposed to solely declarative knowledge about the language’ (p. 36).

Amelsvoort went further, stating that the teachers themselves had too much declarative knowledge and not enough procedural skills. A part of the reason for this, according to Amelsvoort, is that compared to many other countries, the amount of pre-service teacher training in Japan is tremendously low. He noted that just by taking a couple of supplementary courses with ‘a few hours on SLA theory, and very little (if any) TESOL training’ (p. 32), English literature majors can become licensed teachers. Accordingly, he emphasised the need for a training program that offers a possible way to enhance teachers’ procedural skills to ‘improve on the current gap between the new Course of Study objectives raised by MEXT and existing teachers’ skills’ (pp. 39-40).

For many students in countries like Japan, where social interactions with English speaking people are very limited, learning in the classroom is their sole source for acquiring pragmatic knowledge in English (Rose, 2005). It follows, therefore, that designing and implementing effective teaching to develop both declarative and procedural knowledge of the learners in the classroom is essential. However, while the need for pragmatic instruction has been recognised among practitioners, it has not yet been implemented widely in Japan. To achieve the goal set by MEXT, fostering students with sufficient communicative ability, implementation of pragmatic instruction in the desired manner is awaited.

#### **1.4 Statement of Problems/Research Gap**

In recent decades, there has been an increasing amount of research into the development of L2 pragmatic competence (e.g., Taguchi, 2017). However, to date, much of this research has tended to centre around examining the differing outcomes of different instructional methods that focus on learning outcomes. Taguchi (2015, pp. 6-10) summarises pre-post comparison studies in the table (see Appendix A). Most of the previous studies have examined mainly performance accuracy attributable to the knowledge aspect of L2 pragmatic competence, which, according to Li (2013b), is only one aspect of pragmatic competence. Taguchi (2012, p. 7) explains this is partly because researchers traditionally considered the acquisition of language knowledge as ‘the end state of SLA’. More recently, however, language acquisition is understood as involving

both knowledge and processing capacity, where working memory plays a role. According to Taguchi, researchers nowadays ‘pay more attention to the processing dimension’ than the initial stage of knowledge acquisition (p. 7). Acknowledging these dual aspects of pragmatic competence, Li (2012, 2013a, 2013b) argues that pragmatic competence must be assessed both in terms of pragmatic knowledge and processing capacity.

Another limitation of previous studies has been the lack of theoretical bases that can be utilised to account for L2 pragmatic development, specifically the area of processing dimension. Thus, they have seldom elaborated on the problems of what exactly counts as L2 pragmatic development, nor how such development is verified. Most previous studies have assessed learning outcomes by testing the learners’ declarative knowledge: how much they recall of what they have learned (e.g., Eslami, 2010). As such, it is not clear if the outcome simply reflects learners’ ability to recall what they learned (declarative knowledge) or whether it also genuinely reflects the development of their pragmatic competence in L2 in terms of both knowledge and processing ability.

In fairness, there has been a dearth of theories available which might help guide research on L2 pragmatic development. Within the limited selection, some researchers resort to cognitively oriented SLA theories, such as skill acquisition theory. In fact, since DeKeyser (1997) introduced the ACT-R model developed by Anderson (1993) to SLA, the applicability of this model to the L2 developmental studies has been explored (e.g., Hernández, 2021; Robinson, 1997; Suzuki, 2018; Suzuki et al., 2019). Skill acquisition theory claims that learning a language is on par with learning other skills and considers that ‘skill is a form of knowledge’ (DeKeyser, 2017, p. 16). When it comes to the ACT-R model, knowledge development is explained as being closely related to the function of the memory system. The quick retrieval of knowledge from memory is considered a key to development brought up by repeated and meaningful practice. The ACT-R model is explained in more detail in Section 3.1.

Until recently, skill acquisition theory has been employed mostly for studies of L2 grammatical learning (e.g., DeKeyser, 1997; Suzuki, 2018) but rarely employed for studies of L2 pragmatic development. Among the few, Faerch and Kasper (1984), Li’s (e.g., Li, 2012, 2013a; 2019), Taguchi’s (e.g., 2007b, 2008), and Li and Taguchi’s (2014) studies are notable (see Section 2.4).

Guided by skill acquisition theory (e.g., DeKeyser, 2015), more specifically, the

ACT-R model (e.g., Anderson, 1993, 1996, 2007; Anderson & Schunn, 2000), Li (2013a) investigated the pragmatic development of L2 Chinese learners by comparing their performance of request making in an oral discourse completion task, before and after instruction. In his study, the development of pragmatic knowledge was assessed by measuring accuracy/appropriateness of performance, while processing capacity was assessed by measuring pragmatic performance speed, since he considered the performance speed to be a reflection of fluency and ‘an indicator of underlying processing capacity’ (p. 297) (see also Li & Taguchi, 2014).

Similarly, Taguchi (2007b) examined the development of Japanese EFL learners’ ability to comprehend refusal and indirect opinion-making in terms of both speed and accuracy. Speed was measured to assess learners’ processing ability to access and process linguistic information in real time. The results from both Taguchi’s and Li’s research indicated that there was a significant improvement in both speed and accuracy. At the same time, they found that accuracy and speed do not improve to the same degree. From these findings, they concluded that comprehension accuracy and speed were not correlated, being associated with distinct components of L2 pragmatic competence. In other words, different practices, one specific to developing accuracy and one specific to developing speed, are necessary, which supports DeKeyser’s (2015) claim that procedural knowledge is skill-specific, something which will be discussed later, in Section 2.3.4.1 and 3.1.2.

Li’s study and Taguchi’s provide us with new insights with which to consider what constitutes pragmatic development, and how it can best be measured. However, while a case can be made to argue that an assessment of speed is applicable to learners with higher proficiency of the target language or those in the last stage of automatization (DeKeyser, 2015), such an assessment is not really applicable to learners with low and intermediate proficiency, such as the subjects of this study, representing indeed the majority of Japanese EFL students. For the most part, they are presumed to be in the stage of declarative knowledge or the early stage of proceduralisation. Furthermore, Anderson (1993, 2010) contends that the learners in a foreign language classroom normally do not advance to the automatization stage. In addition, as Segalowitz (2003) and Ortega (2009) point out, measuring the speed of performance does not necessarily reflect that their L2 (pragmatic) ability is automatized. An alternative method may be needed to adequately

assess processing ability in lower level EFL learners.

Moreover, as in the case of Li, existing studies adopting skill acquisition theory focus solely on learner's final stage, automatization, and pay little attention to the processes leading to automatization, namely proceduralization, which, I argue, is a critical process that promotes skill development, but that has nevertheless been under-researched.

Although Li's (2013b, p. 297) analyses focusing on the examination of speed and accuracy may not be directly applied to the current study targeting low and intermediate EFL learners, a question raised in his study, 'what counts as indicators of L2 pragmatic development' has an important implication for this current study and is exactly the question I posed to the previous studies dominated by language use. Indeed, it was this question that first triggered my interest in conducting this current research with its goal to determine how learners enhance their pragmatic development, and how the enhancement of their pragmatic development can be verified. This is another area lacking detailed exploration in the previous studies.

### **1.5 Purpose of the Study and the Research Questions**

This study contributes to the existing literature on L2 pragmatics development by addressing the research gap discussed above, namely, the lack of studies on L2 pragmatic development within the framework of skill acquisition. The current study investigates how Japanese EFL learners develop their pragmatic competence in the classroom context and seeks to identify the mechanisms that promote the development. For this purpose, I examine learners' ability to perform speech acts appropriately in accordance with the social context. The development of their ability is examined from both knowledge and processing ability perspectives. More precisely, I investigate the development of declarative knowledge and procedural knowledge of learners in producing speech acts, guided by the ACT-R model (e.g., Anderson, 1993, 1996, 2007; Anderson & Schunn, 2000) in tandem with DeKeyser's (1998, 2015) skill acquisition theory.

It is generally accepted that the production of speech acts involves two different, albeit interacting, knowledge areas: pragmalinguistic knowledge to construct speech acts themselves and sociopragmatic knowledge to tailor the speech acts to accord with the

appropriate social norms. Request and refusal speech acts are illocutionary acts that impose on the hearer and can be offensive and face-threatening (Brown & Levinson, 1987). To avoid or minimise a threat, several strategies are used, such as employing semantic formulaic sequence (e.g., *promise of future acceptance*, 'I'll do it next time.') or indirect or mitigation devices such as *downtoner* (e.g., possibly) (Beebe et al., 1990; Blum-Kulka et al., 1989; Hudson et al., 1995; Kwon, 2004). In this study, subject learners' use of such politeness strategies to perform requesting and refusing speech acts before and after receiving pragmatic instruction are assessed in order to scale their development of the knowledge aspect of pragmatic ability. The improvement in the use of request and refusal strategies is attributed to the development of declarative knowledge, which corresponds to DeKeyser's declarative knowledge stage.

As for the development of processing ability, this study assesses it in two different ways. First, proceduralisation, which is to say the learners' ability to efficiently access relevant pragmatic knowledge (Taguchi & Roever, 2017), and put that knowledge into action, is assessed. DeKeyser identifies this proceduralisation stage as the second stage of skill development. Since a speech act is interactional between interlocutors, and 'not a pre-planned action', learners are required to have specific 'ability to adapt and reciprocate in a changing context' (Taguchi, 2017, p. 155). According to DeKeyser (2015), to cope with new contexts, it is essential to create more versatile general (production) rules out of declarative knowledge, and it is this which takes place in the proceduralisation stage. Similarly, Taguchi and Roever (2017) define the proceduralisation stage as the stage where declarative knowledge is collected into the creation of general rules (I will discuss this more in detail in Section 3.1).

In addition to the assessment of the learners' ability to access relevant pragmatic knowledge and put it into active use (proceduralisation), this study assesses learners' ability to extend existing knowledge to create speech acts in a new situation. For example, applying the learned knowledge of request and refusal making to the production of uninstructed complaint and disagreement speech acts would be heavily dependent on learners' processing ability. According to Anderson and Schunn (2000), learners can extend their existing knowledge to solve problems in a new situation by generalising and analysing the solution used in a similar situation in the past. This will be explained in more detail in Sections 3.1.3 and 3.3.3.3. Such learners' ability to extend existing

knowledge to a new context is assessed by measuring their ability to apply learned request and refusal strategies to construct hypothetical complaining and disagreeing speech acts. While Taguchi et al. (2013) measured reaction time and planning times as indicators of processing capacity, this study goes further, probing for and assessing learners' ability to extend their existing knowledge in order for them to perform unplanned speech acts appropriately in a given situation.

The benefit of comparing the pre/post-construction of hypothetical speech acts is that it enables the learners' developmental process to be traced. The examination of the learners' development trajectory is intended to explore for whatever underlying mechanisms may drive learners' pragmatic development.

In addition, this way of verifying the development of processing ability is applicable to testing the low and intermediate level of students who have problems speaking in English and their speaking ability does not always reflect their processing ability. Furthermore, this method conforms closely to the question raised by Li (2013b) regarding what counts as indicators of L2 pragmatic development, and how the enhancement of development is verified. At the same time, my study testing the proceduralisation stage of skill acquisition theory, which is a severely under-researched area, aims to add to the existing literature in response to DeKeyser (2015) stating that thus far there has been a severe shortage of empirical data from L2 learners.

In addition, the findings from this study can support language teachers in designing more effective teaching syllabi and activities for EFL learners, while acknowledging the inherent constraints of institutional learning.

For the purpose described above, the following research question (RQ) and sub-questions (SQs) guided the study:

**RQ:** How do Japanese EFL learners develop their pragmatic competence in the classroom context?

**SQa.** Do learners improve the production of request and refusal speech acts after receiving pragmatic instruction? If yes, what are the indications of learners' development?

**SQb.** Do learners improve their production of uninstructed speech acts, such as complaining and disagreeing as a result of learning request and refusal speech acts? What improvements can be traced?

Four types of speech acts were selected for this study on the following grounds. First, request making was chosen because it has been one of the most studied speech acts (Ellis, 1992; Rintell & Mitchell, 1989; Rose, 1999) and rich research results from previous studies are available. They provide various insights and valuable information I can refer to, for example, when searching for the appropriate methods for scoring and coding. With richer research results, more accurate data comparison is possible.

Next, a refusal speech act was selected because it is one of the most difficult speech acts for Japanese learners (Beebe et al., 1990). In addition, since request and refusal are paired speech acts, it is possible to teach them together effectively while relating the two speech acts.

Thirdly, complaints and disagreements were selected as they are relatively similar in nature to request and refusal speech acts and a good candidate to examine learners' ability of knowledge extension. According to Anderson and Schunn (2000), learners can extend their existing knowledge to solve the problems in a new situation but only in a similar situation in the past experience. Therefore, to see the process of applying the knowledge learned from the request and refusal speech acts, I thought that complaint and disagreement could be the best candidate.

Lastly, these four speech acts are the most frequently performed during negotiation. As mentioned earlier, the Japanese government has set the goal of English education at universities to foster students with English ability sufficient to communicate in a business setting. In order to achieve this goal, learning these four speech acts is essential for the students, so finding out how learners develop their ability to produce these four speech acts has significant pedagogical implications. It is for these reasons that these four speech acts were chosen for this investigation.

## **1.6 Significance of the Study**

This section provides an explanation of how the current study may contribute to the existing studies in the field of ILP. Theoretical, pedagogical and methodological contributions of this study are described.

### **1.6.1 Theoretical Significance**

While L2 pragmatic language use in the production of speech acts has been extensively studied, L2 pragmatic development is still an under-researched area. This is partly because, conventionally, SLA studies have mainly focused on the initial stage of acquisition, concerning L2 knowledge *per se*, rather than how the acquired knowledge is used to comprehend and execute the language behaviour, which has, in comparison, been paid very little attention. In other words, few researchers have considered questions regarding the involvement of a learner's processing ability in the retrieval and processing of existing (acquired) knowledge and the execution of the knowledge into action, all of which are vital for enhancing proficiency in L2 (Reichle et al., 2016; Ullman, 2001).

In addition, the lack of theories able to guide research on L2 pragmatic development itself likely hinders the advancement of research on this topic. Recently, however, cognitive-based theories, such as skill acquisition theory, began attracting the attention of SLA researchers since DeKeyser (1997) introduced the theory based on Anderson's ACT-R model to SLA. Yet, it is still quite recent that this theory began to be applied to studies of SLA and empirical data from L2 learners are still scarce. Consequently, as pointed out by DeKeyser (2015), the strength of this theory cannot yet be endorsed.

Furthermore, most of the previous studies applying skill acquisition theory have investigated the development of L2 grammatical knowledge (e.g., Bird, 2011; Lyster & Sato, 2013), and only a few studies have examined L2 pragmatic development. In addition, these previous studies have extensively investigated the endpoint of the development, the automatization stage, though little attention has been paid to the transitional process leading to automatization. Such research has not made the best use of the ACT-R model, which describes how learning develops. In this thesis, I argue that it is crucial to look into

the transitional stage of proceduralisation to better understand how learners develop their L2 pragmatic competence, and propose a model slightly modified from the ACT-R model to explain the process of L2 learning development more precisely (see Section 3.2). The model, providing a useful tool to account for the L2 learning development, may serve to promote further research on this topic.

Of theoretical significance, this study, in contributing to filling the aforementioned gap, accounts for the development of knowledge and processing ability of Japanese EFL learners, drawing on the ACT-R model to explain the cognitive process of retrieval and processing of existing declarative knowledge into performance, and the role of working memory controlling the limited capacity for processing.

Unlike the studies of Li (2012, 2013a) and Li and Taguchi (2014), investigating the speed and accuracy of performance by L2 learners in the advanced stage, this study examined the developmental process of low and intermediate EFL learners in the transitional stage from declarative to procedural stages.

To my knowledge, no existing studies have investigated the pragmatic development of learners of low and intermediate levels in an EFL environment to test the proceduralisation of skill acquisition theory. The English proficiency level of the target participants of this study (their mean score of TOEIC 2017 being 451.59) represents close to that of the majority of Japanese university students (the mean score of TOEIC 2017 being 449) (IIBC, 2018). Thus, the data from the current research can serve to draw a genuinely representative picture of the pragmatic development of Japanese EFL learners at large. By doing this, the current study illustrates the potentiality of applying the ACT-R model in tandem with DeKeyser's skill acquisition theory to account for the pragmatic development of learners of low and intermediate proficiency in English, which is another important theoretical implication of this study.

### **1.6.2 Pedagogical Significance**

The aim of EFL learning is not limited to the acquisition of knowledge of grammatical and formal rules but extends to being able to put that knowledge into use appropriately in the widest social contexts for effective communication. To achieve the aim of this

communicative based language learning, teachers can create an effective learning environment and make use of teaching tools to assist learners' development of pragmatic competence. Kasper (2001a) pointed out that with foreign language classroom learning, no matter how communicative and learner-centred it is designed to be, it simply does not provide enough occasions for conversational practice. Hence, learners may still have difficulties in developing the processing control necessary for effective participation in the conversation.

At the same time, however, for those who have a limited chance of obtaining L2 input and interaction in L2 outside the classroom, classroom learning is the only option given to them. In other words, EFL learners can pick up the target language only from what is taught in the classroom, not 'naturally or implicitly just from positive evidence' (Criado, 2016, p. 130). Furthermore, learners can use and develop knowledge (usually declarative knowledge) that has already existed in their accessible memory. Thus, building and expanding a declarative base is essential. It is also important because procedural knowledge is developed out of declarative knowledge (Anderson, 1993). Thus, skill acquisition theory emphasises the importance of consolidating declarative knowledge as well as solid proceduralisation. According to DeKeyser (2015), learning abstract rules in combination with having concrete examples is necessary for learners to enforce declarative knowledge that ensures proceduralisation, and this is often lacking in language teaching in general. In fact, through my own experience, I can say this is precisely lacking in EFL teaching in at least some contexts in Japan, where abstract rules (English grammar) are often taught independently of the scene or context in which the rules are executed (Underwood, 2017). In this respect, teaching speech acts construction is meaningful since speech acts incorporate the form meaning functional mapping. In addition, speech acts are manageable units that can be easily integrated into ordinary EFL teaching in the classroom. Showing the feasibility and effect of pragmatic instruction integrated into ordinary EFL teaching is a secondary objective of my study.

To arrange an effective learning environment, where the learners benefit from developing pragmatic competence in L2, it is critical to understand how learners acquire and develop their competence and identify the mechanisms that drive this development. Thus, carrying out research to investigate the full spectrum of learning outcomes, as well as the learning process and factors for the development, is necessary.

Of pedagogical significance, the findings from this study indicate the possibility of developing learners' pragmatic competence through instructional intervention in the classroom, and the role that pragmatics can play in language education may serve to further promote the integration of pragmatics in EFL teaching. Besides this, the empirical data from this study investigating learners' developmental process, suggest what aspect of pragmatic knowledge and strategies should be further enhanced by instruction in the classroom, which provides teachers with information as to what kind of instruction and practice activities are needed, and at what stage, as indicated in the model proposed in Section 4.2. The information can also help teachers plan effective classes to foster students as pragmatically competent users of the target language.

### **1.6.3 Methodological significance**

This study makes two major methodological contributions to the study of L2 pragmatic development. First, it proposes an innovative method to assess the development of pragmatic ability from both knowledge and processing ability perspectives. Until recently, most previous studies centred on measuring knowledge aspects of pragmatic ability, and an appropriate method to measure processing ability has not yet been established. Only the method that has been proposed to assess the processing ability so far is to measure the speed/fluency of performance. However, this method cannot be applied to the low proficiency level of learners, who have a problem of speaking out their thoughts smoothly, like the subjects of this study. They cannot speak smoothly, even though they have the processing ability, to some extent, to select appropriate production rules (procedural knowledge) to perform the target action. The innovative method proposed in this study measures the learners' ability to extend their existing knowledge to produce new speech acts, where processing ability is largely involved. This assessment method is applicable to learners of all levels of proficiency, which, to the best of my knowledge, is unprecedented.

Another methodological significance is the utilisation of the amended model to account for L2 learning development. Most of the previous studies applying skill acquisition theory have investigated the development of L2 grammatical knowledge (e.g.,

Bird, 2011; Lyster & Sato, 2013). Only a few studies have examined L2 pragmatic development, which, to my knowledge, has not made the best use of the ACT-R model. It is partially because, as I mentioned earlier, the model, not being made specifically to account for L2 learning development, was too abstract and not easy to apply. My model drawing on the integrated framework of ACT-R and skill acquisition theory, provides means to explicate how learning develops from stage to stage, which fits in precisely with the developmental stages posited in skill acquisition theory. It depicts precisely how L2 pragmatic ability develops. This made it easier for researchers to apply, consequently raising implications for allowing related research to move forward. Therefore, this study provides a foundation on which to build similar methodological designs to further our understanding of the effectiveness of pragmatics instruction and the amenability of different pragmatic targets to instruction.

## 1.7 Key Definitions

The following definitions are used to define the terminologies used in this study.

<b>Alerters:</b>	An element served as ‘attention-getters’ (Blum-Kulka et al., 1989, p. 17).
<b>Chunk:</b>	Chunks are elements of declarative knowledge that are linked to forming the network.
<b>Declarative Knowledge:</b>	Knowledge of fact (e.g., London is the capital of the United Kingdom, $3 + 4 = 7$ ) which is normally stored in the form of chunks in declarative memory.
<b>Degree of imposition:</b>	It is defined as ‘a potential expenditure of goods and/or services by the hearer’ by Hudson et al. (1995, p. 27).

<b>Development of pragmatic competence:</b>	To develop the ability to use linguistic resources (pragmatic linguistics in a contextually appropriate manner (sociopragmatics) (Tello Rueda, 2006).
<b>Discourse Completion Test (DCT):</b>	This is the test first developed by Blum-Kulka (1982), which is created in the form of a questionnaire to produce a certain speech act. It is known as one of the most popular data collection instruments. Later it is defined by Kasper and Dahl (1991) as ‘written questionnaires which include a number of brief situational descriptions, followed by a short dialogue with an empty slot for the speech act under study’.
<b>General production rules:</b>	They are production rules created by converting declarative knowledge into a production rule form. They specify the steps of cognition (Anderson, 1992).
<b>Head Act:</b>	‘Part of the sequence which might serve to realize the act independently of other elements’ (Blum-Kulka et al., 1989, p. 17). It is the main or core part of the speech act.
<b>Interlanguage pragmatics (ILP):</b>	It is ‘the study of non-native speakers’ use and acquisition of L2 pragmatics knowledge’ (Kasper, 1996, p. 145).
<b>ODCT:</b>	Oral DCT.
<b>Procedural knowledge:</b>	‘Procedural knowledge is the knowledge we display in our behaviour but are not conscious of. Procedural knowledge basically specifies how to bring declarative knowledge to bear in solving problems’ (Anderson & Lebiere, 1998, p. 5) and represents it as production rules.

<b>Pragmatics:</b>	It is referred to as ‘the study of language use’ (Leech, 1983, p. 5).
<b>Pragmatic competence:</b>	Pragmatic competence is defined as the ability to use language appropriately in a social context by Taguchi (2009).
<b>Post-Head Act:</b>	The element follows the Head Act and serves as the concluding speech act.
<b>Pre-Head Act:</b>	The element serves in preparation for the upcoming speech act.
<b>Production Compilation:</b>	It is the process by which sequences of productions are combined into a new single production, while factual (declarative) knowledge is embedded into productions.
<b>Proceduralisation:</b>	The process by which declarative knowledge is replaced by procedural representation.
<b>Ready-made-chunk:</b>	In ACT-R, elements of declarative knowledge or the current set of facts are called a chunk. Prefabricated sequences of chunks assembled into one unit are referred to as ready-made chunks. DeKeyser defined a ready-made chunk as procedural knowledge, while Anderson referred to chunks as declarative knowledge.
<b>Schema:</b>	A mental framework that represents an individual’s generic knowledge about the world (Brewer & Treyens, 1981).
<b>Specific production rules:</b>	They are productions that are executed to perform a specific task (Anderson, 1992).
<b>Speech acts:</b>	‘a speech act is a type of act that can be performed by a speaker meaning that one is doing so’ (Green, 2020).

<b>Working memory:</b>	Working memory can be defined as ‘a dedicated system that maintains and stores information in the short term, that this system underlies human thought processes’ (Baddeley, 2003, p. 829) and has been widely investigated as a major source of individual differences among L2 learners (Miyake & Friedman, 1998; Sawyer & Ranta, 2001).
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## 1.8 The Organisation of the Thesis

This thesis comprises seven chapters, which are organised as follows:

Chapter 1 provides an overview of the study, describing the problem and the motivation for my research into the subject of L2 pragmatic development. It also addresses the purpose of this study, the research background, and the research questions, followed by the rationale, and theoretical and pedagogical significance of the study, specifically regarding the incorporation of the cognitive architecture of the ACT-R model.

Chapter 2 reviews the literature relevant to this study in four main sections based on the theoretical underpinnings this study employed. The chapter starts with reviewing pragmatics, regarding how pragmatics is defined and historically related to the study of second language learning. Then, the next section reviews how ILP, a branch of SLA, gained ground, followed by a review of how the notion of pragmatic competence is defined and assessed. This section connects the questions regarding what roles pragmatics plays in second language learning, how pragmatic competence is developed, and whether pragmatics is teachable in EFL classroom settings. The literature discussing these questions is reviewed in the next section, where the significance of teaching pragmatics is explored.

Following the review of literature on L2 pragmatics learning, literature related to the production of speech acts is reviewed. First, two main theories, Politeness Theory and Speech Act Theory, associated with speech acts are reviewed. Following the review of theories, previous studies on four speech acts of request, refusal, complaint, and disagreement are reviewed, followed by the review of previous studies on speech acts

productions by Japanese EF learners.

Next, the cognitively oriented theories for L2 pragmatic development are reviewed, including Schmidt's Noticing Hypothesis, which emphasises the importance of the learner's awareness for pragmatics to be learned effectively, Swain's Output Hypothesis claiming that output serves to enhance the learner's noticing function and practice for the output is equally important, and Bialystok's two-dimensional model, which accounts for L2 proficiency development involving two different cognitive functions: knowledge analysis and processing control.

Finally, the two most relevant theories to the current study, Anderson's ACT-R model and DeKeyser's skill acquisition theory, are reviewed in detail. The last section of this chapter critically reviews the previous studies on L2 pragmatic development drawing on ACT-R theory, especially regarding the assessment of processing ability.

Chapter 3 introduces a key theoretical framework, Anderson's ACT-R model, employed in this study to account for the development of learners' L2 pragmatic knowledge and processing ability. This includes the production system of the ACT-R model, its specific functions, such as production compilation and knowledge extension. Acknowledging some problems of applying Anderson's ACT-R model directly to the current study, I propose a model formulated by partially revising Anderson's model to provide a more precise account for L2 pragmatic development. Using the proposed model shows how the development of L2 pragmatic knowledge can be accounted for.

Chapter 4 provides an overview of the methodology adopted in this study, including a detailed description of the participants, the design and procedure of the research, the data collection methods and the instruments used for the collection. The main instrument of written DCT (WDCT), and supplementary instruments, including oral DCT (ODCT), recorded roleplays, peer discussion, the instructor's reflective journal, and questionnaires on pragmatic instruction, etc., are introduced to complement and endorse the data from the main instrument.

Chapter 5 reports the data obtained using various instruments described in the previous section. The data were analysed quantitatively and qualitatively. The quantitative analysis extends a statistical comparison of the results of pre/post-DCT on the types and frequency of politeness strategies used in various situations. The qualitative analysis probes for explanations as to how and why the changes observed and evidenced in the

results of the post-DCT were brought about. It makes use of additional insights gleaned from complimentary instruments, such as roleplays, questionnaires, and student notebooks.

Chapter 6 discusses the results and finding from the quantitative and qualitative data analyses in the previous chapter and respond to the research questions presented in Chapter 1. The chapter provides evidence to support the notion that pragmatic teaching manifested in improved processing abilities, this being measured in terms of their becoming able to extend their existing knowledge, applying it to help tailor speech acts so as to be suitable in new contexts. To this end, the chapter shows that Japanese EFL learners substantially developed their pragmatic competence in L2 in terms of their ability to construct contextually appropriate speech acts and sheds light on the mechanisms that promote L2 pragmatic development.

Chapter 7 summarises the major findings from Chapters 5 and 6 and proposes theoretical as well as pedagogical, and methodological implications of the findings. It concludes by describing the limitation of this study and adds some suggestions for future research.

## Chapter 2: Literature Review

This chapter presents a review of literature relevant to the study of investigating learners' pragmatic knowledge and development in three parts. Starting with a review of pragmatics literature, I situate pragmatics as historically related to the study of second language learning. Then, I evaluate the literature on how ILP, a branch of SLA, gained ground, and how the notion of pragmatic competence is defined and assessed. Following the review of literature defining pragmatic competence, the literature related to the effect of teaching L2 pragmatics is reviewed. The significance of teaching pragmatics is explored where the effect of explicit and implicit instruction is compared. The current situation of teaching pragmatics in Japan is reviewed to shed light on the problems of EFL learning in Japan.

In the second part of this chapter, I review theories and related studies on speech act production. Two main theories, Politeness Theory and Speech Acts Theory, and previous studies on four speech acts, request, refusal, complaint and disagreement speech acts, are reviewed. Following the review of speech act related literature, I reviewed two cognitive-based hypotheses that were utilised when designing pragmatic instruction and teaching materials. One is Schmidt's Noticing Hypothesis, which emphasises the importance of learners' awareness of specific L2 features based on the belief that awareness is essential for pragmatics to be learned effectively. The other is Swain's Output Hypothesis which emphasises the importance of output practice as learning occurs when learners encounter a gap in their L2 linguistic knowledge. In addition to these Hypotheses, Bialystok's two-dimensional model is reviewed, which provides important insight into the two different cognitive functions, knowledge analysis and processing control. The model explains how these functions complement each other to develop L2 learning.

In the last part of this chapter, I review cognitive processing theories, including the ACT-R model and skill acquisition theory, which are the key theories this study draws on, to gain insights into how pragmatics skill learning develops. For cognitive processing, working memory plays a crucial role. The relevant literature on the role of working memory in L2 pragmatic development is reviewed. This includes the literature on recent neuroscience and imaging technology, which provide cognitive neuroscientific data,

enabling deeper insight and understanding of human cognition. Finally, this chapter closes by reviewing pragmatic development studies based on ACT-R theory.

## **2.1 Review of L2 Pragmatics-Relevant Literature**

### **2.1.1 Pragmatics**

The concept of pragmatics was first introduced by Morris (1938) in the field of the philosophy of language, who defined pragmatics as the study of ‘the science of the relation of signs to their interpreter’ (p. 30). He distinguished pragmatics which concerns relations between signs and objects from semantics with its focus on the linguistically encoded meaning. Morris’s original concept has gradually extended into the fields of sociolinguistics and other related subdisciplines.

Along with this transition from the original concept, a number of definitions of pragmatics have come forth, as linguists have defined pragmatics according to their own theoretical discipline and interest (Kasper & Rose, 2001). For example, Crystal (1985, p. 364) defined pragmatics as ‘the study of language from the point of view of users, especially of the choices they make, the constraints they encounter in using language in social interaction, and the effects their use of language has on other participants in the act of communication’. Similarly, Yule (1996, p. 3) contends that pragmatics is a study of contextual meaning or a speaker intended meaning in a particular context and wherein the context influences what is said. Kasper and Blum-Kulka (1993, p. 3) also emphasise the role of context, defining pragmatics as the study of people’s comprehension and production of linguistic action in context. This means the study of pragmatics attaches importance not only to what is said, but also to how it is said and how it is interpreted.

In a similar vein, Leech (1983) explains that pragmatics is the study on how utterance has meaning in the situation. Likewise, it is meaning in interaction that is stressed in the definition of pragmatics by Thomas (1995), viewing language use as a dynamic process. Levinson (1983, p. 5) states such ‘diversity of possible definition and lack of clear boundaries may be disconcerting’, and ‘do little more than sketching a range of possible scopes for the field’. In fact, some researchers (e.g., Yule, 1996) regard pragmatics as

something of a *catch-all wastebasket*. It has to be admitted that in covering phenomena such as Deixis, Implicature, Presupposition, Speech act and Politeness, pragmatics does cover a very wide scope.

On another front, pragmatics has been studied extensively in the field of SLA, which triggered the development of ILP. ILP is the study lying at the intersection of pragmatics and SLA, centring around the study on nonnative speakers' acquisition and use of pragmatic knowledge (Kasper, 1996; Kasper & Rose, 2002). The ILP studies investigated learners' ability to comprehend and produce pragmatic features in L2 and the development of the ability (Taguchi, 2017, p. 153). For these studies, speech acts have been extensively studied, given how they are one of the main concepts in pragmatics. For L2 learners, speech acts are difficult to comprehend and produce, as they require full mastery of social conventions and norms of the target community, in addition to the proper use of linguistic structures in accordance with a given social context. Given such a complex nature of requiring both social and linguistic knowledge, it is said that L2 learners often face challenges in learning pragmatics, especially in the classroom context.

According to Taguchi (2015), adult learners face a unique challenge in developing L2 pragmatic competence because of the L1 pragmatic knowledge they already possess. They have to control (variously suppress or engage) pre-existing pragmatic knowledge while acquiring the new L2 pragmatic knowledge. Given the scale of such a challenge, it is notable that research on the teachability of pragmatics has shown positive effects of instruction (Kasper & Rose, 1999; Roever, 2009; Rose, 2005; Taguchi, 2011b). The positive effect of instruction on the development of pragmatic competence has been evident in many ILP studies (e.g., Bouton, 1994; Kasper, 1997; Kasper & Rose, 1999; Rose, 2005), which will be described in detail in Section 2.1.4.

### **2.1.2 Pragmatic Competence in L2**

The development of pragmatic competence for intercultural communication is indispensable since, without it, serious communication breakdowns between speakers may occur (Thomas, 1983). Originally, the notion of communicative competence was first introduced by Hymes (1972), which inspired numerous researchers in the 1980s and

1990s (e.g., Bachman & Palmer, 1996; Canale, 1983; Canale & Swain, 1980). Subsequently, Hymes's notion has come to be more narrowly defined by its proponents. For example, Canale and Swain (1980) extracted pragmatic competence as an important component of communicative competence. In their model, pragmatic competence is represented as sociolinguistic competence, manifesting as the ability to use language appropriately in various social contexts.

Bachman (1990) subcategorised communicative competence or language competence into organisation competence and pragmatic competence, thereby giving independent status to pragmatic competence. In his model, pragmatic competence is further subcategorised into two: illocutionary competence and sociolinguistic competence. For him, whereas illocutionary competence is the ability or knowledge to use and interpret speech acts for 'performing acceptable language functions' (p. 90), sociolinguistic competence refers to abilities to execute a certain function appropriately according to social contexts (e.g., the ability to use language appropriately in social contexts). In short, pragmatic competence in his model is represented as the ability to use and interpret language, while operating across a wide range of functions in accordance with a given context.

Similarly, Leech (1983) and Thomas (1983) subdivided pragmatic competence into two: sociopragmatics and pragmalinguistics. According to Leech, pragmalinguistics refers to linguistic strategies and resources needed to encode and decode a given illocution, while sociolinguistics refers to the 'sociological interface of pragmatics' (Leech, 1983, p. 10). In other words, a categorical distinction was made between 'the study of the more linguistic end of pragmatics' (pragmalinguistics), on the one hand, and 'the sociological interface of pragmatics' (sociopragmatics) (p. 10), on the other.

More recently, pragmatic competence has been defined in further detail and with greater precision. For instance, Kasper and Roever (2005) explain pragmalinguistic competence consists of 'the knowledge and ability for the use of conventions of means (such as the strategies for realising speech acts) and conventions of form (such as linguistic forms implementing speech act strategies' while sociopragmatic competence consists of 'knowledge of the relationships between communicative action and power, social distance, and the imposition associated with a past or future event' (pp. 317-318). Taguchi and Roever (2017, p. 7) put these more precisely, defining pragmalinguistics as

‘linguistic tools for performing communicative acts in the target language’, and sociopragmatics as the ‘knowledge of cultural rules and norms, role expectations, and appropriate conduct’.

Given that the production of speech acts appropriately in a given context requires both pragmalinguistic and sociopragmatic knowledge, assessing learners’ abilities to produce speech acts has become the standard method to assess the learners’ pragmatic competence (or knowledge). Although pragmatic competence has various definitions, it has been recognised as an essential component of a more general communicative competence (Leech, 1983; Timpe Laughlin et al., 2015). Researchers have investigated learners’ abilities to produce speech acts in the intersection of pragmatics and SLA, which led to the development of ILP study. I will provide an overview of the literature on this topic in the next section.

### **2.1.3 Interlanguage Pragmatics**

In cross-cultural communication, understanding how cultural elements affect communication between individuals is critical. The linguistic and social behaviours of a particular speaker reflect his/her underlying worldview, and in many cases, conceptualisations established in the speaker’s first language permeate through to affect the comprehension and production of L2 pragmatics.

ILP, according to Taguchi (2017, p. 153), is ‘a branch of second language acquisition (SLA), and examines the L2 learner’s knowledge, use, and development, in performing sociocultural functions’. Its first definition can be traced back to Kasper and Dahl (1991, p. 216), who defined it as ‘non-native speakers’ (NNSs) comprehension and production of speech acts and how their L2-related speech act knowledge is acquired’. This original definition of ILP was defined quite narrowly, concerning only speech acts, however, as might be expected, it has subsequently evolved to cover a broader scope of areas combining SLA and pragmatics. For example, we see how Kasper and Blum-Kulka (1993, p. 3) defined it as ‘a non-native speaker’s use and acquisition of linguistic action patterns in a second language’. Thus the SLA aspect of pragmatics was reflected in the definition by Kasper (1996, p. 145), stating ILP is ‘the study of non-native speakers’ use and

acquisition of L2 pragmatic knowledge'. From the L2 developmental perspective, Kasper and Schmidt (1996, p. 150) defined it as 'the study of the development and use of strategies for linguistic action by non-native speakers'.

In the same line of thought, Kasper and Rose (2002) define ILP from two different yet related perspectives: second language use and second language learning. From the L2 use perspective, ILP is said to examine 'how non-native speakers comprehend and produce action in a target language'. Whereas from an L2 learning perspective, it 'investigates how L2 learners develop the ability to understand and perform an action in a target language' (p. 5). Observing the dominance of the number of studies from the L2 use perspective, Kasper and Rose drew attention to the desirability of having more studies from the perspective of L2 pragmatic competence development. Among researchers, this brought to prominence the need for research into the development of pragmatic competence.

Along similar lines, Taguchi (2012, p. 1) described ILP as a study integrating 'second language learners' knowledge, use and development in the performance of sociocultural functions in context'. When considering potential influences on the development of L2 pragmatics, Ishihara and Cohen (2010) point out the need to gain knowledge through experiencing the social and cultural norms of the target community, coupled with knowledge of linguistic conventions. The realisation that a learner having accomplished a high grammatical proficiency does not necessarily equate to that learner achieving high pragmatic proficiency is attributed to the upsurge in ILP research that followed. This embraced a wider range of topics, including conversational implicature and interactional skills, though speech acts remain the most frequently studied.

The evolution of the ILP definition reflects the expansion of the scope of the studies in this area, and the applications of different theoretical frameworks. For example, Li (2012) adopted DeKeyser's skill acquisition theory, or Li (2014) adopted Bialystok's (1990, 1993) two-dimensional model, and Kim and Taguchi's (2015) study draws on Robinson's (2011) cognition hypothesis. At the same time, more empirical data is needed to validate these theories.

#### **2.1.4 Teaching L2 Pragmatics**

Although investigating the effectiveness of pragmatic instruction, or comparing various L2 teaching methods are not the primary topics of this study, in order to find out how the learners develop their pragmatic competence in the classroom setting, would not be possible without also understanding what constitutes effective teaching, including how it could best be implemented.

It has been shown in many studies that simply living in a second language environment is insufficient to develop pragmatic skills (e.g., Bardovi-Harlig & Hartford, 1993, 1996; Marriott, 1995; Siegal, 1995, 1996). Bardovi-Harlig and Bastos (2011) explains that this is because sociopragmatic and pragmalinguistic features of the input have low perceptual saliency, meaning they will not be duly attended to by language learners without the benefit of implicit or explicit awareness-oriented instruction. Hence, even when abundant input of sociopragmatic and pragmalinguistic features is made available, without instructional intervention, the learners may not notice many of the features, and this shortfall feeds into their failure to attain target-like pragmatic expression.

Schmidt (1993b) also emphasises the crucial importance of noticing target pragmatic features, arguing that unless the learner notices or distils the target pragmatic features - even though he/she might very well be exposed to the target language every day - it remains too difficult for them to develop L2 pragmatic abilities. It follows, therefore, that it is beneficial to teach pragmatics, not only in an environment where the input of the target language is very limited, but even in situations with an ample supply of the target language.

In the study of teaching pragmatics, the main focus of the discussion revolves around the following concerns. (1) Whether and to what extent it is possible to actually teach pragmatic features, (2) whether and in what ways there is a difference in such learning that can be attributable to the presence or absence of teaching, and (3) whether differences in teaching approaches can manifest in discernibly different learning outcomes (Kasper & Rose, 2002; Rose, 2005).

Up to the end of the 20th century, several research initiatives have yielded data that attests to the teachability of pragmatics (e.g., Bardovi-Harlig, 1996; Bouton, 1988; Kasper & Rose, 2001; Kasper & Schmidt, 1996; Kubota, 1995). Kasper (1997), for example,

argued that the imbalance of linguistic proficiency and pragmatic performance is evidence that many aspects of pragmatic competence do not develop sufficiently without some sort of instruction.

Regarding to what extent teaching pragmatics might be more effective than simple exposures to the target language, a considerable number of studies reported the significance of instruction (e.g., Kasper, 1997; Kasper & Rose, 1999; Rose, 2005). For example, Bouton (1994) compared ESL learners from a group that received instruction on understanding implicature, with those of another group that received no such instruction, and reported that the instructed group did indeed show higher understanding. Halenko and Flores-Salgado (2019) investigated the effectiveness of instruction on the development of oral production of refusal and disagreement making by Mexican learners of English and reported the results suggesting pragmatic instruction is effective. In particular, the explicit instruction incorporated online classroom activities that help learners raise their pragmatic awareness was shown to be effective for developing learners' productive pragmatic skills.

The effect of teaching pragmatics has been closely examined in the production of speech acts such as requests and apologies. Olshtain and Cohen's (1990) study on apologies, for instance, found that the variety of semantic formulae that Hebrew learners of English used, became wider with instruction. Similarly, Billmyer (1990) studied complaint speech acts, and Morrow (1996) investigated complaint and refusal speech acts. They both reported a positive correlation between production and instruction. Eslami and Eslami-Rasekh (2008) conducted research on Iranian EFL learners' production of request and apology speech acts. According to their findings, participants in the experimental group (with instruction) showed significant improvement over those in the control group (without instruction).

Some studies, however, have yielded contrary findings regarding the role of instruction. For example, King and Silver (1993) investigated six intermediate ESL participants in the U.S. studying refusals in English. They reported the little effect of instruction on the written post-test and no discernible effect on the delayed post-test. Similarly, LoCastro's (1997) study on the production of consent and disagreement found no significant change after nine weeks of instruction. It seems, however, that shortcomings with the research method in this latter study, such as only one group

discussion being analysed, could account for these unexpected outcomes (see Rose, 2005).

Despite such counter-findings cropping up from time to time, overall, belief in some significant and measurable effect of pragmatic instruction has gradually gained wide acknowledgement (Kasper & Rose, 2002; Plonsky & Zhuang, 2019; Roever, 2009; Taguchi, 2011b, 2015) with the result that researchers are looking increasingly into how to incorporate pragmatics into EFL teaching more effectively.

### **2.1.5 Effects of Explicit vs Implicit Instruction**

Concerns as to which types of instruction (e.g., explicit vs implicit, deductive vs inductive or input-based or output-based) could be the most effective, became one of the most well-researched areas of interventional studies. The important difference between explicit and implicit approaches revolves around meta-pragmatic information, which is to say whether and to what extent pragmatic information is consciously delivered to learners to make them aware of form-function-context mapping. House (1996) compared the effect of explicit instruction with implicit instruction in the development of conversational routines. She found that the group receiving the explicit instruction noticed the difference between L1 and L2 and increased their use of strategies. However, she also noted that some pragmatic features still seemed to be due to L1 effects, one such being the overuse of *yes*, a responding gambit used indiscriminately to fill the various spots around turn-taking.

Shark's (2019) study on the apology speech act showed that learning through explicit instructions outperformed implicit instructions in every respect. Nguyen, Pham and Pham (2012) investigated this by forming three groups of EFL Vietnamese students: one receiving explicit instruction and feedback, another receiving implicit instruction and feedback, and a third control group with neither instruction nor feedback on pragmatic aspects. They aimed to find out whether any group showed much difference in their use of criticism realisation strategies.

In contrast, Tateyama (2001) investigated the use of the Japanese word 'sumimasen (I'm sorry)' and found that although performance in the DCT improved in the explicit group, it actually improved slightly more, through the roleplay method employed for the implicit group, though the difference was not statistically significant. Results from some

studies showed no differences between outcomes from explicit and implicit instructions (e.g., Fukuya & Clark, 2001; Kubota, 1995). Taguchi and Roever (2017) importantly pointed out that very few studies had actually been conducted entirely focused on implicit instruction. For example, even in Nguyen, Pham and Pham (2012), the implicit group received instruction with the target features highlighted, thereby lifting much of the obscurity from supposedly implicit instruction, making it, in fact, virtually explicit. Therefore, caution is needed when gauging the degree of conspicuousness beyond which implicit emerges as explicit. Despite these caveats, Taguchi (2015) and Plonsky and Zhuang (2019), who performed a meta-analysis in this field, concluded that explicit instruction and feedback are generally the most effective instructional approach.

When it comes to opting for an inductive or deductive mode, it has been generally accepted in L2 instruction that the inductive approach is more effective. However, when it comes to L2 pragmatics, it has to be admitted that there are some contradictory results (e.g., Rose & Ng, 2001), along with some inconclusive data (Ishihara & Cohen, 2010). Takimoto (2008) describes a different instruction mix for teaching Japanese EFL learners a request speech act: one with deductive instruction, another with inductive instruction with problem-solving tasks, and a third with inductive instruction coupled with structured input tasks. Results, in this case, showed the two inductive groups had the same effect as the deductive group. In contrast, Rose and Ng (2001) showed that both inductive and deductive instructions had positive effects on compliments, while for sociopragmatic features, only deductive had a positive effect. Results from these studies suggest that the degree of effectiveness of instruction varies depending on what particular feature of pragmatics is being addressed.

As for input-based instruction, Takahashi (2001) compared the effect of explicit instruction with three different types of implicit instructions (form-comparison, form-search and meaning-focused) on request speech act by Japanese EFL learners. She concluded that there was no significant difference among the three implicit groups, and only the learners in the explicit group gained the benefit of input enhancement. Nemati (2014) compared four groups of Iranian EFL learners: IIG was given individual input-based instruction, CIG was given collaborative input-based instruction, IOG was given individual output-based instruction, and COG was given collaborative output-based instruction. The findings showed that CIG outperformed IIG, IOG, and COG in both a

context sensitive MDCT (multiple choice discourse completion test) and WDCT. Li (2012) compared input-based instruction and output-based instruction. It was shown that they both were beneficial in terms of listening judgment of request-making forms. As the empirical data on output-based instruction is scarce (Jernigan, 2007), further investigation is needed to reach definitive conclusions as to the relative effectiveness of input-based and output-based instruction. The research findings on Japanese EFL learners also support the positive effects of both input and out-put based instruction (e.g., Shintani, 2011, 2013), which may complement the scarcity. Japan is serving as a significant context for L2 pragmatic research.

### **2.1.6 Teaching L2 Pragmatics in Japan**

Developing students' communicative competence has been established as one of the core objectives of EFL education in Japan since MEXT introduced their 2003 Action Plan. In recognising the urgent need to implement EFL teaching that meets the requirement for practical communication, there has been increasing interest in introducing pragmatic lessons in EFL teaching, and the potentiality of implementing such lessons has been explored. In fact, some schools have already progressed to implementation, and results have been reported (e.g., Abe, 2017; Takahashi, 2001; Tateyama, 2001; Tsutagawa, 2013).

Kondo (2004, 2008) and Takahashi (2013) made observations regarding the effect of instruction on raising the pragmatic awareness of Japanese university EFL learners, which is also the focus of the instruction designed for the present study. Kondo (2008) examined 36 Japanese EFL learners, and explicit instruction was given to these learners once a week for 12 weeks. She investigated 'what kinds of pragmatic aspects the learners become aware of through explicit instruction in pragmatics' (p. 50). The findings from her research indicated that through explicit instruction, the EFL learners did in fact become aware of a variety of pragmatic aspects, in particular, the difference in realisation of speech acts in Japanese and English.

Tagashira, Yamato and Isoda (2011) suggested from their findings that learners' motivation toward pragmatic awareness-raising was influenced by identifying and rating their errors in performing speech acts in English. They pointed out the importance of

‘noticing and understanding of pragmatic information’ (p. 5) in the future study of ILP. Positive effects of pragmatic instruction and awareness raising are also reported in Tanaka and Oki (2015). Their findings revealed explicit instruction having a significant impact on developing Japanese EFL learners’ pragmatic awareness, in that it encouraged them to use the strategies taught in class, despite their shortage of grammatical and word usage knowledge.

Takahashi (2013) investigated how motivation affects learners’ pragmatic (awareness) development. Her findings revealed how much learners’ pragmatic development was dependent on the quality of input being able to enhance their awareness and suggested that further investigation was necessary on the input. Thus, although at a slow pace and among a limited number of teachers, important recognition has already been accorded the teaching of pragmatics. However, this remains a far cry from seeing full-fledged pragmatic instruction in widespread practice in Japanese EFL classrooms.

## **2.2 Review of Theories and Related Studies on Speech Act Production**

This section reviews two key theories, Politeness Theory and Speech Act Theory used for this study to provide the theoretical rationales to define the notion of politeness and what constitutes the appropriate use of language in a given context. The first is a review of Brown and Levinson’s Politeness Theory (Section 2.2.1), which explains how face threatening act (FTA) is defined, and how strategies are identified that can be used to avoid the occurrence of FTA. Specifically, politeness strategies and factors that determine the level of politeness proposed are referred to for this study in order to analyse the learners’ construction of speech acts. Then, as a matter of course, Austin’s Speech Act Theory is reviewed (Section 2.2.2). The theory was adopted in this study as it provides an essential tool to assess learners’ pragmatic ability to comprehend and construct speech acts. Following the review of these key theoretical frameworks used for this study, how each individual speech act has been defined and assessed in previous studies is reviewed (Section 2.2.3 - 2.2.7).

### 2.2.1 Politeness Theory

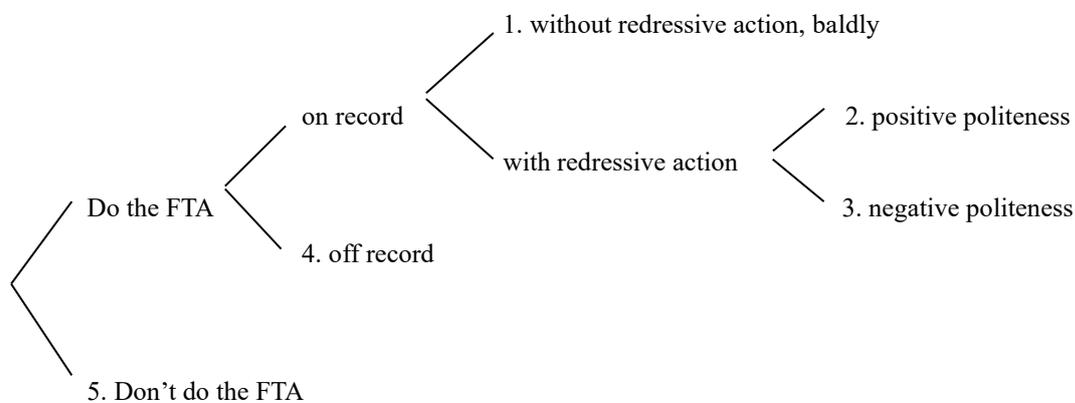
Politeness plays an important role as a strategy to avoid conflict and build harmony that may be brought into play in daily life (Yule, 2020). According to Brown and Levinson (1987), everyday human communication is constrained by politeness rules. Politeness functions to ‘minimise the expression of impolite beliefs’ and, ‘maximise the expression of polite beliefs’ (Leech, 1983, p. 81). Lakoff (1975) defines politeness as a necessary means to ‘reduce friction in personal interaction’ (p. 64) and sometimes ‘has to do with the addressee’s expectations that the speaker will engage in situationally appropriate behaviour’ (LoCastro, 2003, p. 274). Politeness is defined according to social rules and conventions but is also seen as a universal phenomenon indispensable for human communication. Politeness is one of the most researched areas in L2 pragmatic studies, several models also having been proposed (e.g., Brown & Levinson, 1987; House, 1989; Leech, 1983; Spencer-Oatey, 2008a, 2008b). As regards Japanese politeness, Ide (1982, 1993) and Usami (2002) have presented notable works. Among them, the Politeness Theory proposed by Brown and Levinson (1987) has been most widely adopted.

The theory is built on the face-saving view of politeness, originally proposed by Goffman (1967), who argued that every individual has his/her self-esteem, called ‘face’, defined as the public self-image. Each individual tries to avoid ‘losing face’, but the ways to protect his/her face differ from culture to culture. Goffman theorised the ways individuals avoid losing face under social norms. Brown and Levinson (1987) further elaborated Goffman’s notion of ‘face’, subdividing it into two categories: positive face; the positive consistent self-image or ‘personality claimed by interactants’, and negative face; ‘the basic claim to territories, personal perspective, rights to non-distraction, i.e., to freedom of action and freedom from imposition’ (p. 61). Brown and Levinson explain that any adversary conduct that causes one to lose face is labelled an FTA. According to Song (2012, p. 25), Brown and Levinson’s Politeness Theory is based on the universal assumption of the following three speech acts.

- (1) [A]ll individuals have face as self-esteem
- (2) [A]ll speech acts have the potential to threaten a speaker’s face
- (3) [S]peakers employ various linguistic strategies in order to eliminate or limit the effects of

such threats

Based on the assumption described above, Brown and Levinson classify strategies into five stages, which are used to reduce the possibility of the speaker infringing on the listener's face (this is called face risk) when a person performs a certain speech act. Figure 1 shows which of the five strategies can be selected in accordance with the degree of face threatening.



**Figure 1 Possible strategies for doing FTAs (Brown & Levinson, 1987, p. 69)**

For example, when requesting something, the speaker first decides whether or not to carry out an FTA or request making, by judging the current situation. If face threatening risk is judged to be minimal, such as when the content of the request is not a big deal (there is little burden on the other party or the interlocutor has a close relationship with the speaker, such as a family member or friend, more explicit (on record) or direct speech acts would be selected (e.g., ‘Open the door.’). All these are applied to the strategy of (1) in the diagram above. This strategy is also selected in critical situations such as when life is in danger (e.g. ‘Help!’). This is because this strategy is the most direct, and conveys the speaker’s intentions to the listener without being misunderstood.

In cases where a somewhat higher risk was presupposed, the second positive politeness strategy is used to minimise the threat to the hearer’s positive face, showing pleasant relations with the hearer to maintain the positive face of the hearer. For example,

expressions such as ‘How absolutely marvellous! I simply can’t imagine how you manage to keep your roses so exquisite, Mrs B!’ (Brown & Levinson, 1987, p. 103) are used. Or to keep a distance from the addressee, attempting to avoid imposition from the speaker and the risk of face threat to the hearer, a negative politeness strategy is used (e.g., ‘There wouldn’t I suppose be any chance of your being able to lend me your car for just a few minutes, would there?’) (p. 142). In cases where the face risk is judged as relatively high, an off-record strategy is taken in which the request is made indirectly by hinting and avoiding explicit statements (e.g., ‘It’s cold in here’ to get the window closed) (p. 215). However, the effectiveness of such insinuation depends on how much it is picked up on and interpreted by the listener, so it does not necessarily convey exactly what the speaker intended to say to the listener. Therefore, it is a strategy by which request making may not succeed. In cases where the face risk is judged too high (for example, borrowing 10,000 pounds from a stranger), the strategy of (5) in the diagram above will not be taken, that is to say, not making a request.

Brown and Levinson also cite the following three factors that determine the degree of FTA:

**Power (P):** the power situation between the speaker (S) and the hearer (H).

**Social distance (D):** the social distance, or rank, between the interlocutors.

**Ranking of imposition (R):** the degree of imposition that the hearer may feel bearing upon him/her when the speaker makes a request or demand.

The following formula was proposed to calculate the weightiness of an FTA:

$$W_x = D(S, H) + P(H, S) + R_x$$

Table 1 below indicates factors and their combination that determines the level of politeness.

1. Power variable (P) represents the power situation between the speaker and the hearer.  
E.g., the speaker (+P) has more authority than the hearer (-P).
2. Social distance (D) represents the social distance, or rank, between the interlocutors.

E.g., the company president (+D) and a rank and file employee (-D).

3. Degree of imposition (R) that the hearer may feel bearing upon him/her when the speaker makes a request or demand.

E.g., asking the hearer to open the door (-R), the hearer would feel less imposed upon than would be the case if the request was to borrow one million dollars (+R).

**Table 1 Factors determining the level of politeness**

Combination			
(+D) + (+P) + (+R)	(+D) + (+P) + (-R) (+D) + (-P) + (+R) (-D) + (+P) + (+R)	(+D) + (-P) + (-R) (-D) + (+P) + (-R) (-D) + (-P) + (+R)	(-D) + (-P) + (-R)
←	Seriousness of FTA		→
High			Low

These three factors vary in how much they bear on any situation, depending on when, where, and to whom the utterance is made, and not least, they also vary from culture to culture. Brown and Levinson's conceptualisation also asserted that other pertinent factors, such as occupation, authority, friendship, and situational factors that affect face-threatening behaviours, are subsumed by these three factors.

In short, politeness is attested to be so intimately at play in the production of speech acts (Sifianou, 1992) that politeness factors are core determinants in enabling the production of contextually appropriate speech acts. Both politeness and speech act production are linked to the cultural conventions of the community where they are applied. The next section looks more precisely at how politeness is grounded in speech act theory.

### 2.2.2 Speech Act Theory

Since politeness, as the previous section showed, is so involved as a determinant in the production of speech acts, this area serves especially well for investigating the learning of pragmatic appropriateness and social acceptability as it emerges in speech acts in a given society. A speech act constitutes the basic communication unit (Searle, 1969), constructing the core part of pragmatics (Kasper & Rose, 2002). Speech acts have been

extensively researched in the study of language use and pragmatics development.

Historically, speech act studies originated in the area of the philosophy of language conducted by Austin (1962) and Searle (1969), who contributed much to the research and analysis of speech acts. In his well-known book entitled, *How to do things with words*, Austin reveals that people use language not just to say something but to do things or perform actions. This view broadened the conventional view on linguistics by showing that everyday language is not dedicated solely to conveying true or false statements but also to performing linguistic actions such as requesting and refusing.

Austin discerned three categories of speech act: *locutionary*, *illocutionary* and *perlocutionary*. In his configuration, a locutionary act is roughly equivalent to the act of saying something with certainty and sense, the illocutionary act is an utterance which carries a communicative force (or 'illocutionary') such as a 'promise' or a 'warning', and perlocutionary act is the act with which a speaker causes a certain effect on the feeling and actions of the hearer. Among the three, the illocutionary speech act is the core and became representative of Austin's *speech act*. The illocutionary speech acts are further classified into five categories:

- **Verdictives:** Acts of giving a verdict or judgment, such as assessing and rating.
- **Exercitives:** Acts of giving a decision, such as commanding and ordering.
- **Commissives:** Commissive acts such as promising and entrusting.
- **Expositives** (expounding a view): Acts of explaining a speaker's view, such as agreeing, believing and asking.
- **Behabitives** (tracing to others' behaviour): Acts of expressing the attitude of a speaker, reacting to the conduct or attitudes of others, such as thanking and congratulating.

Searle (1976) regrouped Austin's illocutionary acts based on functional characteristics into five different categories, as in Table 2.

**Table 2 Categories of illocutionary acts (Searle, 1976, p. 10-16)**

<b>Category</b>	<b>Explanation</b>	<b>Example</b>
Representatives	Acts of committing a speaker to the truth of the assumption expressed.	Asserting/concluding
Directives	Acts of making the hearer commit to some future action.	Ordering/suggesting
Commissives	Acts of committing the speaker to perform a future action.	Promising/ apologising
Expressives	Expressing a speaker's attitude toward a proposition.	Condoling/Thanking
Declarations	Statements of those having institutional authority that bring a change in the state of affairs described in the proposition.	Statements of institutional authority 'I now pronounce you husband and wife.'

Yule (1996, p. 54) proposed another way to distinguish speech acts, this time based on structure, as below.

- A. You wear a seat belt. (declarative)
- B. Do you wear a seat belt? (interrogative)
- C. Wear a seat belt. (imperative)

As can be seen, there is a recognisable relationship between forms (declarative, interrogative, and imperative) and communicative functions (statement, question, and command/request). However, in sentence A, the declarative structure is related to a statement, while in sentence C, the same declarative structure is used to make a request. That means there is a mismatch or ambiguity between a structure and a function. Thus, Yule proposed to group speech acts into two categories based on the relation between the structure and the function: direct (no mismatch) and indirect (mismatch).

Searle (1975) also distinguished between direct and indirect speech acts as follows: direct speech acts reflect what is said directly, while indirect speech acts sometimes imply more than what is said and are often interpreted based on the rationality and inferences of the hearer. Indirect speech acts are considered universal and generally more polite than direct speech acts (Brown & Levinson, 1987; Yule, 1996). The use of such politeness

strategies in L2 is the key criterion to assess the development of pragmatic competence and, thus, serves as the investigation focus of this study.

### 2.2.3 Speech Acts of Request

A speech act of request is one of the most studied areas in ILP because of its frequent use in everyday life. Request making is a directive speech act since it counts as an attempt to make the hearer do something (Searle, 1969). It is ‘an illocutionary act whereby a speaker (requester) conveys to a hearer (requestee) that he/she wants the requestee to perform an act which is for the benefit of the speaker’ and is an ‘impositive’ act, because it imposes on the hearer (Trosborg, 1994, p. 187). The degree of imposition in requesting can vary depending on what is required for whom.

To make a request making successfully, Searle (1975, p. 71) proposed the following felicity conditions for making requests, where H refers to the hearer, S to the speaker, and A refers to the requested item or action, as in Table 3.

**Table 3 Facility conditions for making requests**

<b>Preparatory condition</b>	H is able to perform A.
<b>Sincerity condition</b>	S wants H to do A.
<b>Propositional content condition</b>	S predicates a future act A of H.
<b>Essential condition</b>	Counts as an attempt by S to get H to do A.

Requesting is a potentially face-threatening act, as it threatens the hearer’s negative face (Brown & Levinson, 1987). To best avoid the risk of face-threatening, the speaker needs to make use of some strategies. Extensive research has been conducted to examine the linguistic features of requests (Blum-Kulka et al., 1989; Blum-Kulka & Olshtain, 1984; Hudson et al., 1995; Márquez Reiter, 2000; Pinto & Raschio, 2007; Trosborg, 1994). According to Brown and Levinson, indirectness and politeness strategies are essential to avoid risk. The higher levels of politeness achieve higher levels of indirectness. To reduce the scope of offence, by enhancing indirectness, devices called modifiers are often employed. The modifiers are mainly of two types: internal or external modifiers, the

category depending on which places they function in speech acts. Internal modifiers, as the label implies, occur inside or as an integral part of the Head Act, while correspondingly, external modifiers take place outside of the Head Act, as supportive moves (see Blum-Kulka et al., 1989; Hudson et al., 1995 for details).

The sense of offence or imposition often differs from culture to culture, which contributes to making it difficult for L2 learners to acquire appropriate request speech acts in the target language. Consequently, request speech acts have been widely studied in the field of SLA and ILP studies. In these studies, the degree of indirectness or appropriate use of modifiers in the L2 has been the central topic. The appropriate use of modification devices by L2 learners has been argued to be critical when making a request. For example, Blum-Kulka et al. (1989) investigated the use of direct strategies by Spanish L1 speakers in contrast to that of British English L1 speakers, and reported finding that Spanish L1 speakers use more direct strategies than British English speakers.

Some studies compared the use of modifiers by L2 speakers with that by English L1 speakers (Biesenbach-Lucas, 2007; Hassal, 2001; Kasper, 1979, 1982; Olshtain & Cohen, 1983; Trosborg, 1994; Woodfield, 2008). Findings from Schauer (2009) and Woodfield (2012) indicated that English L2 learners initially tended to use lexical means of mitigation, and later increased their use of syntactic mitigation, but did not reach the level of their English L1 speaking (native) counterparts. Some others examined the use of modifiers relative to the proficiency level of L2 speakers (Hill, 1997; Otçu & Zeyrek, 2006, 2008; Rose, 2000; Trosborg, 1994). For example, Otçu and Zeyrek (2006) found more proficient learners use more lexical phrasal downgraders. All in all, previous studies suggested that the presence and types of modification devices used in making requests could be taken as an indicator of pragmatic development, which is relevant to the current study where improved use of modification devices are delved into to help measure learners' L2 pragmatic development.

#### **2.2.4 Speech Acts of Refusal**

As with the request speech acts discussed in the previous section, refusal speech acts often occur in our daily communication. They are also one of face-threatening acts, as they can

express blatant rejection, by declining to perform something requested (Brown & Levinson, 1987). Unlike request speech acts, where the speaker's action of requesting threatens the hearer's face by impeding their freedom or independence, refusal acts threaten the hearer's face by disclosing that the speaker's want is not desirable to the hearer.

Refusal is a complex speech act as it involves negotiating non-compliance but in a sufficiently face-saving manner. It would carry a high risk of negative impacts on interpersonal relations if a speaker were to fail to refuse appropriately. To avoid the inherent risk and to save the hearer's face, various mitigation strategies are used. Beebe et al. (1990) presented typical refusal strategies (see Table 4), which have been widely employed in previous studies (e.g., Babai Shishavan & Sharifian, 2016; Bulut, 2003; Eslami, 2010; Félix-Brasdefer, 2004; Nelson, 1987).

According to Beebe et al. (1990), refusal strategies are fundamentally categorised into three components, direct strategies, indirect strategies and adjuncts. They are organised in a series of following sequences (see also Félix-Brasdefer, 2004).

1. **Pre-refusal:** strategies used in order for the addressee to prepare for upcoming refusal.
2. **Head Act (Main refusal):** strategies used to express the main refusal.
3. **Post-refusal:** strategies used following the head act, including justifying or concluding refusal responses.

Refusal strategies are used under specific conditions such as those, provided by Barron (2003, p. 128).

#### **Felicity conditions for Refusals**

Propositional Content:	S predicates a future act to H.
Preparatory:	S is not able to perform A.
Sincerity:	S does not want to be obliged to do A.
Essential:	Attempt by S to inform H that S will not do A.

A typical example of refusal speech acts reflecting the conditions above is provided by Turnbull and Saxton (1997, p. 156) below:

Sorry, I'd love to, (apology + endorsements of the request)  
 but I'm working then (justification)  
 so, I don't think I can make it. (refusal of compliance)

Beebe et al. (1990, pp. 72-73) list the prototype realisation of refusal strategies, which is categorised into three: direct refusal, indirect refusal, and adjuncts to refusals, as in Table 4.

**Table 4 Refusal strategies**

Category	Strategy	Example(s)
<b>Direct</b>	A. Performative	I refuse.
	B. Non-performative	
	1. No	No.
	2. Negative willingness/ability	I can't. / I don't think so.
<b>Indirect</b>	A. Statement of regret	I'm sorry... / I feel terrible...
	B. Wish	I wish I could help you...
	C. Excuse, reason, explanation	My children will be home that night. / I have a headache.
	D. Statement of alternative	
	1. I can do X instead of Y	I'd rather... / I'd prefer...
	2. Why don't you do X instead of Y	Why don't you ask someone else?
	E. Set condition for future or past acceptance	If you had asked me earlier, I would have...
	F. Promise of future acceptance	I'll do it next time. / I promise I'll... / Next time I'll... —using "will" of promise or "promise"
	G. Statement of principle	I never do business with friends.
	H. Statement of philosophy	One can't be too careful.
	I. Attempt to dissuade interlocutor	
1. Threat or statement of negative consequences to the requester	I won't be any fun tonight. [to refuse an invitation]	
2. Guilt trip	(Waitress to customers who want to sit a while:) I can't make a living off people who just order coffee.	
3. Criticize the request/requester, etc. (statement of negative feeling or opinion); insult/attack	Who do you think you are? / That's a terrible idea!	

(Continued)

**Table 4** (Continued)

	4. Request for help, empathy, and assistance by dropping or holding the request.	
	5. Let interlocutor off the hook	Don't worry about it. / That's okay. / You don't have to.
	6. Self-defense	I'm trying my best. / I'm doing all I can do. / I no do nothing wrong.
	J. Acceptance that functions as a refusal	
	1. Unspecific or indefinite reply	
	2. Lack of enthusiasm	
	K. Avoidance	
	1. Nonverbal	
	a. Silence	
	b. Hesitation	
	c. Do nothing	
	d. Physical departure	
	2. Verbal	
	a. Topic switch	
	b. Joke	
	c. Reputation of part of request, etc.	Monday?
	d. Postponement	I'll think about it.
	e. Hedging	Gee, I don't know. / I'm not sure.
<b>Adjuncts to refusals</b>	1. Statement of positive opinion/feeling or agreement	That's a good idea... / I'd love to...
	2. Statement of empathy	I realize you are in a difficult situation.
	3. Pause fillers	uhh / well /oh / uhm
	4. Gratitude/appreciation	

Since refusals are face-threatening speech acts, they often occur as part of a long negotiating sequence. It often contains different speech acts, such as apology or justification. Interlocutors must know which speech acts to employ and in which sequence. Given such a complex nature of refusal speech acts, it is difficult, especially for L2 speakers, to perform refusals appropriately in accordance with a given context.

The appropriateness of speech acts, however, varies depending on the culture and social norms of a given community wherein these refusals take place. For example, Japanese people are brought up not to say 'No' easily (Robinson, 1992). In such a culture,

it is conceived as inappropriate to refuse something too directly. Such cultural differences have drawn the attention of cross-cultural studies focusing on the comparison of the realisation of refusal speech acts in different languages (Bardovi-Harlig & Hartford, 1993; Beebe et al., 1990; Félix-Brasdefer, 2004; Kwon, 2004; Ren, 2012; Tanck, 2004). For example, Beebe et al. (1990) contrasted the performance of refusal between English L1 speakers and Japanese EFL learners and reported on important differences in their use of semantic formulae. Kwon (2004) investigated the difference in the use of semantic formulas between Korean learners of English and English L1 speakers and reported that the use of direct formulas by Korean learners is much less than that of English L1 speakers. Chang (2009) reported the contrast between Chinese EFL learners and English L1 speakers, indicating that Chinese EFL learners tended to use indirect refusal strategies such as wishing, while Americans more frequently used direct formulae. Bulut (2003) contrasted the performance of refusals between Turkish learners of English and English L1 speakers and concluded that Turkish used *reasons* with the most regularity, while American English speakers preferred to use *reasons* and *statements of regret* and *gratitude*. Overall, the choice of mitigation strategies might be expected to vary considerably across cultures.

The L1 transfer is one of the potential causes that brings contextually inappropriate L2 performance. For example, Beebe et al. (1990) reported that Japanese EFL learners tend to use different refusal strategies in English based on the status of interlocutors, as they do in Japanese. Cramer (1997) examined the refusals in-company communications between Japanese and Americans, and reported that while Japanese are often understood as striving to maintain interpersonal harmony by avoiding conflict. They also express disagreement, voicing refusal in a way that appears quite direct and sometimes inappropriate to Americans. The finding from Kwon (2004) indicated Korean speakers tended to use more mitigating strategies to a higher status person, as compared to other status types, whereas English speakers seem not so sensitive to status in their refusals across different situations. So, as can be seen, the L1 transfer may easily cause pragmatic failure. In another study, sensitivity to social status was reflected in the use of indirect refusal strategies by Japanese EFL learners (e.g., Ebsworth & Kodama, 2011), and in yet another shown by Chinese EFL learners (e.g., Chang, 2009) was reported. Cross-cultural studies on refusals have indicated that, overall, there are differences in the use of indirect

refusal strategies between EFL learners and English L1 speakers.

### **2.2.5 Speech Acts of Complaint**

People complain when they encounter things that go wrong or affect them unfavourably. Complaint speech acts are illocutionary acts expressing the speaker's attitude of disapproval or negative feelings towards the complainee, or the state of affairs caused by the complainee (Trosborg, 1994). These speech acts are often offensive and affect the hearer negatively. Thus, they are inherently face-threatening to the hearer. Given the nature of offensive and face-threatening behaviour, if the speaker wishes to maintain a good relationship with the hearer, he/she needs to know the appropriate level of directness, and, thereby may use different strategies to mitigate or soften the directness. Complaints are another of the speech acts we encounter in everyday life, which take place under conditions such as those described below, proposed by Olshtain and Weinbach (1987, pp. 195-196):

#### **The Propositional Content Condition:**

1. S expected a favorable event to occur (an appointment, the return of a debt, the fulfillment of a promise, etc.) or an unfavorable event to be prevented from occurring (a cancellation, damage, insult, etc.). The ACT (A) results, therefore, in the violation of S's expectations by either having enabled or failed to prevent the offensive event.
2. S views A as having unfavorable consequences for S. A is therefore the offensive act.
3. S views H as responsible for A.
4. S chooses to express his/her frustration and disappointment verbally.

According to Boxer (1993), complaints can most easily be categorised into two distinct types, direct and indirect complaints. On the one hand, there are direct complaints, expressing the fact that 'they confront what is either responsible for, or capable of remedying, the offence', and typically are face-threatening acts, while, on the other hand, an indirect complaint is one that refers to 'the expression of dissatisfaction to an addressee,

albeit about oneself, or someone/something that is not present' (p. 280). Based on the levels of directness, Trosborg (1994, pp. 316-319) proposed eight strategies used to perform complaining speech acts, as shown in Table 5, which was originally developed by House and Kasper (1981).

**Table 5 Complaint Head Act strategies**

Category	Explanation	Example
<b>I No explicit reproach</b>		
Str. 1 Hints	A complainer does not directly state that something is bad.	My car was in perfect order when I last drove [sic] it. There was nothing wrong with my car yesterday.
<b>II Expression of disapproval</b>		
Str. 2 Annoyance	A complainer expresses his/her annoyance, dislike, disapproval, etc., considering a certain state of affairs	There's a horrible dent in my car. Oh dear, I've just bought it.
Str. 3 Ill Consequences	he/she considers bad for him/her.	How terrible! Now I won't be able to get to work tomorrow. Oh, damn it, I'll lose my insurance bonus now.
<b>III Accusation</b>		
Str. 4 Indirect	A complainer tries to establish the complainable party and directly or indirectly accuses the complaine	You borrowed my car last night, didn't you?
Str. 5 Direct	ee of having committed the offence.	Did you happen to bump into my car. [sic]
<b>IV Blame</b>		
Str. 6 Modified blame	Assuming that the complaine	Honestly, couldn't you have been more careful? You should take more care with other people's cars.
Str. 7 Explicit blame (behaviour)	ee is guilty, a complainer states modified blame or explicit condemnation of either the complaine	It's really too bad, you know, going around wrecking other people's cars. How on earth did you manage to be so stupid?
Str. 8 Explicit blame (person)	ee's action or of the complaine	Oh no, not again! You are really thoughtless. Bloody fool! You've done it again.

Besides strategies mentioned above, DeCapua (1989, pp. 89-90) proposed other strategies, including *statement of problem* (e.g., ‘There’s a hair in my soup.’), stating the fact that caused the disturbance of a speaker, *justification* (e.g., ‘I’m having trouble cooking without it.’), a statement by which a speaker justifies his/her utterances, *request for repair* (e.g., ‘Would you please correct the mistake on my bill?’), asking the hearer to resolve the cause of the dissatisfaction of a speaker, and *threat/pressure* (e.g., ‘If something is not done soon I’ll have to contact a repairman and have the bill sent to you!’), a statement whereby a speaker threatens the hearer to do something to fix (see also DeCapua, 1998). Note that among these four strategies, *request for repair* and *threat* were categorised as directive acts by Trosborg (1994), differently from complaint strategies.

In addition to the complaint strategies in Table 5, Trosborg also categorises the internal modification and external modification of complainers as in Table 6 (Trosborg, 1994, pp. 327-332).

**Table 6 Modifications of complaint speech acts**

<b>Modification</b>	<b>Explanation</b>	<b>Example(s)</b>
<b>I. Internal modification</b>		
Downgraders		
Downtoners	Adverbial sentence modifiers and adverbial expressing tentativeness	just, simply, perhaps, maybe, possibly
Understaters	Modifiers that under-represent the state of affairs denoted in the complainable	a little bit, a second, not very much
Hedges	Adverbial by means of which the complaineer avoids a precise propositional specification	kind of, sort of, somehow
Subjectivizers	Modifiers that characterize the proposition as the speaker’s personal opinion, or indicate the speaker’s attitude towards the proposition	I think, I suppose, I’m afraid, in my opinion
Cajolers	Gambits functioning at the interpersonal level of discourse with the function of restoring harmony between two interlocutors	you know, you see, I mean

(Continued)

**Table 6 (Continued)**

Appealers	Discourse elements (including tags) intended to elicit a response from the complainer, appealing to his/her understanding	okay, right, don't you think?
Upgraders		
Intensifiers	Adverbials or adjectives intensifying part of a proposition	such, so, very, quite, really, terribly, awfully, frightfully, absolutely
Commitment upgraders	Sentence modifiers expressing a special commitment towards the proposition and the corresponding adverbials	I'm sure, I'm certain, I'm positive, it's obvious, surely, certainly, positively, obviously, unfortunately
Lexical intensification	A way of revealing an attitude	What the hell are you doing?
<b>II. External modification</b>		
Supportive moves		
Preparators	Utterances that inform the complainees that a complaint is forthcoming.	Listen, Lene, there is something I want to talk to you about, you remember our agreement, don't you?
Disarmers	Strategies to avoid producing an act that is too face-threatening to the complainees	Look, I don't want to be horrible about it.
Providing evidence	Informing that the complainees has in fact, performed (or failed to perform) the deplorable action.	It's not a copy. Look, I signed it. The signature is in ink, see.
Substantiation	Provide proof showing that P is bad' for the complainer.	The deadline's today.
Aggravating the offence	Emphasise the severity of the offence.	but it's too late tomorrow, it just won't do tomorrow, it's too late, it was the last day today to hand the damned thing in, and you know you forgot it.
Repeated action	Informs that severity is increased when an offence is committed over and over again.	I mean, it is not the first time, is it?
Lack of consideration	-	...but I think we should talk about this, because I mean it shows your attitude to me in some way, I mean, you, you don't give a damn about this at all.

*(Continued)*

**Table 6 (Continued)**

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No excuse -	...but surely I mean it was just a question of, ahm you've been at the university (=you could easily have handed the paper in).
A general nuisance -	It'll be too late, it's just too late, it is the last day today, there is nothing to do, I'll have to do the damned things over again next term and who wants to read Jane Austen well quite honestly you know twice.
A breach of contract or promise -	That's my paper, I asked you to hand it in, why haven't you done it?
Deceived expectations -	Look, I asked you if you could you it for me and - I said twice, you know, I reminded you twice because eh it's important and I thought it would be obvious that it, you know, I mean, obvious that when I tell you that it has to be handed in today - thank you do this for me when I've done lots of things for you.
Appeal to the complaine'e's moral consciousness -	Well, how do you feel about it, you promised me faithfully to hand the paper in, what are you gonna do?

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In contrast to the number of studies on request and refusal speech acts, the number that has focused research on complaints (that are published) is quite limited (Boxer, 1993). Among the few, Trosborg (1994) is one of the most well-known studies on the use of complaint speech acts. She investigated if there was a difference in the use of complaint strategies, complaint perspective, and internal modification between English L1 speakers and Danish learners of English. The results of her study indicated that EFL learners produced complaint speech acts much less than English L1 speakers. They used modality markers such as upgraders and downgraders much less than English L1 speakers. The results also showed that learners could not adjust the parameters of dominance and social distance in accordance with a given context. Furthermore, regarding the strategies listed in Table 5, learners tended to use more direct strategies than English L1 speakers. Consequently, She concluded that 'the communicative act of complaining is an extremely

difficult act to master, even for advanced learners of English' (Trosborg, 1994, p. 370).

Murphy and Neu (1995) contrasted complaint makings by Korean learners of English with those of English L1 speakers. The results show that Korean L2 learners performed more criticising rather than complaining, and sounded disrespectful, while L1 speakers performed complaining with respect and did not come across so aggressively. Murphy and Neu concluded that the learners needed to be made more aware of the appropriate use of complaint strategies to reduce the risk of face-threatening.

Regarding the contrast between English L1 speakers and German learners of English, for example, House and Kasper (1981) reported that while all levels of directness were used in both the English and the German data, 'German speakers display more aggressive verbal behaviour in socially delicate situations' (p. 177). Similarly, DeCapua (1998) showed that German English learners tended to use strong expressions of criticisms, provide more justification, and make more direct requests than American English L1 speakers. She explained these are due to the German learners' L1 transfer and provided the evidence of L1 transfer showing that German learners' use of the expressions of 'must' or *müssen* in German more often than 'should' (*müssen* is frequently used where American English speakers prefer 'should'). According to DeCapua, the pragmatic L1 transfer of overly direct complaints to the target language occurred, in part because L2 learners were either not aware enough of the target language routines, or 'because they were psychologically unable to do so' (p. 23) meaning that they felt the L2 norms and routines violated their L1 cultural norms. From the studies on Dutch, Korean and German learners of English mentioned above, we may conclude that English L2 learners tend to make direct complaints more than English L1 speakers do.

Morrow (1996) investigated the interventional effect on the production of complaint speech acts by learners of English in the United States. It was suggested that the positive effect of instruction was indicated by showing learners' reductions in direct request forms, reductions in explicit statements of dissatisfaction, and increases in the use of softening devices such as describing and explaining the problem.

## 2.2.6 Speech Acts of Disagreement

As with refusal and complaint speech acts, a disagreement is a speech act expressing displeasure or annoyance, and likely to cause the hearer to feel discomfort, and thus often constitutes a threat to the hearer's positive face. Rees-Miller (2000, p. 1088) defines acts of disagreement as follows:

- (1) A Speaker S disagrees when s/he considers untrue some Proposition *P* uttered or presumed to be espoused by Addressee A and reacts with an utterance the propositional content or implicature of which is *Not P*.

The act of disagreement is generally 'reactive' since it is made in response to a prior utterance (Liu, 2004, p. 48). If the prior utterance is an expression of a belief of *P* and Speaker S responds with the view of not a *P*, disagreement takes place. Thus, disagreement is both an interactional act and a speech act. For this reason, disagreement has been studied both in terms of conversational analysis (e.g., Pomerantz, 1984; Scott, 2002) and discourse analysis (e.g., Kakava, 2002; Rees-Miller, 2000).

Regardless of the context disagreement takes place in, it is inherently a face-threatening act. For fear of damaging the hearer's self-image, speakers often show hesitation to express disagreement (Beebe & Takahashi, 1989). In particular, 'native speakers rarely use the performative "I disagree"' (Kreutel, 2007, p. 3). Instead, they use various politeness strategies or mitigations to reduce the risk of face-threatening, such as starting the utterance with agreeing or positive opinion (e.g., 'yes, but...') or hedges (e.g., 'well, I don't know'). Table 7 presents the list of strategies for disagreement summarised by Walkinshaw (2007, pp. 280-281). In addition to the list, *partial agreement* (e.g., 'The shopping is good, but I don't like the crowds.') and *hesitation words* (e.g., uhm, uh, well) by Malamed (2010), and *positive comments* (e.g., 'This kind of explanation you're giving is useful in some ways, but...') and *contradictory statement* (e.g., [responding to 'None of this ever worked'] 'Yes, it did.') by Rees-Miller (2000) are presented.

Selecting appropriate strategies to mitigate the inherent face-threatening of disagreeing may not be easy for L2 learners when communicating in the target language since '[d]isagreement is culturally determined and may vary according to the situation

within a culture' (Sofwan & Suwignyo, 2011, p. 43).

**Table 7 Disagreement strategies (Walkinshaw, 2007)**

Category	Strategy	Example
On-record disagreement	Direct strategies Criticism/negative evaluation	I'm afraid I don't agree. That's not practical.
Hedging + positive politeness	Token agreement Modality Alternative suggestions	I agree with you, but ... - How about trying ...?
Hedging + complex positive politeness	Joking Giving reasons Suggesting a compromise	If we paint the room green, it'll be like living in a pile of lawn-clippings. - Why don't we try a lighter colour as well as this one?
Hedging + negative politeness	Personal opinion Question Minimize imposition	This is just an opinion, but... Do you think that would work smoothly?
Off-record disagreement	Hinting Vague response Understanding	I think someone might have the wrong end of the stick. - I suppose it isn't TOO bad...

The lack of pragmatic knowledge on the appropriate use of disagreements hinders L2 learners from achieving well-rounded intercultural communication. Thus, disagreement speech acts have also featured as a topic of cross-cultural as well as interlanguage pragmatic studies, although the amount of research conducted on disagreement is relatively sparse, compared to the studies on request and refusal speech acts.

Kreutel (2007) investigated the disagreement making by EFL learners studying in the US and found that they used mitigation devices, such as *hedges* or *explanations*, less often than English L1 speakers. Instead, what they tended to use were undesirable or blunt expressions more often. She also found that high lexico-grammatical ability was not necessarily the reflection of high pragmatic competence. Yan (2016) contrasted the use of politeness strategies in the production of disagreement speech acts by Chinese EFL learners, with that by English L1 speakers in the U.S. The findings from his study revealed that the selection of politeness strategies by Chinese EFL learners varied according to the

different social distance and social power, while English L1 speakers preferred to use positive politeness strategies regardless of the difference in social distance and social power. Yan concluded that the cultural differences between the two countries led to diverse politeness strategies, which Chinese EFL learners struggled with in their development of L2 pragmatic competence. Similarly, Liang and Han (2005) investigated disagreement strategies between American English and Mandarin Chinese and found that Chinese EFL learners used more politeness strategies than English L1 speakers when they disagreed with a superior.

Sofwan and Suwignyo (2011) examined the correlation between the English proficiency level and the selection of disagreement strategies made by Indonesian EFL learners. Their findings suggested that there was no strong correlation between the proficiency level and the production of disagreement strategies. On the other hand, Muntigl and Turnbull's (1998) study suggested that there was, in fact, a correlation between the learners' proficiency level and their choices of politeness strategies for disagreement.

Taken together, the findings from the previous studies illustrate that selection of different strategies to express disagreement varies substantially, reflecting the interlocuters' cultural differences. It shows that, to achieve successful intercultural communication, L2 learners need to develop their pragmatic competence, and further, that effective instruction to enhance their learning is not only likely to be effective, but sometimes, essential.

### **2.2.7 Speech Act Productions by Japanese EFL Learners**

Research into the realisation of request and refusal speech acts in contexts particular to Japanese culture is among the most frequently studied areas (Abe, 2017). One facet of its culture is the paramountcy that accords harmony in social interactions. Humility and modesty are deemed to be primary virtues (Matsumoto & Okamoto, 2003). This value set leads to a number of what, from a western vantage point, must appear to be extremely social constraints bearing on communication. For example, expressing one's opinion directly or straightforwardly is often considered crude to the point of being disgraceful

(Pizziconi, 2011).

In addition, and perhaps not surprisingly, Japanese society remains relatively conservative, with its maintenance of strong hierarchical social relationships. Living in such a society, Japanese people cannot escape becoming nurtured to an acute sensitivity regarding the play of such social and power distance factors, and their repercussions on the degree of intimacy attainable, or otherwise, between the interlocutors. These variables routinely bear on the degree of politeness that the speaker opts to employ, and failure to gauge the appropriate level of politeness runs a greater risk of jeopardising social mores and interpersonal relations, than would likely be the case in any English L1 society. The Japanese language features a rich honorific system to acknowledge such subtly nuanced socio-cultural distinctions (Burdelski, 2013; Nelson, 1987).

Despite Japanese people using polite expressions so deftly among themselves in Japanese, when they speak in English, counter to expectations, it often turns out to be too direct, and can come across as outright rudeness. Researchers have explained this as being partly due to the difference in the perception of politeness expressions (e.g., Aoki, 1988), low proficiency in English (e.g., Taguchi, 2006), or overgeneralisation of perceived L2 pragmatic norms (e.g., Ishihara & Cohen, 2010, 2015).

Aoki (1988) investigated the perception of politeness expressed in the Head Act among (British and American) English L1 speakers, Japanese English teachers, and Japanese English L2 learners and reported finding that there was a considerable difference among them. According to Aoki, an expression in the Head Act such as ‘May I...?’, for example, was ranked quite highly by English L1 speakers, while both Japanese teachers and learners ranked it quite lowly, lower in fact than ‘Could you/I...?’ Similarly, Hill et al. (1986) reported the difference in the perception between American participants and Japanese EFL learners.

There were also some contradictory results reported. For example, Tanaka and Kawade (1982) investigated the use of politeness strategies by English L1 speakers and advanced ESL learners, comparing them concerning how polite the selected expressions at the Head Act, for example, ‘I’d appreciate...,’ was perceived by each group. He concluded that there was no significant difference between English L1 speakers, and learners of English, in terms of the perception expressed in the Head Act, or selection of politeness strategies.

Frequent use of the ‘I want you to...’ construction by Japanese EFL learners has served as a frequent target for comparison. Kobayashi and Rinnert (2003), for example, pointed out this construction was used frequently by speakers regardless of proficiency level, and regardless of the degree of imposition on hearers. Similarly, the frequent use of imperative ‘Please + V...’ construction by Japanese EFL learners has been extensively reported (e.g., Abe & Sezawa, 2011; Akutsu, 2012; Fukazawa & Fordyce, 2005; Iwai & Rinnert, 2001; Nakano et al., 2000; Ohyama, 2006; Ohyama et al., 2009; Taguchi, 2006). Iwai and Rinnert (2001), for example, found the frequent use of the politeness marker *please* (34%) and much less use of other softeners. This was explained as likely being due to the L1 transfer of frequent use of *kudasai* in Japanese, that being most equivalent to please in English. Taguchi (2006) showed that overuse of imperatives with ‘please’, was found in the lower L2 group in situations where only two percent of native speakers used the construction. She suggested the overuse was mostly due to the fact that it is simple to construct, as merely adding ‘please’ suffices for expressing politeness.

Ohyama (2006) reported the limited performance of request making by Japanese learners of English, and put this down to a lack of grammatical and sociolinguistic competence. This is consistent with Hill’s (1997) finding that learners of low proficiency in English tended to produce direct strategies and that, as their proficiency increased, they used more indirect strategies. The frequent use of direct strategies by low proficiency level of learners was also reported in Miura (2017). In her study, almost half of the participants used direct strategies for requesting. Nakano et al. (2000) pointed out that overuse of this Please + V construction is also a corollary of its disproportionately frequent use in school textbooks.

Tanaka (1988) investigated the difference in the use of request strategies between Japanese and Australians. She draws attention to the fact that, compared to Australians, Japanese (EFL learners) prefer not to use a wide variety of request strategies even in manifold different situations. For example, Japanese are inclined to simply use ‘Can I ...?’ in various quite distinct situations, whereas Australians vary their options from a menu of indirect and tentative expressions such as ‘Do you think I could ...?’ and ‘I thought I might ...?’ (Tanaka, 1988, p. 89). She claims that this is likely because many Japanese presume ‘English is an “egalitarian” language, and therefore hardly perceive the nuances conveyed in variation at all’ (p. 94). She also ascribes to the premise that the Japanese

generally hold a stereotypical view of English speakers, misapprehending them as *always* saying things directly. Fukushima's (1996) study comparing the use of direct strategies by British English speakers and by Japanese learners of English reported similar results, that is, Japanese learners used more direct strategies.

Takahashi and Dufon (1989) and Hill (1997) made similar observations in this regard. According to them, the Japanese tend to use indirect expressions in their own culture, but when making requests in L2, learners at all levels overused direct requests. Ishihara and Cohen (2010, 2015) discuss such overuse as a consequence of the 'overgeneralisation of pragmatic norms of the L2' (Ishihara & Cohen, 2010, p. 81). They also pointed out that this overgeneralisation is likely easily drawn from the language textbooks in use. For example, one book offered guidance saying that Americans tend to speak directly, advice intended to be helpful but actually misleading, would likely prompt the learners' use of direct expressions in L2. Hill (1997) also noted that as learner's English proficiency improved, their frequency of using direct requests declined eventually to approximately the same rate that characterised native speakers.

There are some comparative studies contrasting the refusal strategies in Japanese and in English. In Japanese culture, not saying 'no' directly is often considered a virtue. To maintain social harmony and avoid conflict, Japanese people prefer the communication style of intuitive and indirect and have developed various verbal tactics to avoid an overt expression of conflict, such as 'aimai' (don't say things clearly) (Pizziconi, 2009, p. 221) or 'haragei' (heart-to-heart communication) (p. 225). These ideas have been reflected in the way that Japanese people act and speak (McKinley, 2014). Kanemoto (1993) stated that, due to the Japanese belief that refusal jeopardises a personal relationship, they tend to use strategies to avoid direct refusal, such as avoiding a clear refusal, or creating a reason not to sound offending, while Americans were seen to prefer stating a clear refusal, that being construed as more constructive and honest. Therefore, Japanese ESL students living in English speaking countries often avoid saying 'no' directly. However, '[t]he inability to say 'no' clearly and politely, though not too directly, has led many non-native speakers to inadvertently offend their interlocutors' (Takahashi & Beebe, 1987, p. 133). Beebe et al. (1990) compared the use of refusal strategies and found that Japanese EFL learners and American English L1 speakers differed in three respects: the order of the semantic formula, the frequency of the formula, and the content

of the utterances. For example, Americans are likely to articulate refusals clearly by giving specific explanations, while Japanese opt to avoid giving clear explanations. Americans tend to use indirect refusal strategies, regardless of the difference in power and social status between the interlocutors, whereas the Japanese use the strategies differently in accordance with the social and power status of the hearers. They showed that Japanese L2 learners' utterances are characterised by pragmatic negative transfers from Japanese to English.

There are some studies on the production of complaint speech acts by Japanese English learners, though the number is limited. For example, Nakabachi (1996) investigated Japanese English learners of intermediate level to find out if there was a difference in expressing complaints in English and in Japanese. The results of his study indicated that Japanese EFL learners tended to use more direct complaint expressions in English than in Japanese, especially in situations where a complaint with high severity is made against the interlocutor with a low degree of intimacy.

Rinnert and Iwai (2003) also pointed out that Japanese learners of English tended to express their complaints more directly. They investigated the production of complain speech acts in two situations: complaining to a friend and complaining to a professor. The complaints made by Japanese EFL learners were compared with those by English L1 speakers and other ESL learners studying in Singapore. Their study showed that in either of the two situations, Japanese learners used direct complaint expressions more than the other two groups did.

Regarding the structure of complaint speech acts, in cases when complaining to friends, Japanese learners tended to express only the main part of the complaint (expressions of negative evaluation, including a justification for complaining) or with a structure of complaints + requests (e.g., 'Recently, you come home very late and make a lot of noise. I can't sleep, please be quiet at night.'). On the other hand, the use of *initiators* (greetings and other rapport markers) and *complaints + requests* by Japanese students were much less than those by the other two groups. Especially regarding the use of initiators, 56% of the production was without an initiator, while only 32 % of production by English L1 speakers was without an initiator.

When complaining to a professor on the other hand, Japanese learners produced the complaint speech acts that are composed of three segments, initiator, complaint and

request, but still one third of the total production was only with the main part of the complaint, or the combination of *complaints + requests*, while those with only the main part of complaint produced by English L1 speakers was only 10%.

In addition, the use of mitigations by the Japanese group was far less than in the other two groups. 70% of Japanese learners never used the mitigation in both situations, while only 10 - 15% of the participants in the other two groups did not use mitigations at all.

Fukazawa and Yamauchi (2015) reported results slightly different from those reported by Nakabuchi (1996) and Rinnert and Iwai (2003). They investigated the production of complaint speech acts in eight situations by Japanese and Thai advanced English learners. Their results indicated that both Japanese and Thai groups express their complaint using mostly indirect expressions when they complain to an interlocutor with a higher status (e.g., professor or host family), a little less using indirect expression when complaining to an interlocutor with a similar status (e.g., a friend or a stranger close in age). Unlike Nakabuchi and Rinnert and Iwai, they reported that no utterances using extremely direct expressions were observed. Due to the small sample size, Fukazawa and Yamauchi are cautious about linking directness and proficiency level, however, it is also important to note that their subject students are advanced learners who had participated in an intensive language course for 15 weeks while living in a homestay in the U.K., which may have affected the results, making them different from those reported by Nakabuchi (1996) and Rinnert and Iwai (2003). Furthermore, regarding the use of mitigations, both Japanese and Thai learners did use them but limited types of mitigations, for example, only three types of downgraders: *play-down* (e.g., using the past tense as in *I wanted to ask...*), *minus committer* (e.g., *I think...*, *I believe...*), and *scope-stater* (e.g., *I'm afraid...*) (the last two correspond to *subjectivizer* in Hudson et al., 1995). Overall, the majority of the previous studies showed that Japanese EFL learners tended to use direct complaint strategies with limited mitigation devices when producing complaint speech acts in English.

With respect to those studies on disagreement speech acts that actually focused on production by Japanese EFL learners, Beebe and Takahashi's (1989) work is probably the most well-known. They reported that the Japanese changed politeness strategies in line with perceived social status differences. Japanese learners of English did not always avoid

disagreement and sometimes used more direct strategies than Americans in the power-equal situation, while in the power-unequal situation, they actually used more indirect strategies than did the Americans. LoCastro (1986, p. 19), on the other hand, reported that ‘the Japanese informants showed more hesitation and more indirectness as they tended to try to avoid offending their conversational partners.

Nakajima (1997) investigated the acquisition of politeness strategies in English by Japanese businessmen in the workplace. He concluded that exposure to specific experiences in the target culture was an important key to developing the ability to make refusal and disagreement in a manner ‘Americans tend to prefer’ (p. 62). Walkinshaw (2007) also investigated Japanese learners of English, in this case, studying in New Zealand. The findings from his study suggested that the Japanese learners of English were ‘linguistically capable of performing disagreement speech acts with native speakers’ but preferred not to do so with power-unequal interlocutors. In a teacher-student asymmetric situation, the Japanese students were inclined to take a stance along the lines of, ‘Just agree with everything the teacher says’. Nevertheless, Walkinshaw contended that if the language classroom offered a controlled environment for learning negative speech acts, it could be an ideal starting point for such training.

As shown above, speech acts have been extensively studied in the field of ESL/EFL learning, and some positive effects of pragmatic instruction on the development of pragmatic ability have been reported. In particular, the effect of instruction that served to enhance learners’ pragmatic awareness and encouraged their learning and using of the more appropriate use of English reported by Kondo (2008) and Tanaka and Oki (2015) in Section 2.1.6 is notable and relevant to the current study.

## **2.2.8 Summary of Reviewed Literature on Pragmatics Teaching and Speech Acts**

The first half of this chapter reviewed the literature related to pragmatics and teaching L2 pragmatics, and theories and related studies on speech act production. The two main theoretical frameworks, Politeness Theory proposed by Brown and Levinson (1987) and Speech Act Theory originally developed by Austin (1962) were reviewed.

Politeness Theory was employed to explain how adversary conducts that threaten

one's face, namely FTA is defined, and what strategies are used to minimise the occurrence of FTA. The four politeness strategies proposed were bald on-record, positive politeness, negative politeness and off-record strategies; and three factors that determine the level of politeness: power variables (P-, P+), social distance (D-, D+) and level of imposition (R) were introduced. This theory has been referred to in various ILP studies on speech act constructions, including the current study.

Speech Act Theory was adopted to explain a key tool to assess learners' pragmatic ability to comprehend and construct speech acts. Given that speech acts are language-specific and linked closely to the cultural convention, constructing contextually appropriate speech acts was shown to be essential for successful communication in L2.

Findings from previous studies on four speech acts, request, refusal, complaint and disagreement constructions, and the different strategies used were reviewed to deepen our understanding on how pragmatic competence is developed. Common to the findings from previous studies on these four speech acts was the limited use of indirect strategies by L2 learners before receiving instruction, and that explicit instruction was beneficial for L2 learners to improve their pragmatic ability by enhancing their pragmatic awareness. The review of the literature suggested that, in order to achieve successful intercultural communication, L2 learners need to develop their pragmatic competence, and further, that effective instruction to enhance their learning is not only likely to be effective but sometimes, essential.

### **2.3 Review of Cognitive Approaches to L2 Pragmatic Learning and Development**

This section reviews the cognitive based theories this study draws upon (e.g., cognitive architecture) to account for L2 pragmatic learning and development and the related studies. L2 pragmatic development within ILP, an interdisciplinary field of pragmatics and SLA, has been studied by different scholars from a variety of perspectives. For example, Kasper and Rose (2002, p. 13) find five different theoretical approaches for explaining L2 pragmatic development: acculturation model, cognitive processing, sociocultural theory, language socialisation, and interactional competence. Among these, cognitive processing theory is the most relevant to the current study.

This section provides a critical overview of relevant cognitive theories for L2 pragmatic development, namely Noticing Hypothesis, Output Hypothesis, and Bialystok's two-dimensional model, and then turns to focus on the two theoretical approaches the current study is based on: ACT-R model proposed by Anderson (e.g., Anderson, 1982, 1993, 2007; Anderson & Schunn, 2000; Tenison et al., 2016) and skill acquisition theory by DeKeyser (2007, 2015, 2017). In the ACT-R model, the interaction of memory plays a crucial role. Literature related to this topic, such as Cognitive Load theory, the role of working memory in L2 development and the brain's memory system, are reviewed. Finally, studies on L2 pragmatic development based on the ACT-R model are reviewed.

### **2.3.1 Noticing Hypothesis**

In the previous section, explicit instruction was shown to yield better results than an implicit approach. The preference for explicit instruction is often argued for on the grounds of the noticing hypothesis, since this attaches importance to the role of consciousness in L2 learning. For example, Schmidt's (1990, 1993a, 1995) Noticing Hypothesis, one of the most influential hypotheses in L2 pragmatic research, claims that noticing L2 features is essential for learning to occur in SLA. Learners need to pay attention to the language form, recognise its existence and ultimately learn, and further that what learners' notice in input becomes intake for learning.

Schmidt's (1990) claim that input must be noticed to be intake has been challenged by theorists who consider that language learning is primarily an unconscious process (Chomsky, 1965, 1982) or that the SLA largely results from an unconscious 'acquisition' system (Krashen, 1981). Curran and Keele (1993), for example, reported the research results that suggest the possibility of unattended learning, investigating the learning of sequential patterns of behaviour. Schmidt (2012) admitted that learning might occur without awareness, as in the case of learning abstract rules by native speakers who have intuitive knowledge on them. He also admitted that some L2 features are less noticeable than others. Therefore, some forms require more attention than other forms. The solution proposed by Schmidt was to distinguish two levels of awareness: a low level of awareness,

called ‘noticing’ referring to ‘conscious registration of attended specific instances of language’ (Schmidt, 2012, p. 32), and a high level of awareness, called ‘understanding’, referring to the recognition of generalisations across instances. ‘Knowledge of rules and metalinguistic awareness of all kinds belong to this higher level of awareness’ (p. 32). Noticing is associated with ‘surface level phenomena’ (e.g., item learning), whereas understanding refers to deeper level abstraction’ (e.g., language system learning). In other words, attention is required for learning but not necessarily so for understanding (Schmidt, 2012).

For L2 pragmatic learning, noticing is necessary, since pragmatic features have to be noticed to become available for further processing. In sum, Schmidt’s hypothesis predicts the following (1) without attention, no pragmatic learning takes place, (2) the more attention paid, the more pragmatic learning takes place, and (3) understanding leads to better learning than mere noticing.

Despite a fair amount of criticism on Schmidt’s Noticing Hypothesis, many researchers support Schmidt’s claim, ‘there is no learning without attention’ (Schmidt, 1995, p. 9). Especially, this is true with L2 pragmatic learning. Since many pragmatic aspects are not salient enough for learners to notice, an instructional intervention that helps learners enhance their awareness of the pragmatic features is necessary. For example, Eslami-Rasekh (2005) argues that raising pragmatic awareness is necessary to facilitate learners’ fluency in communication. A positive impact of instruction aimed at raising students’ pragmatic awareness has been reported (e.g., Kasper, 1997). Bardovi-Harlig (2001) found that instructed students attended more to pragmatic inappropriateness than those who were not instructed. Kasper and Rose (2001) suggested that pragmatic instruction serves to raise the pragmatic awareness of the learners. Bardovi-Harlig and Mahan-Taylor (2003, p. 5) also point out that awareness-raising is the ‘ultimate benefit’ available to learners.

Therefore, the main goal of instruction in pragmatics is to raise learners’ pragmatic awareness, which assists the learners in improving their pragmatic competence and enhancing smoother interactions in the target language. Ultimately, it helps learners become familiar with the range of pragmatic practices in their L2. In this study, raising learners’ pragmatic awareness was placed as one of the primary purposes in designing and implementing pragmatic instruction in the EFL classroom.

### 2.3.2 Output Hypothesis

Swain's (1985, 1995, 2005) Output Hypothesis was formulated in reaction to Krashen's sole Input Hypothesis, *comprehensible input* (Krashen, 1985) alone is not sufficient, and output is essential for L2 acquisition. According to Swain (1995), output has the following three functions, and each of them plays an important role in language acquisition.

1. **Noticing function:** When producing the second language, it causes learners to notice gaps in their linguistic knowledge.
2. **Hypothesis testing:** Learners actually test their hypothetical language.
3. **Metalinguistic function:** By constructing language, learners reflect on their language use.

Jernigan (2007) summarises how these three functions work in L2 pragmatic development in Table 8.

**Table 8 Effect of output on developing L2 pragmatics**

<b>Output Function</b>	<b>Proposed Effect on Developing L2 Pragmatics</b>
Noticing/Triggering	As learners attempt to produce pragmalinguistic forms (speech acts), they realise that they cannot accurately convey their intended meaning, which triggers their seeking input from others or searching their own developing systems for more appropriate forms.
Hypothesis Testing	In response to input or feedback that targets their production of speech acts, learners conduct 'trial runs' (Swain, 2005) in which they modify their pragmatic output.
Metalinguistic/Reflective	When learners are required to struggle over the production of pragmalinguistic forms, they use language to reflect on the form and function of the speech acts being attempted.

As seen above, output helps L2 learners accommodate the target language's norms for pragmatic performance (Cohen, 2012). Certainly, ensuring rich input to initiate the development of pragmatic competence is indispensable, but output is equally important to progress the development. Especially, building the ability to comprehend and produce speech acts adequately requires knowledge of form-meaning-function/context

correspondence. Learners must conduct ‘trial runs’ of the hypothetical construct of speech acts and analyse if the construct is in accordance with a given context. Whether the speech acts constructed by learners are appropriate is, of course, only possible to be confirmed at the stage of output.

Swain and Lapkin (1995) argue that output serves to enhance the learners’ noticing function. They presented research results indicating that output helped learners to notice the problems in their own writing. Similarly, Uggen (2012) investigated the noticing function of output, and reported results showing the influence of output on learners’ subsequent noticing of vocabulary and linguistics limitations on grammar structures.

Counterevidence was also provided. For example, VanPatten (1996), supporting sole input analyses, argues that L2 learners will begin to notice the target language form only if it is present and comprehended in input. Similarly, Cadierno (1995) and Benati (2005) presented a review of classroom studies indicating that there was no clear evidence of positive effects for production practice.

Researchers supporting roles for output independent of those for comprehensible input have accumulated evidence in favour of roles for output (e.g., Izumi & Bigelow, 2000; Pica, 1994; Swain, 2000; Van Den Branden, 1997).

From an information processing perspective, de Bot (1996, p. 553) argues that output plays an essential role in SLA, serving to enhance ‘fluency by turning declarative knowledge into procedural knowledge. Output can also play an indirect role in the acquisition of declarative knowledge by triggering input that the learner can use for the generation of new declarative knowledge’.

It is quite plausible to assume that procedural knowledge, knowledge to perform, can be developed through the repeated and meaningful output practice. Thus, output practice is indispensable for the development of L2 pragmatic competence.

### **2.3.3 Bialystok’s Two-dimensional Model**

Bialystok (1990, 1993) proposed a two-dimensional model that accounts for L2 proficiency development and the mechanisms that trigger L2 acquisition in adult learners. According to Bialystok, language development involves two different cognitive

functions: knowledge analysis and processing control. Knowledge analysis concerns mental representations of linguistic features that are already known by L2 learners and account for the changes the learners undergo during language development. Control processing, on the other hand, addresses the learner's ability to acquire that knowledge. This means that learners can select the most important language features and combine them to convey the message in the most efficient way.

Bialystok's model can be applied to account for L2 pragmatic learning. In fact, Li (2014) adopted the model to explain the development of learners' ability to construct request speech acts and showed how both knowledge analysis and processing ability that complement each other need to be taken into consideration, if we are to draw a comprehensive picture of pragmatic development.

#### **2.3.4 ACT-R Model and Skill Acquisition Theory**

DeKeyser is probably one of the most well-known advocates of skill acquisition theory in the field of SLA. His skill acquisition theory is one of several competing theories of skill acquisition, which draws on Anderson's ACT/ACT\* model (Anderson, 1976, 1982, 1987, 1992), or the ACT-R theory (Anderson, 1993; Anderson et al., 2004; Anderson & Fincham, 2014). ACT-R is an elaborated version of the original ACT, and this study uses it as a collective term. It is a cognitive theory grounded in psychological theory (Tenison et al., 2016), and according to DeKeyser (1998, p. 48), this 'model is the most widely accepted model in the cognitive psychology of skill acquisition'.

ACT-R theory distinguishes two types of knowledge: declarative knowledge and procedural knowledge. Declarative knowledge is defined as factual knowledge 'we are aware we know and can usually describe to others' and 'is represented in terms of chunks', and procedural knowledge is defined as 'knowledge that we display in our behaviour but that we are not conscious of' and 'basically specifies how to bring declarative knowledge to bear in solving problems' (Anderson & Lebiere, 1998, p. 5). Procedural knowledge is represented in the form of production rules (Anderson, 1993; Anderson & Lebiere, 1998). One of the main claims of this theory is that declarative knowledge is reconstructed into procedural knowledge, which is further automatised through repeated and meaningful

practice.

In skill acquisition theory, language learning is conceived as a part of general human learning, and practice plays a prime role in progressing learning. This theory assumes the linkage between practice and performance in such a way that performance initially requires time, full attention and the substantial effort of an individual, but eventually can be carried out faster, almost effortlessly, and with greater accuracy, after repeated and meaningful practice.

Anderson (1982) described such a learning process in his ACT-R model as having two major stages together with a transitional period between the two stages, which corresponds to Fitts's (1964) three stages (cognitive, associative, and autonomous). For Anderson, these stages could be understood as a shift from using declarative knowledge to using procedural knowledge. The first stage is the declarative stage, where learners acquire declarative knowledge (e.g., to stop the car, you need to use a break) either under instruction or by self-education. Learners' use of knowledge is still slow because it needs to be interpreted into procedures to generate performance. In this stage, facts are commonly rehearsed through verbal mediation in order to keep them available in working memory for the interpretive procedure. In his ACT-R model, the facts are represented as a propositional network.

The second is a procedural stage, and is associated with the use of procedural knowledge, which is to say, knowledge of *how*, as encoding behaviour (e.g., performing the act of stopping a car). In this stage, there is further learning/tuning on procedural knowledge to achieve faster and more appropriate performance. Procedural knowledge in the ACT-R model is encoded rule-like units (condition-action units) called *production rules* or simply *productions*, which specify certain conditions and actions to be taken when those conditions are met.

For the transitional period from declarative to procedural knowledge, Anderson (1982, p. 370) posits a process called 'knowledge compilation' or later called 'production compilation' (Anderson et al., 2004, p. 1045) (in the current study, 'production compilation' is primarily used unless otherwise specified). Production compilation combines two sub-processes: *composition* and *proceduralisation*.

In production composition, sequences of productions are collapsed into a new single productions, while proceduralisation 'embeds factual knowledge into productions'

(procedural knowledge) (Anderson, 1982, p. 369). Production compilation speeds up process of retrieval of declarative memory that is a very slow process, because only one memory can be retrieved at a time and produces task-specific procedural knowledge or specific production rules (see Section 3.1.4 for a more detailed explanation). By proceduralisation, direct access to procedural knowledge becomes available without recourse to other interpretive procedures, and as a result, errors are eliminated gradually, and learners begin successfully performing the skill without much reliance on declarative knowledge.

However, Anderson (2009) also points out that two types of knowledge still coexist side by side during this period. Thus, for example, while speaking a target language fluently, learners ‘still remember many rules of grammar’, though their procedural knowledge now dominates declarative knowledge (1993, p. 244). As such, production compilation is explained as serving to eliminate several production processes, which reduces the load on working memory and, consequently, leads to smoother and less erroneous performance.

DeKeyser (1997) introduced skill acquisition theory into SLA, based on the premise that learning a second language is on par with learning other skills, transforming the initial representation of knowledge into the form of behaviour. He conceptualises the language learning process in three stages: declarative, procedural and automatization. In the declarative stage, similar to Anderson’s declarative stage, learners acquire declarative knowledge, including specific rules such as ‘an English verb takes a final -s in the third person singular’ (DeKeyser, 2017, p. 16). At this stage, declarative knowledge is consciously learned and often verbalised. The repeated practice of using declarative knowledge enhances the activation of the knowledge enabling it to develop into the next stage, the proceduralisation stage.

The proceduralisation stage corresponds to Anderson’s production compilation process. According to DeKeyser (2001), the term ‘proceduralisation’ was no longer used, but instead ‘production compilation’ was used since Anderson and Lebiere (1998). During this process, declarative knowledge is acted on and interpreted into procedural knowledge. In this stage, a program for a specific behaviour becomes available as a ‘ready-made chunk’ that is ‘called up in its entirety each time the conditions for that behaviour are met’ so that an individual does not need to retrieve numerous bits of

declarative knowledge each time from memory (DeKeyser, 2015, p. 95). This serves to reduce the consumption of working memory. In this stage, a learner's performance is still slow and filled with errors at the beginning. A large amount of practice is still needed until the knowledge becomes robust and fine-tuned. After extensive practice, the learner reaches the final stage of automatization, where his/her performance becomes fast and accurate without conscious effort.

Although there are slight differences in defining learning stages between Anderson and DeKeyser, their basic ideas on the learning process are the same in that learners start with the declarative knowledge stage, where declarative knowledge is mostly used, then move up to the procedural knowledge stage with repeated and meaningful practice. In this stage, procedural knowledge is primarily used, but still, learners need a little effort to execute language behaviour, and then learners move up further to the final stage of automatization, enabling more automatic use of the target language, brought about through practice.

Concerning practice, there is another important concept within skill acquisition theory, that is, the power law of practice. It is said that 'the rate and shape of improvement are fairly common across tasks', and the learning curve often follows the power law of practice (Ritter & Schooler, 2001, p. 3). This concept is at the core of skill acquisition theory claiming that 'a wide variety of skills shows a remarkable similarity in development from initial representations of knowledge [...] to eventual fluent, spontaneous, essentially effortless, and highly skilled behavior' (DeKeyser, 2015, p. 94). Thus, in this theory, L2 learning is considered to follow the same progressive stages as other skill learning (Chapelle, 2009).

#### **2.3.4.1 ACT-R Model and Skill Acquisition Theory: Cons**

Like many other SLA theories, both the pros and cons of skill acquisition theory (more specifically, ACT-R theory) have been pointed out (Taie, 2014). One of the problems often taken up is the lack of a commonly agreed operational definition. Anderson's original ACT model has evolved or been modified over the decades leading to its current incarnation. Under this transition, modified versions of this theory have been employed

differently by different researchers. Even some of its fundamental concepts of chunks, proceduralisation and knowledge compilation have been interpreted and defined differently, and sometimes identical terms signify differently leading to some ambiguities creeping into researchers' use of its terms. Sometimes, Anderson himself changed the term (e.g., from knowledge compilation to production compilation) without disclosing any specific reasons why. This has caused some confusion among readers as well (Whitehill, 2013). To bring clarity to this matter and minimise confusion, I made a list of relevant definitions in Table 9 and showed which definition the current study applied.

Another problem is regarding the relationship between declarative and procedural knowledge. The dichotomy is often associated with the relationship between explicit and implicit knowledge. Skill acquisition theory (e.g., DeKeyser, 1997; 2015) takes a strong interface position, as evident in their claim that declarative knowledge transfers to procedural knowledge through proceduralisation or production compilation. This position has been challenged by researchers supporting the 'no interface' position, who claim that explicit/declarative knowledge cannot be converted to implicit/procedural knowledge (e.g., Krashen, 1981, 1982; VanPatten, 1996), and also by researchers holding the 'weak interface' position, which explains that explicit knowledge converts to implicit knowledge both directly through explicit rule presentation and indirectly through *noticing* (in the sense of Schmidt, 1993a) (e.g., Ellis, 2005; Ellis, 1994).

DeKeyser explains the problem of explicit to implicit knowledge conversion as being caused by the common misunderstanding of the concept of declarative knowledge 'turning into' procedural knowledge (2015, p. 103). It is 'somewhat misleading wording' such as *convert* or *transform* declarative knowledge into procedural knowledge (DeKeyser, 2017, p. 19). He understands declarative knowledge itself does not change but is embedded into procedural knowledge. In fact, Anderson uses the expression 'embeds factual knowledge into productions' (Anderson, 1982, p. 369). Karimata (1996) points out that knowledge representation in the ACT-R can be better understood as schema, as it is built in blocks that can be embedded into other knowledge representations. This will be discussed more in Section 3.1 and Section 3.3.1.

**Table 9 Comparison of the definitions**

	<b>Anderson</b>	<b>DeKeyser</b>	<b>Others</b>	<b>Current Study</b>
<b>Chunks</b>	Ready-made chunks are declarative knowledge (DK).	Not very clear, but DeKeyser (2015) refers to the chunk as procedural knowledge (PK).	Schmitt (2010): a <i>chunk</i> on a par with formulaic language. (Ellis, 2003): slot-and-frame patterns. Wood (2002): formulaic language units.	Ready-made chunks are DK. In speech act construction, a chunk is referred to as a component making up a sequence of speech acts such as ‘Could you..., please?’ or ‘I am wondering if you could...’
<b>Production rules</b>	Procedural knowledge is represented in production rules. There are two types of production rules: a general production rule in the form of DK, and a specific production rule in the form of PK.	Not explicitly mentioned, but presumably, the production rule is the rule to be executed to turn declarative knowledge into a behaviour.	Taatgen (2005): both general and specific production rules are procedural knowledge. A specific production rule is fixed and applied only to a specific task, while general production rules are modifiable to apply to a new task.	Both general and specific production rules are procedural knowledge. A specific production rule is fixed and applied only to a specific task, while general production rules are modifiable to apply to a new task.
<b>Proceduralisation</b>	A subprocess of production compilation, converting DK into PK in the ACT model. In the ACT-R model, the term proceduralisation is replaced by production compilation.	The process to proceduralise DK and defines the second learning stage as a procedural stage.		The process of production compilation includes the process of proceduralise DK.
<b>Others</b>	Expressions: replace/transfer declarative to procedural knowledge. DeKeyser (2015) points out that using expressions such as replace or transfer declarative knowledge to procedural knowledge is problematic as it sounds like declarative knowledge will be changed into something completely different. Instead, he explains that declarative knowledge is like a Lego block or a building block. Blocks are combined into chunks. Chunks are then embedded into a schema (a production rule or a set of production rules). Anderson actually uses the word ‘embed’, as in ‘embeds factual knowledge into productions’ (Anderson, 1982, p. 369). The current study is in line with DeKeyser; understanding declarative knowledge is like a Lego block, assembled into a chunk or a bigger part of an utterance.			

DeKeyser (2015, p. 103) further points out that the word conversion implies that ‘the more procedural knowledge there is, the less declarative knowledge’, which often is not true. He instead explains that declarative knowledge (chunks) is like a building block that can be combined to make a prefabricated production rule. That means declarative knowledge is like a single Lego block remaining intact as a single unit, albeit subsumed into the Lego house.

Yet another problem is regarding DeKeyser’s claim that the effect of practice is skill-specific, which is also often questioned, as this idea is considered to disregard ‘the creative potentials of human being’ (Taie, 2014, p. 1974). Furthermore, the unidirectional shift of knowledge from declarative to procedural is challenged, as it fails to account for the incidental learning of vocabulary and grammar in L2, which does not need a declarative stage (Ellis, 2009).

It should be noted, however, that Anderson’s original ACT model has continuously evolved somewhat with modification to the current version of ACT-R. In the newer version, some sort of solution to the problems mentioned above has been provided. For example, regarding the directionality of knowledge shift, Anderson (1993) admitted to the possibility of the coexistence of declarative and procedural knowledge during the transitional period (knowledge compilation), and confirmed it with neurocognitive testing on the activation of specific brain regions relevant to the process of proceduralisation (Anderson et al., 2004). Similarly, DeKeyser (2017) recently considered that knowledge progression is not necessarily unidirectional as there is a case where procedural knowledge, which learners acquire in naturalistic ways or in an environment such as immersion class, can be developed without drawing on declarative knowledge. As for the restriction of skill specificity, DeKeyser (2015) argues, instead, the need to create more versatile procedural rules out of declarative knowledge that can be applicable across a broad range of tasks.

Anderson and Schunn (2000) also argue that the skill transfer between tasks is possible when the tasks share either declarative knowledge chunks or productions in procedural memory. As evident in the ACT-R model, procedural skills are acquired by referring to the past problem solution while actively trying to solve new problems to meet the new situation. That means, knowledge learners obtained from the past experience can be extended and utilised into action to be taken in a new situation. This learners’ ability

of knowledge extension is a key topic for the current study and will be discussed in detail in Chapter 3.

#### **2.3.4.2 ACT-R Model and Skill Acquisition Theory: Pros**

Despite the criticisms mentioned above, the advantages of adopting the skill acquisition theory have also been well recognised. For example, Parziale and Fischer (1998), pointed out that this theory can be employed in both short and long term studies as well as cross-sectional (cognitive, social and language) studies on L2 development. The current study, with its short-term investigation into L2 pragmatic development, does indeed receive this benefit.

Another benefit is that this theory provides a useful way of understanding L2 development by adult learners in the classroom setting (Lyster & Sato, 2013), as DeKeyser (2015, p. 101) pointed out, ‘Skill Acquisition Theory is most easily applicable to what happens in (a) high-aptitude adult learners engaged in (b) the learning of simple structures at (c) fairly early stages of learning in (d) instructional contexts’ which perfectly fit in with the purpose of the present study. In addition, skill acquisition theory attaching a high value to the role of practice provides insights on EFL teaching in the classroom, suggesting what activities and practices are considered valuable. For example, DeKeyser (2001) suggested that through explicit teaching, students can perceive the new structure and process its form-meaning relationship, finally being able to acquire it. In skill acquisition theory, repeated and meaningful practice to improve the transition of student knowledge from declarative to procedural knowledge is considered desirable. This idea is supported by Yamaoka (2005), arguing that imitation, repetition, and pattern practice are essential for the development of declarative knowledge to procedural knowledge in the Japanese EFL setting.

### 2.3.5 Working Memory in ACT-R

As discussed earlier, skill acquisition theory takes a strong interface position on the relation between declarative and procedural knowledge. This position is reflected in the architecture of the ACT-R 6.0, where the two types of knowledge interact via buffers (see Section 3.1).

Anderson stated, ‘ACT-R does not have a formal concept of a working memory’, but at the same time, he said, ‘the current state of the buffers constitutes an effective working memory’ (Anderson, 2005, p. 315). Furthermore, Anderson acknowledges that there are many similarities between these buffers and Baddeley’s (1986) working memory ‘slave’ systems. Thomson et al. (2014, p. 1) also point out that ‘[t]he set of buffers therefore implicitly constitutes the working memory of the architecture’. As such, these buffers are considered to be equivalent to working memory (see also, Lewis & Vasishth, 2005).

The existence of a knowledge interface has also been suggested by studies on working memory in information processing (e.g., Baddeley, 2012; Lovett et al., 1999; Ullman, 2004). For example, Ullman (2001, 2004) and Ullman et al. (1997) argue that language processing is primarily a function of the interaction between ‘declarative’ and ‘procedural’ memory systems through working memory. When working memory is at work, the information of declarative knowledge is selected, sorted out and assembled into one unit, called a chunk, which is retrieved from, or filed back into, long-term memory.

In contrast to Baddeley’s multicomponent model or distinct memory system, an alternative view of a single memory system has been proposed. For example, Engle et al. (1995) assume a single memory system that is responsible for both short and long term storage. Cowan’s (2019) embedded-process model conceives working memory as the activated part of long-term memory. This view is supported by the findings from recent cognitive neuroscience, which will be presented in detail later in Section 2.3.8.

The question of whether or not working memory is part of long-term memory is beyond the scope of the current study, but the salient point being that working memory as a type of short-term memory does have important implications. Working memory or buffer can store one piece of declarative chunk temporarily at a time. It has a limited capacity, practically all of which is necessarily devoted to the task operation in hand.

Therefore, while it keeps the task-relevant information throughout the duration of the operation, as described in Collins (2018), it does not retain it beyond. This limited capacity of working memory is another important hypothesis that the ACT-R is built on. Since working memory has such a limited capacity, when used to do two tasks concurrently, what manifests is a trade-off between two tasks. This is called a trade-off function (Collins & Frank, 2018), which is defined more precisely in Cognitive Load Theory, which will be discussed more in the next section. What is important here is how effectively the limited capacity of working memory is used is the key to successful task operation as it affects the processing function operated in the central procedural system.

### **2.3.6 Cognitive Load Theory**

Cognitive Load Theory was developed by Sweller (1988), based on Miller's (1956) information processing framework that states 'cognitive load' is associated with the amount of information working memory can hold at a given time. According to Sweller, working memory can generally hold between five and nine items (or chunks) of information at any one time, putting it to use for processing and storing the information.

Since working memory has such a limited capacity, whenever much of that capacity is occupied with one task, very little remains available for other tasks (Sweller, 1988). For instance, if memory is used for recalling some words, it has only a little capacity left to handle other tasks, such as creating more strategic speech acts that meet the given context. Paas et al. (2004) state two ways of freeing the working memory: *schema construction* and *automation*. In the Cognitive Load Theory, elements of information organised into one unit are called schema. Such schemas enable learners to categorise multiple elements of information as one item, for example, combining lower-level schemas to form higher-level schema, and thereby, in turn, constructing more complex schemas progressively. Regardless of how complex a schema is, working memory treats it equally as a single unit, which reduces the load on working memory. After repeated practice, schemas can become automated, creating for learners further opportunities to bypass the constraints otherwise imposed by working memory's limited capacity. As can be imagined, this strategic enhancement opens up vast scope for improvement of learners'

performance.

The schema construction and automation that reduces working memory load in the Cognitive Load Theory finds an almost exact conceptual counterpart in the *production compilation* and *automatisation* proposed in Anderson's ACT-R model. In fact, Sweller (1994) pointed out the employment of schema-based solutions in Koeding and Anderson's (1990) ACT-R model, albeit with alternative terminology (e.g., ready-made chunk or general production rules). Anderson (1996, p. 356) himself uses the term schema when referring to chunks as 'schema-like structures'.

Karimata (1996, p. 13), in passing, also uses the term schema to refer to knowledge representation in the ACT-R. According to Karimata, 'knowledge representation in the ACT-R is built-in blocks that can be embedded into other knowledge representation', thus better understood as schema. The present study also uses the term *schema* to refer to the cognitive construct that organises the elements of information conveyed by speech acts such as request making, as this represents a particular scene retrievable as a schema. This will be discussed in detail in Section 3.3.1.

Cognitive Load Theory is employed in many other studies in second language learning as it provides useful insight on the role of working memory in L2 development. The findings from previous research on the role of working memory in L2 development are reported in the next section.

### **2.3.7 The Role of Working Memory in L2 Development**

The role of working memory in L2 development has been a topic of recent SLA studies. A great deal of research has been conducted to find out how the reduction of cognitive load serves to develop fluency in L2 performance. For example, Nawal (2018) demonstrates the effect of reducing the working load on improvement in L2 writing. Suek's (2018) study on teaching tenses for L2 learners applied the Cognitive Load Theory and indicated that reducing the cognitive load contributed to positive learning outcomes. Diao et al. (2007) investigated the effects of written presentation on comprehension of spoken English by EFL learners and on their mental load, in an endeavour to find out the effect of memory trade-off between two tasks. The findings indicated that the presence

of both a script and subtitles led to improvement in understanding a passage but had a negative effect on the construction and automation of listening comprehension.

The role of working memory in L2 language processing is also an important topic in much SLA research. For example, Leiser (2007) examined how working memory capacity affects the reading comprehension and processing of future tense morphology by Spanish learners. Leiser found that memory capacity had some effect, but not so much as learners' previous knowledge about text topics had on the comprehension and processing of the grammatical form. The interaction between working memory and language proficiency was investigated by Van den Noort et al. (2006), and showed that working memory is a predictor of overall proficiency. Lee and Révész (2021) investigated the effects of working memory mediating effects on the capping of attention and L2 grammatical development by Korean learners of English. Their research results confirmed the positive effect of working memory moderating the effects of capping, but also revealed that the different working memory components (the central executive system, visual-spatial short-term memory and the short-term phonological memory) have different effects on attention and L2 development. By the same token, Park et al. (2013) showed that the different degrees of the cognitive load were distributed to different brain areas.

As such, the interaction between the role of working memory and L2 development has been intensively studied, along with the question of how effectively the memory should be distributed in language processing to seek effective ways of designing instruction to bring better learning outcomes.

The current study investigated the effect of using formulaic expressions such as *I was wondering if...*, and other indirect strategies associated with a specific speech act schema, which are claimed to reduce the processing load on working memory. This will be discussed further in Section 3.3.2.

### **2.3.8 Memory Systems of the Brain and Linguistic Processing**

The recent development of the ACT-R model is associated with recent advancements in neuroscience and imaging technology, which provide cognitive neuroscientific data to

this cognitive model, enabling deeper insight and understanding of human cognition.

Advanced neuroscience technology and neurofunction imaging devices such as fMRI (functional Magnetic Resonance Image), NIRS (Near-Infrared Spectroscopy), and ERP (Event-Related Brain Potential) have enabled scientists to examine more closely specific regions of brain memories, and associated neurons involved in forming memories. Increasing use of these technologies from cognitive neuroscience enables researchers to find out where language is processed (e.g., by using fMRI) as well as when and how it is processed (e.g., by using ERP) (Sabourin et al., 2013), and has accelerated research into language processing in the brain (e.g., Anderson, 2007, 2009).

In the ACT-R model, each module is linked to a specific area of the brain. For example, the declarative module is linked to the prefrontal cortex, the retrieval buffer to the ventrolateral prefrontal cortex (VLPFC), the procedural module to Basal Ganglia/Caudate (inside) and the goal buffer to the anterior cingulate cortex (see Anderson, 2005; 2009). Anderson et al. (2004) validated this mapping in their research using fMRI, demonstrating that the increased activity in a specific area of the brain of human subjects corresponds to the increased activity in those components of a model performing the same task (Anderson et al., 2004). Furthermore, a recent neurological study conducted by Hertrich et al. (2021) reported that various functions of the dorsolateral prefrontal cortex (DLPFC) are related to language processing, including various aspects of pragmatic processing, such as the interpretation of nonliteral meaning. The paper claimed that, neurophysiologically, DLPFC seems to play a role in connecting functionally between the language network and other functional networks.

Ullman (2004), whose work has contributed significantly to the field of psycholinguistics, also reported that the procedural memory system plays a significant role in the rapid learning or associative binding of information as in the combination of chunks into schema described in Section 3.1.4. For this binding of information, the hippocampus is shown to play a critical role as a memory centre, assembling semantic and episode memories, which are sorted out, categorised and filed away into long-term storage. The medial temporal lobe structures are also assumed to play the role of assembling inputs from cortical regions. They subserve the formation of new memories and transfer the new learning into long-term memory through a process called neurogenesis, which is associated with the creation of new chunks, as described in Section

3.1.3. The ventrolateral prefrontal cortex, more specifically, the inferior frontal gyrus and a portion of Brodmann’s areas, is involved in both the ‘encoding of new memories’ and the ‘retrieval of declarative knowledge’(Ullman, 2004, p. 235). These regions are assumed to be closely related to working memory (Ullman, 2004), providing an essential spot on the neuro circuit where the two memory (declarative and procedural) systems interact.

The mapping to brain regions is depicted in the interaction model of ACT-R in Figure 2, which assumes the cognitive operation arises from the interplay of independent components or modules (e.g., Visual/Aural Perception). The modules interact through buffers with Procedural Module (memory). The central tenet of this system is the basal ganglia tied to procedural memory, which associates various functions in the network on the neural circuit such as ‘implicit procedural learning in general’, ‘probabilistic rule learning’, ‘sequence learning’, ‘context-dependent rule-based selection’, and ‘maintenance in working memory’ (Ullman, 2004, p. 238).

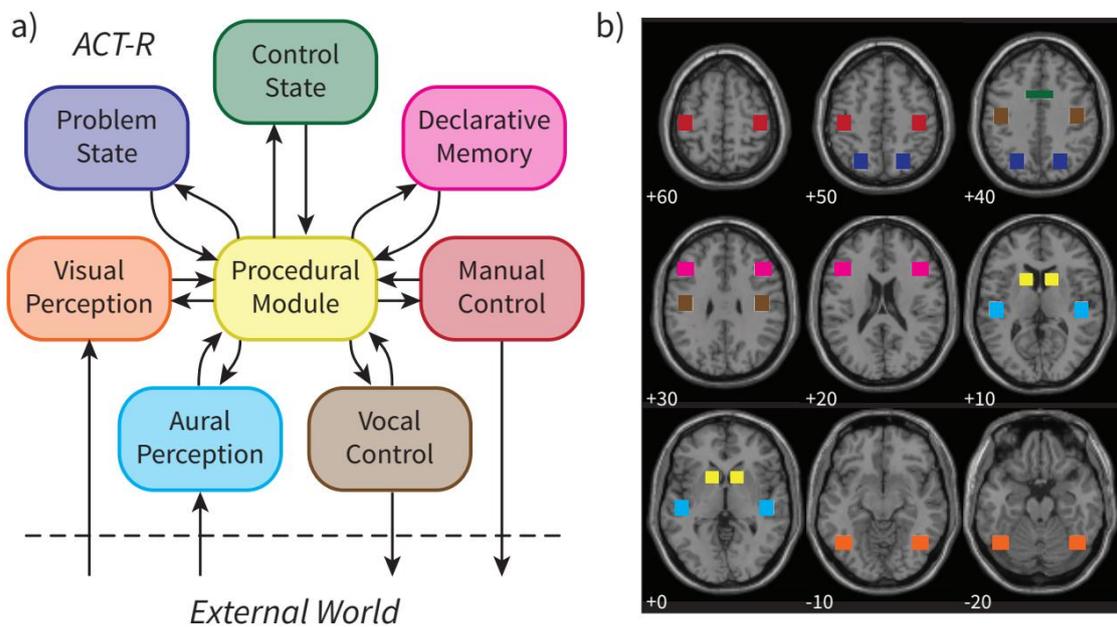


Figure 2 The main modules of ACT-R (a) and its mapping on brain regions (b) (Borst & Anderson, 2017, p. 97)

Another important region of the brain associated with the procedural memory system is Broca's area, an important area for learning and processing sequences, including non-motor sequences such as musical sequences, which, in turn, suggests a close association with working memory (Gelfand & Bookheimer, 2003). As such, Ullman provides an important insight into the interaction of procedural and declarative memory systems through the functions of working memory in Broca's area.

In this way, the availability of human data mapping for the validation of cognitive models has endorsed aspects of the ACT-R model and, in turn, its application to empirical SLA studies.

#### **2.4 L2 Pragmatic Development Studies based on ACT-R Theory**

There have been only a few studies that have employed the ACT-R model to account for pragmatic competence development. However, the employment of the ACT-R model in the pragmatic study goes back quite a bit. It was Faerch and Kasper (1984), the first to incorporate ACT-R (ACT theory at the time) into pragmatics research. They posited two types of pragmatic knowledge, knowledge about pragmatic rules and knowledge about pragmatic procedures, and explained these concepts using declarative knowledge and procedural knowledge, which are the cornerstones of ACT-R theory. They called the knowledge necessary to produce pragmatic utterances, such as pragmalinguistics and sociopragmatics, declarative pragmatic knowledge, and the knowledge to select the contextually appropriate knowledge out of declarative pragmatic knowledge and execute the knowledge into utterance, they called, procedural pragmatic knowledge. They discussed how these two types of knowledge were used to produce speech acts, such as an apology speech act as an example. Their work will be discussed in more detail in Section 3.3.3.

More recent studies, as mentioned in the introduction chapter, include Li's (2012, 2013a, 2014) and Taguchi's (2011a) studies that have examined L2 pragmatic development in a study abroad (SA) context by adopting the ACT-R theory of skill acquisition. These studies successfully showed the importance of examining both the development of pragmatic knowledge and the processing ability to assess the

development of pragmatic competence. In their studies, the development of pragmatic knowledge was assessed in terms of the development of accuracy/appropriateness of performance, while processing ability was assessed in terms of the development of speed/fluency in performing speech acts. The speed/fluency was measured by calculating the number of Chinese syllables (speech rate), including planning time for production.

Following Li (2013a, 2014), Hernández (2021) examined the development of pragmatic competence by L2 learners of Spanish both in terms of the development of pragmatic knowledge and processing ability. Like Taguchi and Li, Hernández examined pragmatic knowledge as measured by the accuracy/appropriateness of strategy use and processing ability as measured by speed/fluency (speech rate). The results from these studies indicate that while the significant development of pragmatic knowledge (measured by ‘the clarity of intention, grammaticality and appropriateness’(Li, 2019, p. 115)) by the experimental group has been confirmed equally in all these studies, the degree of the improvement in speed and fluency varies by group and by study.

Similar results were reported by Halenko and Economidou-Kogetsidis (2022), who investigated the effect of longitudinal study abroad on the development of spoken request production and processing by Japanese learners of English. They also examined three variables: appropriateness of pragmatic production to assess knowledge development and, planning time and the speech rate to assess the development of processing ability. The results of their study indicated while significant positive effect of SA was observed with appropriateness, minimal positive impact was observed on activation and processing of pragmatic knowledge. These previous studies provide important insights into the advancement of L2 pragmatic research and assessment of non-monolithic pragmatic development.

At the same time, however, Li (2019) pointed out some methodological problems of previous studies lay in being not clear enough as to whether an incorrect judgment/production of speech acts (request making, in Li’s study) was due to insufficient pragmatic knowledge, due to lack of processing ability to select and retrieve the relevant pragmatic knowledge, or due to a combination of both of these. I think this points to exactly the problem researchers are facing when assessing L2 pragmatic development. It may be difficult to assess processing ability independently unless recent neuroscience and imaging technology are used to identify which parts of the brain are activated.

Consequently, Li suggested the need to improve methods of investigation for future research. He proposed the combination of WDCT and verbal report, which is performed during working on WDCT or afterwards by being interviewed. This study proposes an alternative approach to this question based on the ACT-R model, which will be introduced in Section 3.3.

## **2.5 Summary of Cognitive Approaches to L2 Pragmatic Development**

The second half of this chapter reviewed the cognitive based theories and approaches to L2 pragmatic development. It started with Schmidt's (1993a) Noticing Hypothesis capitalising on the role of consciousness and awareness in learning. Schmidt's distinction between noticing and understanding: noticing is associated with 'surface level phenomena' (e.g., item learning), whereas understanding refers to 'deeper level abstraction' (e.g., language system learning) was shown to be another contribution to L2 pragmatics studies. In particular, its assurance that for L2 pragmatics learning to occur, learners must notice L2 pragmatic features, since many pragmatic features are too subtle or discrete to be noticed unless they are pointed out so that they can then be paid attention to sufficiently to become available for further processing.

Following the review of Noticing Hypothesis, Swain's (1985, 1995, 2005) Output Hypothesis was reviewed, which argues that in addition to ensuring rich input, output is equally important to progress the learning development. Her hypothesis testing describes the importance of conducting 'trial runs' in which learners can modify their output by receiving feedback. This concept of hypothesis testing is particularly relevant to the current study, since whether the speech acts constructed by learners are appropriate is, of course, only possible to be confirmed at the stage of output.

After the review of two hypotheses, Bialystok's (1990, 1993) two-dimensional model was reviewed, which accounts for L2 proficiency development and the mechanisms that trigger L2 acquisition in adult learners. Bialystock argues that language development involves two different cognitive functions: knowledge analysis and processing control. The former refers to learners' ability to analyse the changes the learners undergo during language development and the latter to learners' ability to select

the most important language features to convey the message in the most efficient way. The two-dimensional model was shown to provide the base for analysing the development of pragmatic competence, where both knowledge analysis and processing ability need to be taken into consideration.

Next is the core part of this chapter. cognitive processing theories such as Anderson's ACT-R model and DeKeyser's skill acquisition theory were reviewed at length. These two theories were introduced as providing a useful framework for the current study, with the aim of investigating EFL learners' pragmatic development, both from knowledge and processing ability perspectives. The development of pragmatic abilities is still an under researched area, and only a handful of research results have been reported. The potentiality of applying cognitive processing theories to account for how development is brought about was shown to be promising. In particular, skill acquisition theory was shown to be appropriate since it provides a useful way of understanding L2 development by adult learners in the classroom setting, attaching a high value to the role of practice and explicit teaching through which students can perceive the new structure, process its form-meaning relationship and finally can acquire it. The ACT-R model was shown to be promising as it provides useful tools to explicate how L2 learning develops. A further application of the ACT-R model, using it in tandem with skill acquisition theory for studying pragmatic development, was suggested.

The description of the role of working memory for smooth processing is another highlight of this section. Working memory is represented as a complex interactive system that captures an interface between cognition and action, capable of handling information in a range of modalities and stages of processing. The efficient use of working memory was discussed as being considered essential to developing fluency in L2 performance. In this relation, this section referred to Cognitive Load Theory, which provides useful insight into how the reduction of cognitive load serves to develop fluency in L2 performance. The findings from the previous studies reporting the effect of reducing the working load on improving L2 performance were presented. They also showed that different degrees of cognitive load were distributed to different brain areas. This question promoted a deep dive into a cognitive neuroscience perspective. It was shown that the functions of specific areas of the brain correspond to various aspects of language processing, including pragmatic processing, such as the interpretation of nonliteral meaning.

Finally, this chapter closed by reviewing pragmatic development studies based on ACT-R theory. Those including Li (2013a, 2014), Hernández (2021), and Halenko and Economidou-Kogetsidis (2022) were reviewed to gain insight into how the development of pragmatic knowledge and processing ability was measured.

### **Chapter 3: Application of ACT-R Model**

In this chapter, I will elaborate on Anderson's ACT-R theory (1982, 1993, 2007), in tandem with DeKeyser's (2007, 2015) skill acquisition theory, used as a key theoretical framework to account for the developmental process of subject learners' pragmatic ability consisted of L2 pragmatic knowledge and processing ability.

In the field of cognitive psychology, language acquisition is considered to be the accumulation of memory (which is also referred to as knowledge) operating by a memory system that consists of short-term memory, including working memory, and long-term memory (declarative memory and procedural memory) (e.g., Wen & Li, 2019). Anderson's ACT-R model that applies to memory representation and language skill acquisition, together with DeKeyser's skill acquisition theory that specifies the skill development in the context of SLA and accounts for L2 development in the classroom setting (Lyster & Sato, 2013), make it especially suitable for the purpose of this study to seek a comprehensive account for L2 pragmatics development and the underlying mechanisms that facilitate such development. In particular, the quantitative and qualitative improvement in learners' use of request and refusal strategies after pragmatic instruction is explained using the framework of skill acquisition theory (e.g., the developmental process moving from the declarative, through proceduralisation to automatisisation stage), and how the development was brought about is elaborated drawing on the ACT-R model.

The benefit of using this model is explained as its capability to account for learners' ability of knowledge extension. The model is shown to be able to account for participant learners' ability to extend their learned knowledge of request and refusal speech acts to produce uninstructed complaint and disagreement speech acts successfully by employing the notion of production compilation and knowledge extension described in the ACT-R model.

The sections that follow will depict the key concepts of the ACT-R model, a production system, and the key components making up the system, and explain in detail how each component functions to develop L2 pragmatic knowledge, developing declarative knowledge into procedural knowledge, and how cognitive mechanisms of

production compilation and knowledge transfer function to develop procedural knowledge.

### 3.1 ACT-R Model: The Production System

The ACT-R model (e.g., Anderson, 1993, 1996, 2007; Anderson & Schunn, 2000) is a cognitive architecture that models the basic cognitive and perceptual operation of the human mind. It explains how individuals recall chunks of information from memory and how they create and use production rules to solve problems. The basic premise of the ACT-R model is that human knowledge can be divided into two fundamental types, namely *declarative knowledge* held in declarative memory and *procedural knowledge* held in procedural memory. These two types of knowledge form a core part of the ACT-R model: the former is represented in the form of chunks, and the latter is represented in the form of production rules (or simply called production).

Before going into a detailed explanation of these main composites of ACT-R, I should note the fact that the ACT-R model has been evolving since the first ACT theory was introduced in 1976 in the book, called *Language, Memory, and Thought* by Anderson (1976). Under the transition, various revisions and changes have been made to the model, but Anderson sometimes did not explain what changes were made and why. This has caused confusion among readers/researchers and sometimes yielded different interpretations, as pointed out in Section 2.3.4.1. To avoid confusion, I will first briefly trace the transition of ACT to the latest ACT-R 7.0 model and bespeak some of the changes made by Anderson, which are relevant to the current study. I also point out the problems caused by the lack of explanation on the changes made and the indefinite explanation by Anderson on the components newly introduced to the system.

The original ACT theory has developed through ACT\* proposed as a general cognitive architecture by Anderson (1983) into the ACT-R (Anderson, 1993), which is the prototype of the recent ACT-R model and is still evolving to this day (see Anderson, 2007; Ritter et al., 2018 for detailed stories of the transition). The older model of ACT-R 4.0 is presented in Figure 3, where declarative memory and procedural memory are depicted as two major elements.

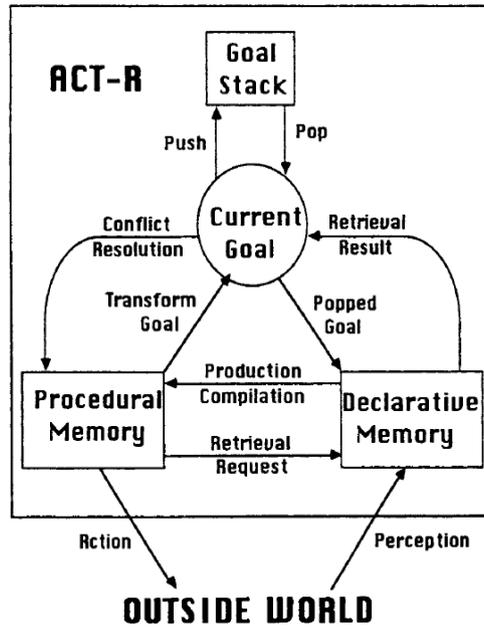


Figure 3 Flow of information among the various modules of ACT-R 4.0 (Anderson & Lebiere, 1998, p. 11)

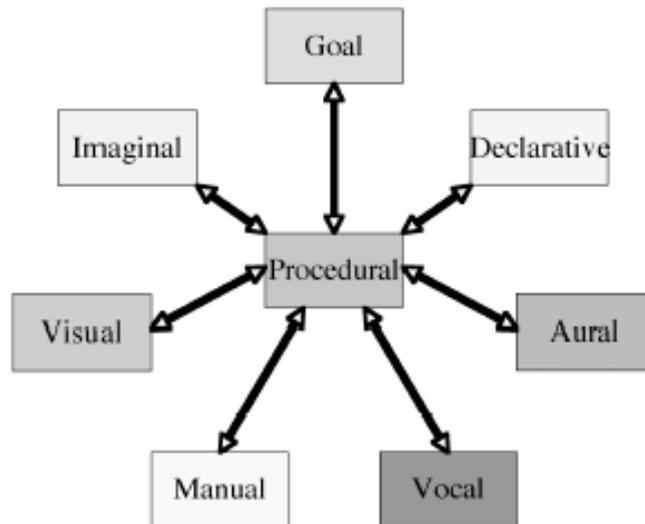


Figure 4 The basic architecture of ACT-R 5.0 (Anderson et al., 2004, p. 1037)

Then, the next model in Figure 4 that incorporated ACT-R 5.0 theory was introduced (e.g., Anderson et al., 2004; Best et al., 2002). In this model, a concept of the *module* (first introduced in ACT-R 4.0), was incorporated formally and accordingly, the declarative memory was changed to the declarative module. On the other hand, procedural memory disappeared, but no explanation for this change was given. Instead, a new component, ‘Procedural’, appeared in the centre of this model along with seven other modules, such as Visual and Vocal.

In the next-generation model of ACT-R 6.0 given in Figure 5, ‘Procedural’ was replaced by ‘Productions’. Anderson did not comment on this change, but assuming from what Anderson et al. (2004, p. 1038) stated, ‘Because production rules represent ACT-R’s procedural memory’, ‘Procedural’ is assumed to be replaced by ‘Productions’ in the model. In addition to this change, the names and the number of the modules have changed. As Figure 5 indicates, ACT-R 6.0 now appears with Intentional, Declarative, Visual and Manual Modules, which are interacted with Productions through Buffers.

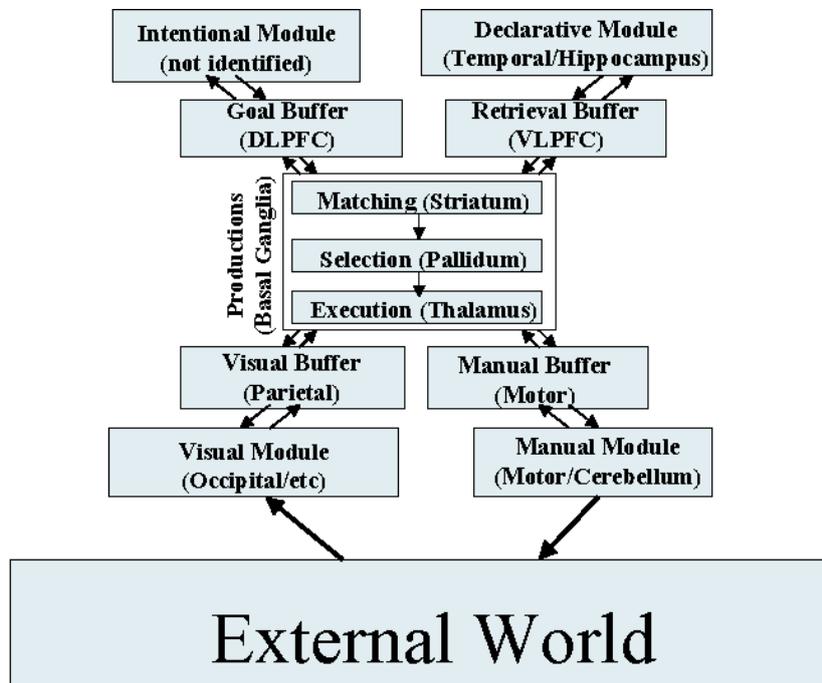
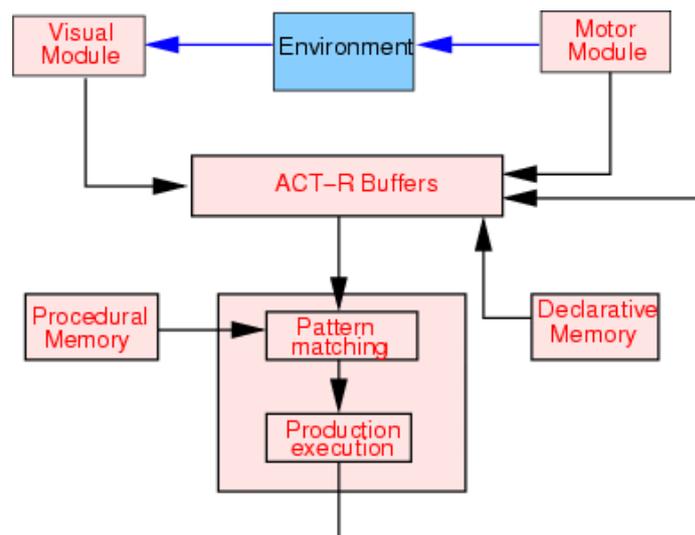


Figure 5 The modules implemented in ACT-R 6.0 (Anderson, 2007, p. 52)

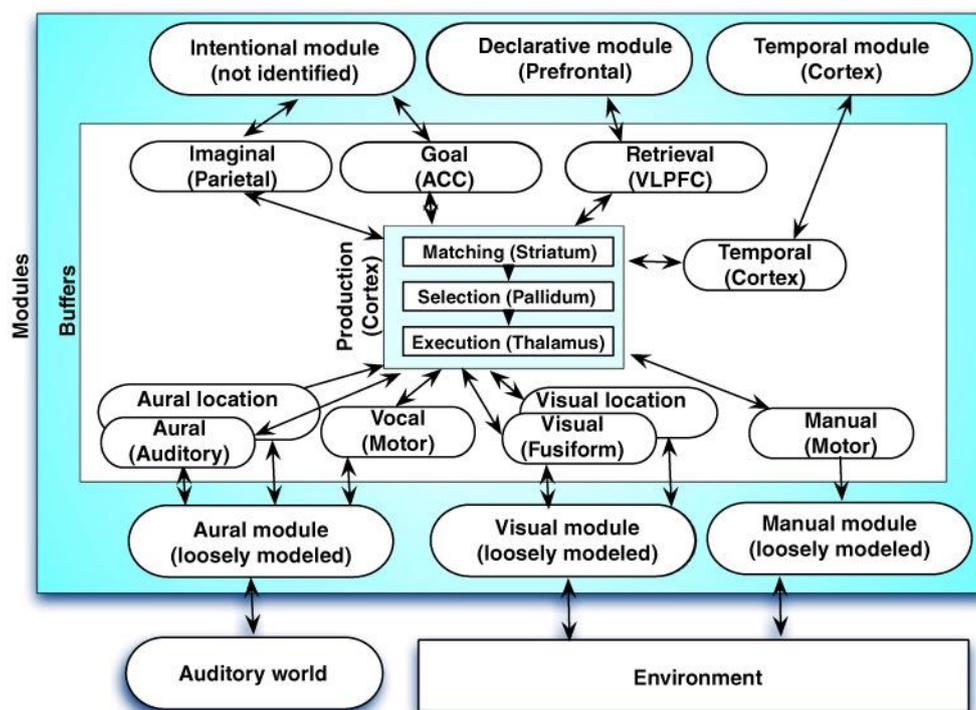
Since Anderson did not clearly explain why and how the changes were made, readers/researchers often had to guess and sometimes came up with different interpretations. For example, in the model in Figure 6, ‘Procedural Memory’ appears again but is located separately from the processing part (Pattern matching and Production execution), which corresponds to ‘Productions’ in the ACT-R 6.0 model. This separation sounds plausible, considering that the information processing of the human brain is often compared to the structure of a computer. In computer architecture, the information processing part (the part performing matching, selection, and execution of production rules) that corresponds to the central processing unit (CPU) and the storage part (the part storing production rules) that corresponds to the so-called hard disk are located separately. I believe this separation is important, which I discuss more in Section 3.2.



**Figure 6 Modules and buffers in the ACT-R (Budiu, n.d.)**

After ACT-R 6.0, various other architectures have been proposed, some of which incorporated the latest version, ACT-R 7.0, such as the one proposed by Ritter et al. (2018, p. 9), given in Figure 7. The architecture in Figure 7 became more sophisticated, adding new modules such as temporal. Anderson (2007) explains these seven modules as follows. The visual module recognises an object in the visual field, related to the perceptive sensory. The visual module, along with the aural module, is responsible for the interface

with the external world (e.g., the simulated real world). The goal module keeps track of current goals (e.g., solving an algebra equation such as  $3x - 7 = 5$ ), the declarative module functions to call for information from declarative memory, a vocal module is associated with speech production and the manual module functions as a control module for body movements. An imaginary module, interacting with the central control system, holds the information necessary in processing, for example, the calculation formula such as  $3x = 12$ , which is necessary when solving the problem of  $3x - 7 = 5$ .



**Figure 7** The basic architecture of ACT-R 7.0 (Ritter et al., 2018)

Every module except Production has its own buffer associated with it. Each module is connected to Production only through its buffers. These buffers serve as a depository that can temporarily store the information computed at each module. Instructions issued from Production are transmitted to the module through a dedicated buffer, and the module processes information according to the transmitted instructions. Then, the result of processing is returned to the buffer again, and Production accesses the result at the required timing. However, according to Anderson (2007), there is a limit to the

information that can be entered into the buffer at one time, for example, when a single object is perceived, a single problem state is represented. When a single control state is maintained, a single fact is retrieved, or a single program is operated for hand movement or a single declarative unit of knowledge, called a *chunk* is retrieved (Anderson et al., 2004). Therefore, as mentioned above, while each module can execute processing in parallel (parallel processing), the information between each module and each buffer, or each buffer and Production is exchanged only in series, not in parallel. The so-called ‘bottle neck’ property of this buffer has a great influence on the overall information processing speed, as the amount of information processing at any given time is limited. Therefore, the more information to be processed, and thus the more complex the task to accomplish the work will be, it will take more time to complete work. All modules are linked to specific regions of the brain, as Figure 5 indicates, which was discussed in Section 2.3.8.

As you can see, the latest model in Figure 7 has become much more sophisticated. However, important questions raised earlier regarding the changes made to the model under transition have not been explained. For example, it is not very clear what ‘Production’ represents, whether it corresponds to a central procedural system, procedural memory, or production rules. There is no detailed explanation on what is happening in the Production. For example, how production rules are processed and stored or how general and specific production rules are distinguished. A clear definition for each of these key components is necessary in order to depict precisely as possible what Anderson has explained. Especially, a detailed explanation is necessary on ‘Production(s)’, which is a core part involved in the development of skill learning. To solve these problems and avoid confusion, I proposed the model formulated by partially revising ACT-R 6.0 model, which will be introduced in Section 3.2.

Before the introduction of the model I proposed, I will look in more detail into how each component, chunk and production rule is deployed in ACT-R and how they are integrated into the process of proceduralisation.

### 3.1.1 Declarative Knowledge

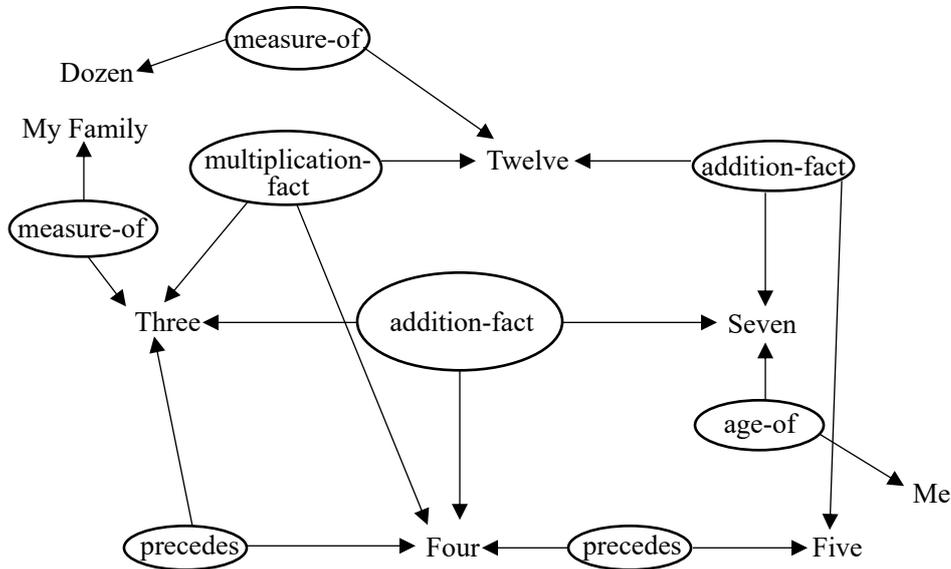
In the ACT-R model, declarative knowledge is represented in terms of chunks that form ‘schema-like structures’ (Anderson, 1996, p. 356). They represent a semantic propositional network as shown in Figure 8 or schema. Chunks are acquired in two ways: ‘a passive, receptive mode’ encoding the object of external events (e.g.,  $6 + 2 = 8$  is learned under instruction or by self-education), or ‘an active, constructive mode’ (Anderson & Schunn, 2000, p. 5; see also Taatgen et al., 2005), by retrieving the chunk from the outcome of the previously executed production that has come to be stored in declarative memory.

In the latter case, if there is no relevant chunk (for example,  $3 + 4 = 7$ ) to be retrieved from the memory, a new chunk is created: first, abstracting the principle in the past example and forming a production rule embodying this principle such as  $(n1 + n2 = n3)$  which can then be applied in the new situation. As such, a general rule is reprogrammed in accordance with the current situation and turned into a specific production rule. A new chunk  $3 + 4 = 7$  is created by applying the specific production rule and saved in declarative memory.

In the network, chunks are connected together based on the relations between them, which an individual acquires through experience. For example, Figure 8 indicates how a child might utilise his/her individual knowledge in processing information about the formula,  $3 + 4 = 7$  by drawing particular relationships, perhaps along these lines: *three* is the number associated with the number of the family members of the individual, and *seven* is associated with his/her age. *Three* and *Four* are associated with *Seven* through the addition experience. This connection gets stronger when chunks are used together often, as they then come to be understood as one unit. The ACT-R theory is embodied into a tangible form of ACT-R computer software. The topic is beyond the scope of this study but for a brief description of how the chunks below are depicted on the software, see Appendix B.

Chunks in a unit receive a high activation when they are used often. A chunk itself can gain strength (activation) through use. Activation also affects the time and probability of chunks being retrieved, as the chunks with higher activation are more often retrieved, so they also become retrieved faster. In other words, the more one practices using a

particular chunk, the higher activation it gets and the faster it is retrieved.



**Figure 8 Graphical display of a chunk encoding the addition fact  $3 + 4 = 7$  (Anderson & Schunn, 2000, p. 3)**

According to Taatgen and Anderson (2002, p. 131), for chunks to be used, ‘they need *production rules* for their application’ as they cannot act independently. A chunk is used when it matches some production rules that end up *fired* (to be executed). Since the ‘ACT-R is a goal-driven theory’ (p. 131), chunks are retrieved along with some sort of goal. In the model, production rules that chunks need in order to act are encoded in condition-action pair statements that specify a particular action to occur under certain circumstances. This will be discussed further in the next section.

### 3.1.2 Procedural Knowledge/Production Rules

In the ACT-R model, chunks of declarative knowledge are interpreted and integrated into procedural knowledge through proceduralisation. Procedural knowledge is represented as a set of production rules. According to Anderson (1992), ‘all cognitive behaviour is controlled by production rules’, which ‘specify the steps of cognition’ (p. 167). For

Anderson and Schunn (2000), ‘production rules are condition-action units which respond to various problem-solving conditions with specific cognitive actions’ (p. 4). Steps of thought are encoded in a sequence of condition-action rules. For example, the production rules to achieve the goal of getting the sum of  $3 + 4$  would be as below, based on Anderson and Lebiere (1998, p. 103) and Taatgen and Lee (2003, p. 63):

**IF** the goal is to answer a question about the sum of 3 and 4,  
**THEN** set a subgoal to find the sum of 3 and 4  
and make the goal to say the sum

**IF** the goal is to find the sum of 3 and 4,  
**THEN** send a retrieval request to declarative memory for the sum of 3 and 4

**IF** the goal is to find the sum of 3 and 4  
and there is an arithmetic chunk encoding  $3 + 4 = 7$ ,  
**THEN** retrieve the chunk  $3 + 4 = 7$

**IF** the goal is to find the sum of 3 and 4  
and 7 is the sum of  $3 + 4$ ,  
**THEN** make the goal to say the sum

**IF** the goal to say the sum  
and the sum is 7,  
**THEN** say 7

As you can see, even in a seemingly simple task such as answering a question about the sum of 3 and 4, a number of production rules are used to complete the task (the production rules described here are simplified for ease of explanation. To accomplish a task, more complex production rules are needed. See Figure 10 for details). For this task, the subgoals are also created to retrieve a declarative chunk,  $3 + 4 = 7$  fact (see also Appendix B). When the same task as above is repeated over and over, the series of production rules are compiled into one new production rule as below:

**IF** the goal is to add two digits 3 and 4  
and  $3 + 4 = 7$   
**THEN** say 7

According to Anderson (1996), this production rule is applied only to do a specific task of  $3 + 4 = 7$ . This kind of production rule is called a specific production rule. On the other hand, a production rule such as below is called a general production rule.

**IF** the goal is to add two digits d1 and d2  
and  $d1 + d2 = d3$   
**THEN** say d3

Since each number of a general production rule is set in the form of variables (d1, d2, d3), it enables handling the addition of all numbers. The corresponding chunk can be called from declarative memory as needed. In other words, it is a highly applicable production rule. However, a general production rule has some disadvantages. For example, it takes time to execute, since general production rules need to call for chunks from declarative memory to rewrite the variables with specific numbers. A specific production rule, on the other hand, is beneficial, since it does not need to access the declarative module, enabling it to complete a task faster than using general production rules. In this way, Anderson distinguishes a specific production rule that can be applied to do a specific task from general production rules that can be applied to do a larger set of tasks.

The examples of problem-solving above show the cases where chunks and production rules are retrievable from existing knowledge. In cases where there is no chunk  $3 + 4 = 7$  fact available in the memory, or the learner has never done this specific task and thus does not have productions to perform the task, new production rules are created, which is the topic of the next section.

ACT-R can handle cases where multiple production rules are available for one particular goal. In this case, ‘the production rule with the highest utility’ is calculated based on the cost and probability of achieving the goal selected (Taatgen et al., 2005, p. 32). In general, the more frequently the production rule is used, the higher its probability

gets for retrieval (for the calculation of utility value, see Anderson, 2007). In other words, the strength of the production rules involved in the retrieval, are the determinant factor for the underlying fluency in performance.

Having seen the role of each component making up the ACT-R production system in detail, I will advert how each component is integrated into the production system to promote learning development. In ACT-R, all knowledge is acquired first as declarative knowledge, which is reconstructed step-by-step into procedural knowledge. Learning progresses from the stage of using mainly declarative knowledge to procedural knowledge, which is also associated with the transition from controlled to automatic processing. This process of proceduralisation is operational through working memory and affects the performance of the skills (i.e., the proficiency of L2 performance).

The capacity of memory is another important topic of the ACT-R model. In the ACT-R model, both declarative and procedural knowledge are categorised as long-term memory. Long-term memory nodes indicate varying degrees of activation. The activation is the strength of a knowledge chunk, which can gain activation through use (e.g., a more frequent or recent accessed chunk indicates higher activation). Long-term memory is considered to have almost no limit in its capacity, and thus the knowledge stored in long-term memory will not be deleted and last almost indefinitely, while working memory has a limited capacity and can process only a few items at a time. Given that working memory capacity is limited, effective use of working memory is crucial as discussed in Section 2.3.6, and this can be achieved by speedy and successful retrieval of chunks and production rules (Anderson, 1996; Anderson & Schunn, 2000). In the sections that follow, I will advert some of the functions associated with learning development and the role of working memory.

### **3.1.3 The Creation of New Production Rules**

ACT-R theory makes a distinction between the performance assumption and the learning assumption. The former addresses how existing knowledge is deployed to solve a task, and the latter how new knowledge is acquired (Anderson, 1996; Anderson & Schunn, 2000). A substantial portion of ACT-R is devoted to describing how the performance

assumption to solve a task refers to past experience of solving the task (or a similar task), or to the results of previously executed production. Somewhat less describes how new production rules are initially acquired. This reflects a principle idea inherent in the cognitive theory of ACT-R, being that learners do not simply acquire knowledge, but actually construct it by referring to their previous experience and moreover adjust it to meet a new situation.

In the ACT-R model, new production rules are created, first retrieving similar existing examples of past experience stored in memory. The existing production rules used in past experience are reprogrammed through processes such as *analogy* (finding the solution by analogy from the solution found previously to a similar problem), *generalisation* (more general rules are generated inductively out of existing similar production rules stored), or *production compilation* (combining productions into a new single production while declarative knowledge is proceduralised into productions).

Taatgen et al. (2005) explain how new production rules are created by analogy using the example of learning the regular past tense rule in English. According to them, in order to find the past tense of a verb, first, a production rule is executed to retrieve the corresponding declarative chunk from the declarative memory (Taatgen et al., 2005, pp. 44-45, partially modified by the author).

**P1 IF** the goal is to find the past tense of a word *word1*,  
**THEN** issue a request to declarative memory for the past tense of *word1*

In case when a declarative chunk of the verb in the past tense you are looking for is in the declarative memory, the following production rules are continuously executed.

**P2 IF** the goal is to find the past tense of a word *word1*  
AND the retrieval buffer contains past tense *word1-ed*,  
**THEN** set the answer to *word1-ed*

On the other hand, if there is no corresponding declarative chunk in declarative memory, but there are only declarative chunks of other verbs in the past tense, first, a common rule

is sought among the existing declarative chunks of other verbs in the past tense. Applying the common rule found, a new production rule is created to form the verb in the past tense in question. For example, applying the common rule to form *walked* from *walk* and *opened* from *open* found in the knowledge a learner already has (e.g., past tense *play-ed* of *play*), the following production rule is created. This is what is called analogy.

#### **Analogy-find-past-tense-walk**

**IF** the goal is to find the past tense of a word *walk*  
AND the retrieval buffer contains past tense *play-ed* of *play*,  
**THEN** set the answer to *walk-ed*

#### **Analogy-find-past-tense-open**

**IF** the goal is to find the past tense of a word *open*  
AND the retrieval buffer contains past tense *play-ed* of *play*,  
**THEN** set the answer to *open-ed*

When such tasks are repeated and many production rules such as above are created, the common points of each rule are eventually found, based on which the following more generalised production rules are created as below. This is the process, so called, generalisation (see also Anderson, 1993; Taatgen & Anderson, 2002).

**P2\* IF** the goal is to find the past tense of a word *word1*  
AND the retrieval buffer contains past tense *word2-suffix* of *word2*,  
**THEN** set the answer to *word1-suffix*

Note, however, that a newly created production rule will not be used immediately for the next occasion. This is because when a new production rule is created, it gains an initial utility value of '0' by default, while there exist other production rules with higher utility value. Therefore, it is very unlikely for the new production rule to get fired (being executed) (Anderson, 2007). This can be explained by the fact that similar expressions that we already know often come to mind before the expressions that we have just learned.

As mentioned in the previous section, if there are competing production rules, in principle, the one with the higher utility value will be selected. If, for some reason, the newly created production rule is selected and executed, the utility value will be updated.

The utility value of the production rule is updated every time it is executed repeatedly and gradually, the production rule becomes more likely to be applied among competing rules.

Taatgen et al. (2005) also explain that combining the two consecutive production rules repeatedly executed creates a new production rule. The process is called production compilation (Taatgen & Anderson, 2002). By production compilation, the above P1 and P2\* are combined and a new production rule, such as shown below is created.

#### **Learned-rule (P1 + P2\*)**

**IF** the goal is to find the past tense of a word *X*,  
**THEN** set the answer to *X*-ed

The process of production compilation is described as one of the core functions of the ACT-R learning mechanism that promotes skill development. This process is also an important part of the current study, thus will be described in more detail in the next section. The process of analogy and generalisation will be discussed further in Section 3.3.3.3.

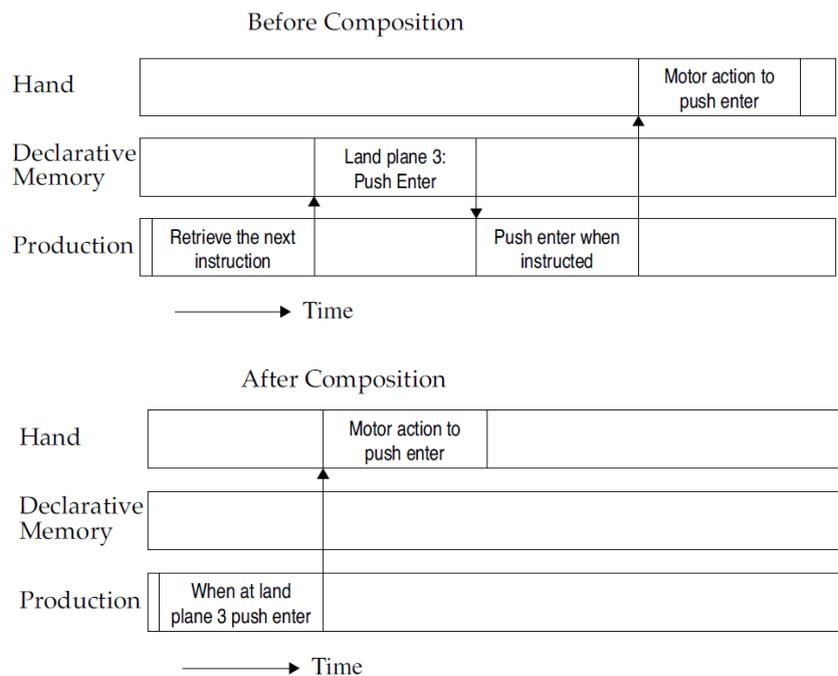
### **3.1.4 Production Compilation**

Production compilation, initially called knowledge compilation, was developed by Taatgen and Anderson (2002) and incorporated into subsequent versions of the ACT-R model. Production compilation is the process through which the smooth retrieval and processing of existing knowledge become possible. The compilation combines the two mechanisms of proceduralisation and composition, into a single mechanism through which declarative knowledge is compiled into procedural knowledge (in the form of production rules) while also combining multiple production rules into a new single rule.

Before composition takes place, information from declarative knowledge is retrieved

usually in two steps. First, a production rule issues an enquiry to declarative knowledge, asking for a piece of knowledge about what to do next, while another production rule in the next step acts on the knowledge retrieved. In this way, the ACT-R model posits two processes in tandem where skills are acquired basically by making references to the past problem solution stored in memory, while one actively attempts to solve new problems by creating new production rules. Thus, the theory is claimed to be ‘both a theory of learning by doing and a theory of learning by example’ (Anderson & Schunn, 2000, p. 5).

The composition takes place, eliminating the retrieval process and combining two original rules into a new single rule. The diagram employed from Lee and Taatgen (2002, p. 573) given in Figure 9 illustrates this process in the context of *Land plane 3* (the task of landing an aeroplane using simulation software).



**Figure 9** The production composition process (Lee & Taatgen, 2002, p. 573)

By this compilation mechanism, some rules are combined into a new single rule at the ‘proceduralisation step in which condition is eliminated’ (Taatgen & Lee, 2003, p. 62). This process produces task-specific production rules that meet the current situation, the context of *Land plane 3* in this case, which issues a motor command, ‘Push the Enter key once’. This task-specific production rule (a specific production rule) is stored in the

procedural memory for future use. Such production compilation does not occur in one step, but gradually as a series of production rules are repeatedly executed.

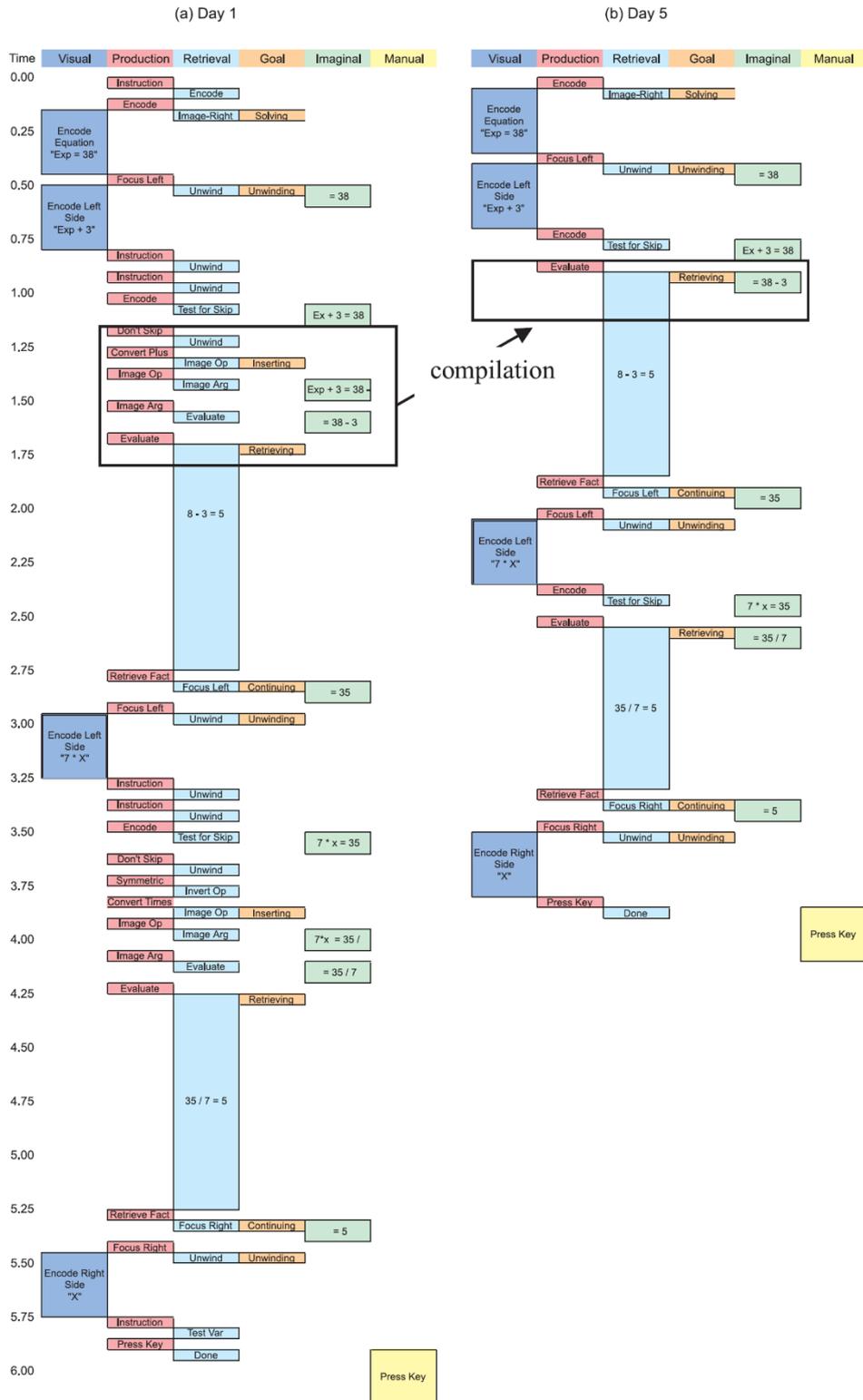


Figure 10 The solution of a two-step equation on Day 1 and Day 5 (Anderson, 2005, p. 321)

Anderson (2005) explains how the speed of solving problems improves through production compilation, based on research data from Qin et al. (2004), who studied the process of learning linear equations over five days with the 10 pre-algebra students aged 12 to 15 years. Anderson (2005, p. 321) shows what kind of information processing is generally performed between each module and how each module interacts when a student solves a linear equation, such as  $7x + 3 = 38$  in Figure 10.

The top of the diagram in Figure 10 indicates Visual, Production, Retrieval, Goal, Imaginal, and Manual modules of the ACT-R model. In the figure, the passage of time is indicated by moving from top to bottom, and the columns allocated along the vertical line represent when the various modules were active. Participants were the pre-algebra students, who were expected to take Algebra I the following year. Since they were all children, who may not have production rules to solve a simple equation existing in them yet, a tutorial on algebra equation solving and key practice, as in Table 10, was given to them.

**Table 10 Instructions for equation solving and its application**

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**English rendition of instructions given to ACT-R model for equation solving**

1. To solve an equation, encode it and
  - a. If the right side is a number, then imagine that number as a result, and focus on the left side and unwind it.
  - b. If the left side is a number, then imagine that number as a result, and focus on the right side and unwind it.
2. To unwind an expression
  - a. If the expression is the variable, then the result is the answer.
  - b. If a number is on the right, unwind-right.
  - c. If a number is on the left, unwind-left.
3. To unwind-right, encode the expression (of the form “subexpression operator number”) and
  - a. If the operator is + or – and the number is 0, then focus on the subexpression and unwind it.
  - b. Otherwise, invert the operator, imagine it as the operator in the result, imagine the number of the expression as the second argument in the result, evaluate the result, and then focus on the subexpression and unwind it.
4. To unwind-left encode the expression (of the form “number operator subexpression”) and
  - a. If the operator is \* and number 1, then focus on the subexpression and unwind it.
  - b. Otherwise, check that the operator is symmetric, invert the operator, imagine it as the operator in the result, imagine the number as the second argument in the result, evaluate the result, and then focus on the subexpression and unwind it.

---

*(Continued)*

**Table 10** (Continued)

---

**How the above instructions are applied step by step when solving  $7x + 3 = 38$ , is summarised as follows.**

1. Instruction 1a: Create image '= 38'
2. Instruction 2b: Unwind right ' $7*x + 3$ '
3. Instruction 3b: Change image to '=  $38 - 3$ ' and then to '= 35' and focus on ' $7*x$ ' and unwind it.
4. Instruction 2c: Unwind left ' $7*x$ '.
5. Instruction 4b: Change image to '=  $35/7$ ', and then to '= 5' and focus on  $x$  and unwind it.
6. Instruction 2a: The answer is 5.

---

Extracted from Anderson (2005, pp. 319-320)

The diagrams in Figure 10 above compare the module activity in ACT-R during the solution of a two-step equation ( $7x + 3 = 38$ ) on Day 1 and Day 5. On Day 1, the central system (Productions in Figure 5) sends an enquiry to the Retrieval (Declarative module in Figure 5) through the retrieval buffer, asking for a piece of knowledge about what to do next (to retrieve the instruction received the day before in this case). The declarative module looks for the corresponding information in declarative memory and retrieves the information, and then sends it back to the retrieval buffer. The central system reads the retrieved information in the retrieval buffer and sends a request to the Visual module to look for necessary information. In the Visual module, based on the encoded information, first, the right-hand side ('= 38') of the expression  $7x + 3 = 38$ , which is a number, is encoded and returns the information to the central system. The central system sends the Imaginal module a request to save the information ('= 38'). This is done during the time from 0.00 to 0.50 in Figure 10. The box in this figure represents one production rule, so up to this point, seven production rules have been executed. After that, a huge amount of information processing is performed between each module until the final answer '5' is derived.

As you can see in the figure, by repeating the calculation training of the linear equation for five days, some production rules for the series of information processing are compiled, and on the fifth day, the newly created production rules are executed as in the diagram on the right side of Figure 10. By doing so, the time required for the entire calculation process is shortened. The diagram above indicated only the partial compilation. With repeated practice, the compilation on a bigger scale can occur. Note also that, as Anderson (2007) states, this is just one example of the step by step creation

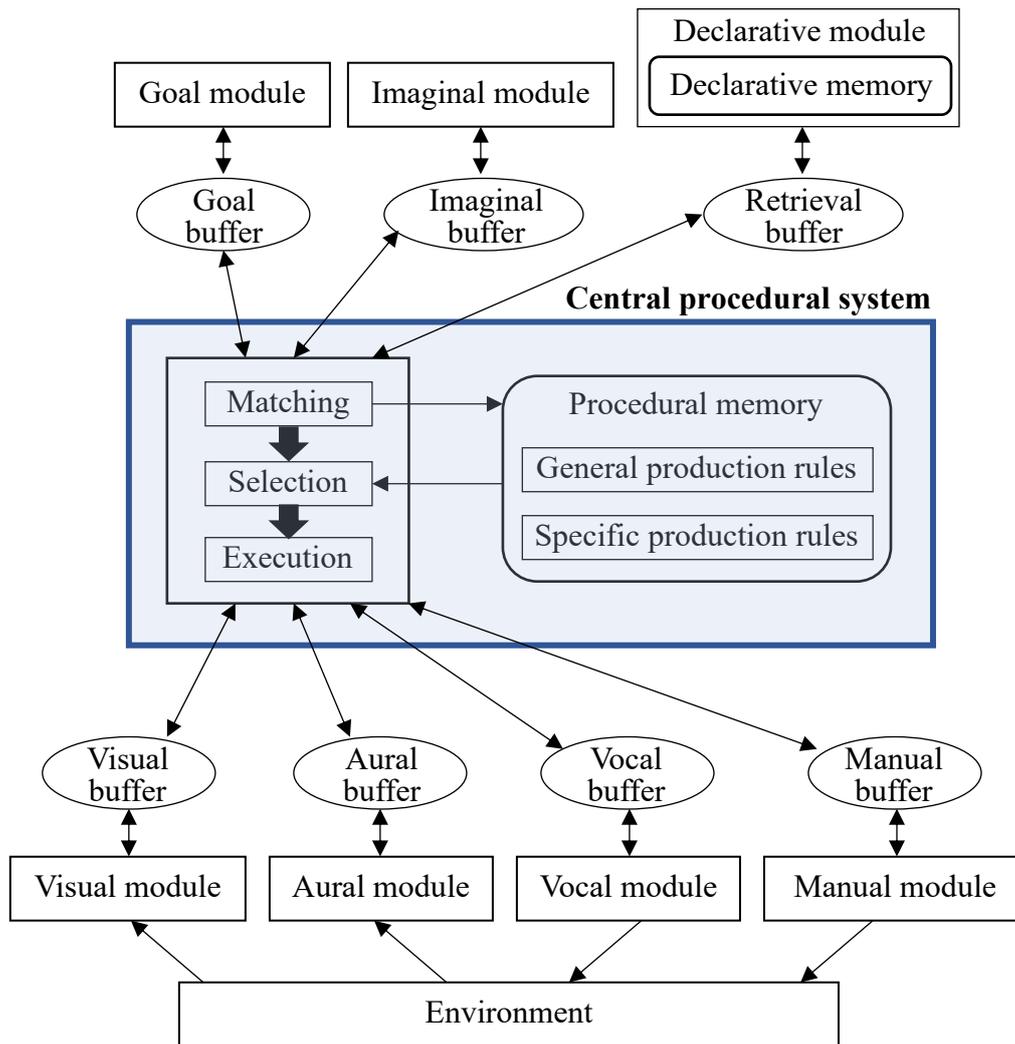
of the production rules, and the order of creating production rules is not always the same.

Production compilation eliminating several production processes serves to reduce the load on working memory. In addition, this process involving the conversion of declarative knowledge to procedural knowledge stored in the procedural memory makes it possible to direct access to the procedural knowledge without referring to declarative knowledge, which also serves to reduce the consumption of working memory. The efficient use of working memory is essential to improving linguistic behaviour, as discussed in Section 2.3.5 and Section 2.3.7.

### **3.2 The Model Proposed for This Study**

The model I proposed for this study was formulated based on ACT-R 6.0 model but differed from it in some respects. First, the central control system is replaced by Central procedural system, which corresponds to the central procedural module in Anderson (2007). While Anderson considers this central procedural system as one of the modules, he also admits that it is distinct from other modules. In order to avoid confusion, henceforward, this study refers to the central control system as Central procedural system unless otherwise specified. Each module can perform computational processing in parallel, for example, while the visual module processes visual information, the declarative module searches for information in the declarative memory, as represented in Figure 11.

Second, in Central procedural system, the part wherein the processing of the information (pattern matching, selection and execution) and the storage of the production rules (general production rules and specific production rules) occurs is located separately but nevertheless, together, these two form Central procedural system as depicted graphically in Figure 11. Furthermore, my model clearly indicating where general and specific production rules are stored and how they interact with the processing device is beneficial in explaining the benefit of direct access to procedural knowledge (specifically, a specific production rule). The fact that direct access to a specific production rule without recourse to declarative knowledge results in smoother and more accurate performance, is the core premise of ACT-R theory, albeit not clearly indicated in Anderson's model.



**Figure 11** The model proposed based on ACT-R 6.0

The revision in the proposed model is by no means a bold idea. A similar model is put forward by Bono et al. (2020), which also assumes separate parts for procedural memory and for information processing. The part shown surrounded by the blue frame in Figure 11 represents the central procedural system, and it is this part directly related to this study.

As you can see in the model, information from the outside world is sent to Central procedural system through the visual/aural module, but since the information that can be processed at one time is limited, only the information required by the visual module is carefully selected and temporarily stored in the buffer. The information is transmitted to Central procedural system when needed.

In the processing section, what is performed is the matching of the incoming information with the production rules so as to provide the most appropriate solution that achieves the communication goal. The most suitable production rule is selected and executed. Central procedural system accesses the goal module and the declarative module as needed, and information is repeatedly exchanged between the system and those modules only through a buffer until the goal is achieved. When all the necessary processing is done in the processing section, the result is sent to the manual/vocal module. When the performance is manifest in, for example, gesticulating with the arms, facial expression, or speaking out appropriately because in accordance with the information, the goal is achieved, and the series of operations is completed.

### **3.2.1 Three Stages of Skill Acquisition Theory and ACT-R Model**

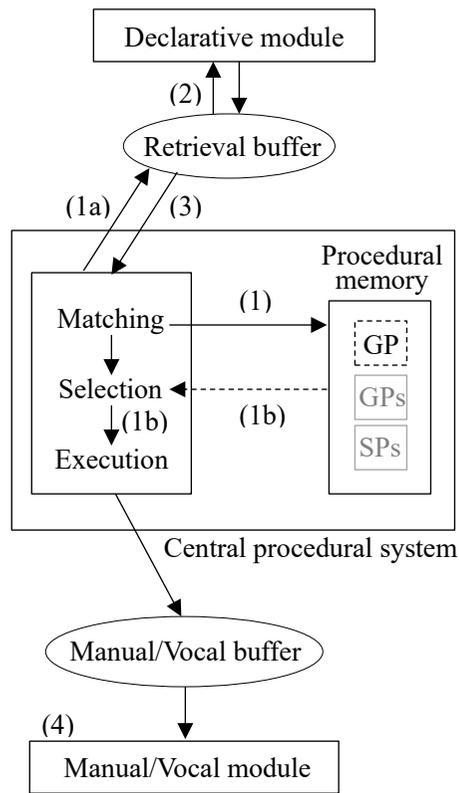
As explained earlier in Section 2.3.4, ACT-R theory represents a process of skill acquisition: first acquiring declarative knowledge, then incorporating it into procedural knowledge, and finally executing procedural knowledge into action. DeKeyser's three stages of skill acquisition (declarative, procedural and automatization) are based on this process. In this section, I will explain the concept of these three stages proposed by DeKeyser in his skill acquisition theory by using the model I proposed in Figure 11.

Figure 12 to Figure 14 illustrate how the information is exchanged between the central procedural system and other modules in each stage of skill acquisition when performing the task of finding a  $3 + 4$  solution. Figure 12 shows the declarative knowledge stage, the early stage of learning. First of all, in Central procedural system, Matching in the processing unit enquires to procedural memory if there are production rules to achieve the goal (adding two digits 3 and 4 in this case) in (1). In the early stages, production rules that meet the objectives have not yet been created. Therefore, the system normally accesses the declarative module in (1a) to call for the declarative knowledge related to problem solving in (2). Then, based on the declarative information retrieved in (3), the goal is finally achieved (in this case, giving the answer '7') in (4a). However, in the early stages of learning, a wrong judgment is often made. For example, as in (1b), production rules not related to goal achievement are selected, or as in (4b), declarative

information that does not lead to problem solving is retrieved. In such cases, the achievement of the goal will fail (in this case, the wrong answer will be given). In the declarative stage, knowledge is in the declarative form and needs to be interpreted to be used in action. Interpreting knowledge takes time and can lead to errors if it fails to select the relevant knowledge and retrieve it at the right time (Taatgen, 2002).

Figure 13 illustrates the procedural knowledge stage, at which production rules that can be used for problem solving are gradually being created. First, matching is performed in (1), and then the appropriate production rule (a general production rule in this example) is selected in (2a). The production rule (for retrieving) is executed in (3). Then, by using the chunk retrieved from the declarative module in (4), the goal is achieved in (5a). Again, errors like (2b) and (5b) may occur, in which case the achievement of the goal will fail. The likelihood of error depends on proficiency, which is relatively high in the early stages and less frequent as proficiency increases. In addition, the time necessary to select the appropriate production rules and to retrieve correct declarative knowledge depends on the level of proficiency. When the proficiency level is low, it generally takes more time to make a selection.

Figure 14 shows the final stage, automatisation. At this stage, a specific production rule has already been created. Hence, upon the enquiry from Matching, Procedural memory returns the appropriate specific production rule in response. This will be executed in a way that bypasses selection, and the goal will be achieved immediately. However, as DeKeyser (2015, p. 95) states, '[o]nce procedural knowledge has been acquired, there is still a long way to go before the relevant behaviour can be consistently displayed with complete fluency or spontaneity, rarely showing any errors', it takes time for the appropriate specific production rule to be selected instantly. This is similar to the situation where a learner can write a perfect English sentence without any mistakes, but when it comes to speaking, it takes time to speak out, and the learner makes mistakes when speaking. This can be because the specific production rule cannot be instantly selected and executed during the conversation, even though the specific production rule is already retained. To select an appropriate specific production rule and execute it into action without a time lag, '[a] large amount of practice is needed to decrease the time required to execute the task ("reaction time"), the percentage of errors ("error rate"), and the amount of attention required' (DeKeyser, 2015, p. 95).



Note: GP(s) = general production rule(s)  
 SP(s) = specific production rule(s)

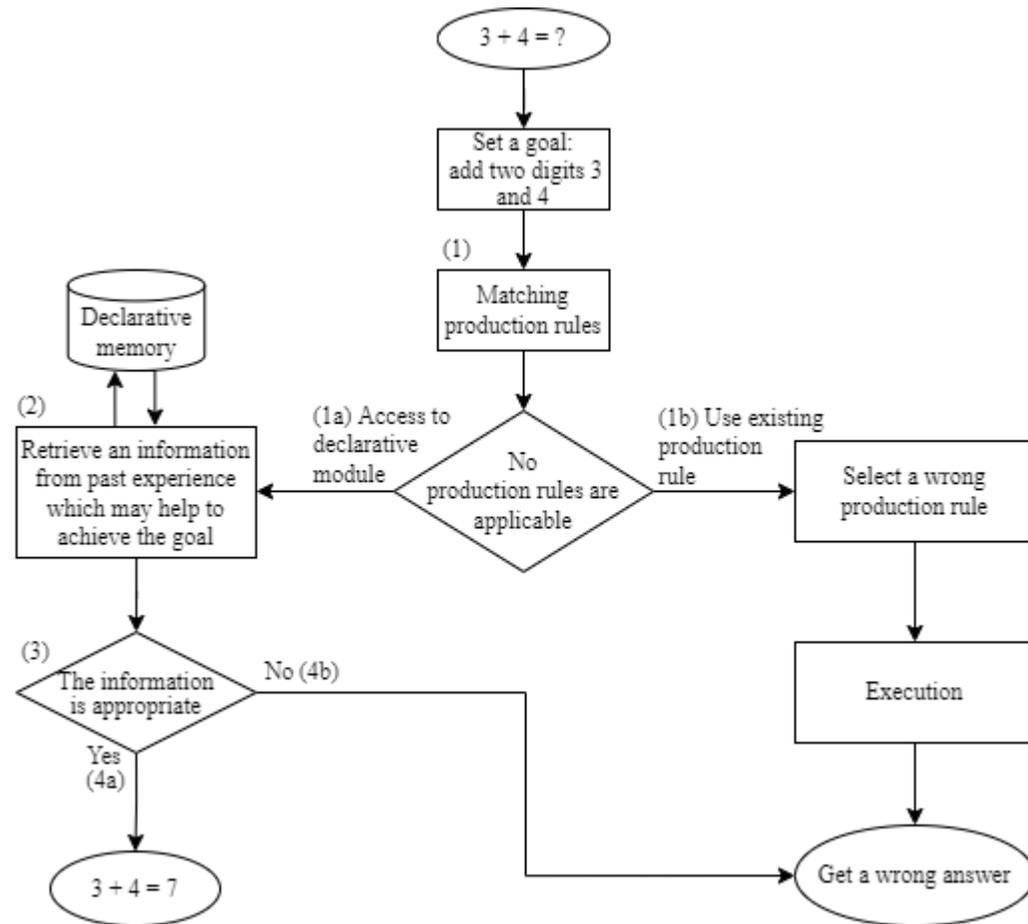


Figure 12 Information communication flow in the declarative stage

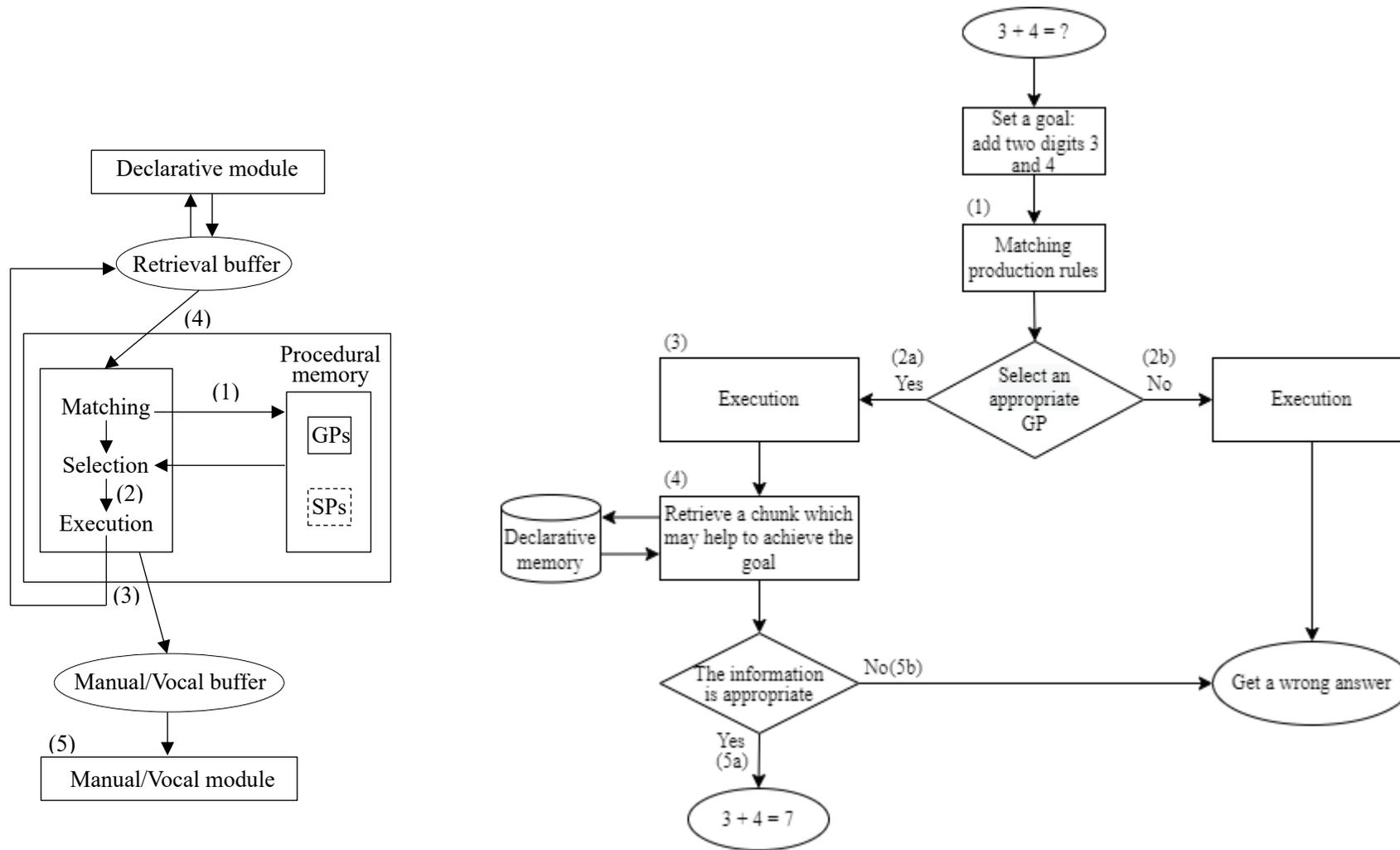


Figure 13 Information communication flow in the procedural stage

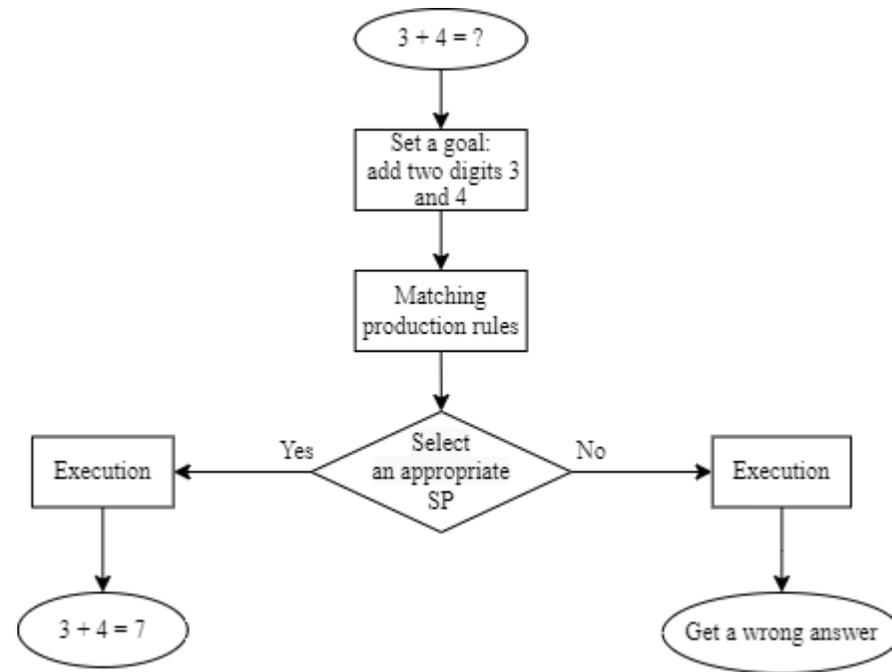
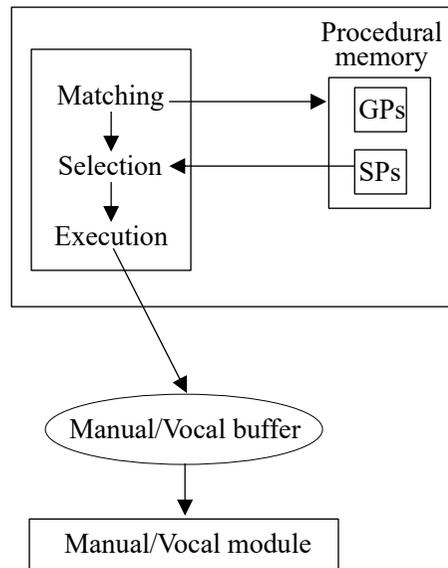


Figure 14 Information communication flow in the automatization stage

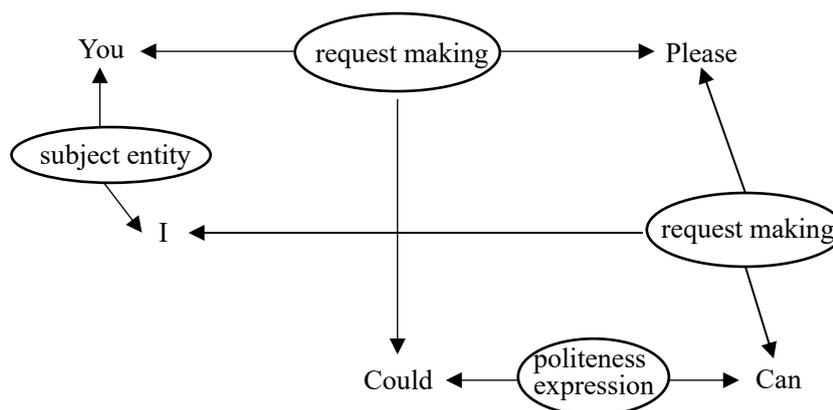
### **3.3 ACT-R Model Approach to L2 Pragmatic Development**

In the sections that follow, I will discuss how the ACT-R model can account for the development of learners' ability to produce speech acts, focusing on the functions of chunking declarative knowledge, production compilation, and the creation of new production rules to perform speech acts in a new situation.

#### **3.3.1 Declarative Knowledge to Produce Speech Acts**

Under the framework of skill acquisition theory, the establishing of a cognitive skill starts with learning a bit, or perhaps bits, of declarative knowledge, in a manner that, despite many efforts, is markedly slow and error-prone. During the learning process, a recurrent sequence of declarative knowledge comes to be recognised as one (ready-made) chunk of declarative knowledge, and retrieved as such, which speeds up the process of retrieval of declarative knowledge. The speedy retrieval of readymade chunks is advantageous, as it reduces the load on the working memory and plays a crucial role in skill development (DeKeyser, 2015). DeKeyser conceives these chunks of declarative knowledge as a building block that is combined to make up a prefabricated production rule. The *chunks* in the ACT-R model are also represented as the basic building blocks of the model, featuring the prepositional network of knowledge facts stored in long-term memory. Chunks connected together based on individual experience in forming request making can be depicted as in Figure 15.

'Chunks' in the current study refers to components making up a sequence of speech acts such as 'Could you...please?' or 'I am wondering if you could...'. Frequently used semantic formulae such as 'Could you please...?' above in the speech act with higher activation are retrieved faster. This is consistent with Anderson and Schunn's (2000, p. 6) claim that the level of activation of the chunks to be retrieved and the strength of the production rules involved in the retrieval 'determine the underlying fluency in performance'.



**Figure 15 Graphical display of a chunk encoding ‘Could you please...?’**

To date, the term *chunk* has been used in a broader sense and defined variously by theorists (e.g., Spada, 1997; Taguchi, 2007a; Wray, 2012). For example, Schmitt (2010, p. 117) describes a chunk on a par with formulaic language or ‘multiple word phraseological units’. Chunks are also defined as slot-and-frame patterns (Ellis, 2003). Wood (2002) describes ready-made chunks as formulaic language units that are fundamental to fluent language production. Various formulaic expressions are used in the realisation of speech acts. Some of them are so situationally bound as to be used only in a specific situation (Kecskes, 2010). For example, ‘Can you...?’ is commonly used for request making between family or friends, while ‘I am wondering if...’ is used in more formal request making contexts. Likewise, ‘How are you?’ is rather formal, while ‘Nice to meet you!’ can be more comfortably used in informal contexts. Wang (2011) argues that using such formulaic expressions appropriately is an essential part of pragmatic competence.

One may say that these formulaic expressions are different from chunks posited in ACT-R. In fact, they look different superficially depending on what worldly facts the production system intends them to represent or what experience episodes are encoded by the chunks. However, their basic functions are the same to the extent that they both represent an object in the environment (de Jong & Perfetti, 2011, p. 537), a part of a semantic propositional network described in Section 3.1.1, or an entity in the past experience.

The problem-solving task in *Sugar Factory* dynamic decision-making system is one

such case representing episodes (Taatgen & Wallach, 2002) (see also, Taatgen et al., 2005), where chunks encode events (episodes), just like the chunks encoding speech act events. Note also that chunks such as addition fact  $3 + 4 = 7$  in Figure 8 denote not a simple fact, but a math calculation event, just as formulaic expressions such as ‘Could you..., please?’ denote the event of request making.

It is important to note that while formulaic expressions are defined as the recurrent combination of words (see also, Dehaene et al., 2015; Swan, 2017), they are not simply the combination of words per se, but also the meaning they carry as expressed by a whole unit, which is not necessarily reflected by the sum of the component meanings of the unit (Goldberg, 1995; Van Lancker Sidtis, 2004). According to Haleem Alwhan (2019), Jespersen (1925/1935) showed that ‘the meaning of formula is quite different from their component meaning’. For instance, “‘I beg your pardon’ often means “‘please repeat what you said’” (p. 24) rather than begging your forgiveness. Fillmore (1979) defines such formulaic expressions as representing meaning ‘in close association with situations in which their use is appropriate’ (pp. 91-92). That means formulaic expressions of speech acts represent particular ‘schematised scenes’ or *semantic frames* (Fillmore, 1982, p. 115). A similar idea is presented in van Dijk (1977), which argues that speech acts are considered ‘frames’ as they are connected with frames that are not ‘arbitrary chunks of knowledge’ (p. 215), and they are interpreted on the basis of frame-like world knowledge. For example, according to van Dijk, institutional speech acts such as ‘I sentence you to ten years of prison’ can be enforced only when spoken by a judge but not by just anybody. Such a difference cannot be understood without considerable frame knowledge of social conventions.

This observation is fundamental to understanding why learners can comprehend and produce phrases such as ‘Could/Would you open the door?’ meaning to ask someone politely to open the door and not simply asking about the hearer’s physical capability or intention to open the door. Even more syntactically and lexically complex expressions such as ‘I am wondering if you could...?’ could be learned and used after a few times of practice by even the low and intermediate level learners who participated in this research. Learners encountered these expressions in association with the scenarios where these phrases are most used conventionally. Access to such background contextual knowledge is crucial for the development of declarative knowledge, allowing it to be enhanced

through repeated yet meaningful practice, as claimed in skill acquisition theory. Thus, this study understands formulaic expressions such as ‘I am wondering if...’ as a type of chunk, a building block that is combined into a prefabricated production rule, as described by DeKeyser (2015) (see Section 2.3.4.1).

### **3.3.2 Use of Formulaic Expression in L2 Development**

It has been pointed out that formulaic language or ready-made chunks of declarative knowledge play a significant role in language acquisition and production (Ellis, 2003; Wood, 2010). Ellis, for example, states that child language development begins with picking up lexical phrases, recognising the sequenced strings of sounds and syllables, as chunks that encode particular meanings, and then eventually combining chunks together into more complex structures. The benefit of utilising formulaic language has frequently been reported in studies on language learning and production. For example, Wood’s (2006) study indicated that using formulaic language helped learners build fluency and automaticity. Chunking is often assumed to help reduce the load on working memory, something that is crucial, given how that memory has such a limited capacity (Thalman et al., 2019).

According to Boers et al. (2006), using formulaic language is advantageous, increasing learners’ proficiency in speaking, the production of language and linguistic accuracy, and because formulaic expressions as fixed sequences of words can be used without recourse to the taught grammatical rules, which helps to produce language in real-time, and with fewer grammatical errors. Similarly, Swan (2017, p. 1) argues that using ‘chunks (formulaic expressions) saves processing time’ and frees up efforts for learning and producing grammar, which in turn frees up time and effort for other tasks. For example, by using a sequence such as ‘Would you mind if...?’, the learner no longer needs to go through the process of creating the sequence from scratch by referring to the grammatical rules for conditionals. For Gatbonton and Segalowitz (2005), repeated practice of using formulaic linguistic patterns in communication promotes automaticity. See also Bardovi-Harlig (2006), stating that using formulaic expressions helps learners produce language more fluently, as well as processing it much faster and ‘saves the

speaker planning time that can be used where it is needed more' (p. 2). The results from the empirical studies of Chen and Caldwell-Harris (2019) reveal the influence of chunking on accuracy and complexity in oral production.

The advantage of using formulaic expressions such as those mentioned above echoes DeKeyser's discernment of what he describes as 'ready-made chunks' involved in the process of proceduralisation in Section 3.1.4 and aligns with the discussion addressing reductions in loads on working memory (trade-off function) presented in Section 2.3.5. In support of this view, Chan and Caldwell-Harris (2019) pointed out that L2 proficiency should be assessed not only by testing grammatical and lexical knowledge (declarative knowledge) but also by 'stressing psychological aspects, such as proceduralisation and the use of formulaic language' (p. 1026), along with reporting that results from their investigation indicated that learners' use of chunks had a strong correlation with their proficient oral output (fluency, accuracy and complexity). Developing learners' knowledge on the use of ready-made chunks/formulaic expressions is one of the key areas to investigate in the current study.

Kasper and Rose (2002) based their research on R. Ellis's (1992) three developmental stages for learning request-making expressions, albeit reconceptualised to, posit five stages of pragmatic development (Pre-basic, Formulaic, Unpacking, Pragmatic expansion, and Fine-tuning stages) using the definitions which are essentially based on the use of formulaic expressions. For example, the 'formulaic' stage is defined as the stage of 'reliance on unanalysed formulas and imperatives and simple imperative use', 'Please open the door.' is slightly shifted to the use of bi-clause, while the 'unpacking stage' is characterised by the productive use of formulas, and a shift to conventional indirect.

As seen above, the use of chunks/formulaic expressions is strongly correlated with the enabling of smooth and fluent processing, leading to smoother and more fluent language production, supporting the view adopted in this study, that the use of formulaic expressions serves to develop declarative knowledge into procedural knowledge. The use of the term, *chunk* in this study, is similar to that described by Wood (2010) and Schmitt (2010) above, if not quite the same as the one described in the ACT-R model. However, with regard to the basic idea of the role chunks play in proceduralisation matches as described in DeKeyser (2015), and in Anderson (2009), in that chunks are important

elements of proceduralisation, and effective retrieval of a relevant ready-made schema serves to reduce the load on working memory, and in that way, lead learners to more speedy and fluent performance.

### 3.3.3 Production Rules to Perform Speech Acts

In the previous sections, I have shown how declarative knowledge was interpreted into production rules in the production system of ACT-R. In this section, I discuss how declarative knowledge and procedural knowledge are related to pragmatic knowledge required to produce speech acts.

Faerch and Kasper (1984, p. 215) define declarative knowledge involved in the production of speech acts as *declarative pragmatic knowledge*, while defining procedural knowledge as *procedural pragmatic knowledge*. According to them, the former consists of multiple components of declarative knowledge, such as pragmalinguistic knowledge, sociopragmatic knowledge and knowledge of the world, and the latter consists of cognitive procedures to perform target actions such as goal-formulation, context-analysis and verbal planning (e.g., selecting syntactic and lexical resources). They proposed a model indicating how declarative pragmatic knowledge was integrated into IF-THEN production rules (procedural pragmatic knowledge) for the speech act of apology.

In the model, some constitutive conditions (or *felicity conditions*) in Searle (1969, p. 66) that the acts (of apology in this case) must meet, if they are to be performed successfully, are posited as in (A), while production rules in the form of IF-THEN statements are presented in (B). According to their model, this would enable different speech acts to be produced by selecting one or more constitutive conditions. For example, the speech acts of *justifying* and *apologising* share the particular conditions (1) through (3), but differ when it comes to the condition in (4). In the case of *justifying*, the speaker may choose to give reasons, whereas when *apologising*, they would likely choose to express regret to X. Having selected the relevant conditions, the speaker still has to assess whether the conditions below are sufficiently fulfilled before performing an *apology*.

**(A) Constitutive conditions:**

1. S (speaker) did X.
2. X is at a cost to H (hearer).
3. S assumes responsibility for bringing about X.
4. S wants to convey the attitude of regret for X to H.

(Adopted from Faerch & Kasper, 1984, p. 218)

When the speaker judges these preconditions hold true, pragmatic procedures expressed in the form of IF and THEN statements in (B) are specified. The conditional part of the procedure contains a specification related to the specific goal for communication. The conditions that apply for giving an *apology* in the particular context where the speaker has accidentally-broken the hearer's favourite vase, and the hearer does not yet know of the offence, are given below (adopted from Faerch & Kasper, 1984, p. 221).

**(B) IF-THEN statements (a production rule)**

- IF**        the goal is to apologise to H:
- the act to be performed is an *apology* (actional goal)
  - and a great amount of additional remedial work is called for (modal goal)
  - and the offence is constituted by S having smashed H's favourite vase (propositional goal)
  - and the offence took place in H's absence, i.e. there is a time lag between the offence and the apology (context)
  - and H does not know of the offence (context),

**THEN**    .....

The second part of the procedure, the *THEN* part, contains functional specifications such as pre/post-head modifiers as detailed in the left columns below (in Table 11), and their realisation samples are given on the right-hand side. Faerch and Kasper (1984) state that these selections of functional specifications do not differ in principle from the formal realisations of any other speech acts. Therefore, together with the aforementioned constitutive conditions in (A), the functional specifications in (B) constitute general

production rules that correspond to those described in the ACT-R model, whereas the specific formal realisations shown in the table below (Actual utterances) correspond to the utterance (action) performed by the execution of the specific production rule.

**Table 11 Functional specifications and corresponding utterances**

Functional Specifications	Actual utterances
1 External pre-modification by means of - an appeal: - a topic introducer: - a 'forewarn':	Aunt Betty, there's something I have to tell you. I know you'll be terribly upset but
2 Statement of the offence in impersonal terms:	The Chinese vase has fallen down.
3 Apology in conventionalized form with internal modification, aggravating the illocutionary force:	I'm awfully sorry
4 External post-modification by means of - an explanation: - a promise of compensation:	I slipped when I carried it into the kitchen, but I'll get you a new one. I've seen some nice ones in one of the antique shops in town.

(Faerch & Kasper, 1984, pp. 221-222)

According to Faerch and Kasper, general production rules, being general, can be shared by different speech acts, as in the case of *justifying* speech act sharing (1) through (3) conditions in (A) with apologising. The external pre-modification by means of *an appeal* or *attention getting* (e.g., 'Hello' or 'Excuse me') can be shared by many other speech acts. A specific production rule, on the other hand, is used to perform a specific action in a specific situation, such as actual utterances indicated on the right-hand side of Table 11.

### 3.3.3.1 Production Rules to Perform Request Speech Act

Having seen how Faerch and Kasper's (1984) model posits production rules to perform speech acts, I will now explain more in detail how production rules to perform a specific speech act, such as request, are created and processed by using the model I proposed in Figure 11, which was built on insights from Faerch and Kasper's model, albeit with

selected modifications. One of the slight modifications which were made involved referring to O'Malley, Chamot and Walker's (1987, p. 296) production system, which, in its proposed illustration of a particular conversation between an intermediate level L2 learner of English and English L1 speaker, furnished more detailed descriptions of each production rule as in Table 12. These descriptors were adopted, in lieu of Faerch and Kasper's, because the finer detail offered greater precision.

**Table 12 A production system for communicating in a second language**

---

<b>P1</b>	<b>IF</b>	the goal is to engage in conversation with Sally, and Sally is monolingual in English,
	<b>THEN</b>	the subgoal is to use my second language.
<b>P2</b>	<b>IF</b>	the goal is to use my second language,
	<b>THEN</b>	the subgoal is to initiate a conversation. (sociolinguistic competence)
<b>P3</b>	<b>IF</b>	the goal is to initiate a conversation,
	<b>THEN</b>	the subgoal is to say a memorized greeting formula. (discourse competence)
<b>P4</b>	<b>IF</b>	the goal is to say a memorized greeting formula, and the context is an informal one,
	<b>THEN</b>	choose the appropriate language style.
<b>P5</b>	<b>IF</b>	the goal is to use the appropriate language style,
	<b>THEN</b>	the subgoal is to say: "Hi, how's it going, Sally?" (sociolinguistic competence)
<b>P6</b>	<b>IF</b>	the goal is to say: "Hi, how's it going, Sally?"
	<b>THEN</b>	the subgoal is to pay attention to pronouncing the sentence as much like a native speaker as possible.
<b>P7</b>	<b>IF</b>	the goal is to pronounce the sentence as much like a native speaker as possible,
	<b>THEN</b>	the subgoal is to check whether my pronunciation is accurate enough to communicate my meaning. (sociolinguistic competence)
<b>P8</b>	<b>IF</b>	the goal is to check whether my pronunciation is accurate enough to communicate the meaning of my greeting,
	<b>THEN</b>	the subgoal is to pay careful attention to Sally's response. (sociolinguistic competence)
<b>P9</b>	<b>IF</b>	the goal is to pay careful attention to Sally's response, and her response indicates that she has understood my meaning,
	<b>THEN</b>	the subgoal is to wait for Sally to finish her conversation turn. (discourse competence)

---

Partial excerpt from O'Malley et al. (1987, p. 296)

Now, I will explain step by step how production rules to perform request speech acts are created. First, the context posited for a request making is given in (I), the constitutive (or felicity) conditions are listed in (II), possible factors that may affect the degree of politeness are in (III), and an example of request making postulated is given in (IV).

(I) Context: A student wants Professor William to write a letter of recommendation

(II) The felicity conditions (A refers to the requested item or action):

1. H is able to do A.
2. It is not obvious to both S and H that H will do A in the normal course of events of his own accord.
3. S wants H to do A.
4. Counts as an attempt to get H to do A.

(III) Socio-cultural and context knowledge (factors that affect the selection of the strategies and expressions to be used, employed from Brown and Levinson's (1987) three factors that determine the level of politeness):

- Social distance is long
- Psychological distance is short (the student knows this Professor William well)
- The burden of the task requested is heavy

(IV) A typical example of request making

- |  |                           |
|--|---------------------------|
| 1. Excuse me, Professor William.                       | <b>(A) Alerters</b>       |
| 2. Do you have a minute?                               | <b>(B) Pre-Head Act 1</b> |
| I'm thinking of applying to MF corporation, and I need | <b>(B) Pre-Head Act 2</b> |
| two letters of recommendation for the application.     |                           |
| 3. I was wondering if you could write a letter of      | <b>(C) Head Act</b>       |
| recommendation for me.                                 |                           |
| 4. Thank you for taking time out of your busy day.     | <b>(D) Post-Head Act</b>  |

When the speaker judges these conditions in (II) to hold true in the context in (I), general production rules (IF and THEN statements), such as in Table 13 below, are executed step by step to perform request speech acts such as in (IV). Each utterance in 1-4 above corresponds to each component (A) to (D) of request speech acts. When learners perform request making dialogue (A) to (D), they follow the procedure as in Table 13. Note that Steps in Table 13 are just one representation of steps of thought encoded in a sequence of condition-action rules. Inevitably, other representations have the scope to show much more complex steps of thought. This simplified version is used to make the explanation as straightforward as possible, and draws out only the most salient steps of thought. Moreover, it should be borne in mind that the order of the steps may also vary, depending on how the speakers develop their verbal planning in the particular natural setting. Besides, a conversation is normally interactional between speaker and hearer, and each interlocutor utters in response to what was uttered previously. Thus, what will be uttered next is unpredictable. However, for ease of explanation, I use the following example, to indicate a typical pattern of a request speech act, but uttered by just one speaker. In reality, a conversation is typically held by more than one interlocutor. Thus, the process of executing the actual production rules is likely to be more complicated. The step-by-step creation of production rules to perform request speech acts in (IV) is indicated in Table 13.

**Table 13 Production rules for request making**

<b>P1</b>	<b>IF</b>	the goal is to ask Professor William to write a letter of recommendation and the speech act to be performed is a request (actional goal) and additional work is called for to let Professor William do the task,
	<b>THEN</b>	set a subgoal to initiate the conversation for requesting with external pre-modification ( <i>Alerters</i> ) appropriate to the context.
<b>P2</b>	<b>IF</b>	the goal is to initiate the conversation for requesting with <i>Alerters</i> appropriate to the context, and the context is <ul style="list-style-type: none"> <li>• the social distance between S and H is long (SDL)</li> <li>• the psychological distance between S and H is short (PDS)</li> <li>• the burden of the task is heavy (BTH)</li> </ul>
	<b>THEN</b>	send a retrieval request to declarative buffer for the expressions of <i>Alerters</i> appropriate to the context (SDL + PDS + BTH) and set a subgoal to initiate the conversation for requesting.

(Continued)

**Table 13 (Continued)**

---

<b>P3</b>	<b>IF</b>	the goal is to initiate the conversation for request making and the expression of <i>Alerters</i> is retrieved,
	<b>THEN</b>	initiate the conversation for request making with retrieved <i>Alerters</i> .
<b>P4</b>	<b>IF</b>	the goal is to initiate the conversation for request making with retrieved <i>Alerters</i> ,
	<b>THEN</b>	say, 'Excuse me, Professor William'.
<b>P5</b>	<b>IF</b>	the goal is to request Professor William to write a letter of recommendation and continue the conversation by introducing the topic ( <i>Pre-Head Act 1</i> ) appropriate to the context,
	<b>THEN</b>	set a subgoal to continue the conversation with the topic introducer appropriate to the context.
<b>P6</b>	<b>IF</b>	the goal is to continue the conversation by introducing the topic appropriate to the context,
	<b>THEN</b>	send a retrieval request to declarative memory for the expression of introducing a topic appropriate to the context and set a subgoal to continue the conversation by the topic introducer.
<b>P7</b>	<b>IF</b>	the goal is to continue the conversation by the topic introducer and the topic introducer is retrieved,
	<b>THEN</b>	set a subgoal to continue the conversation with the retrieved topic introducer.
<b>P8</b>	<b>IF</b>	the goal is to continue the conversation with the retrieved topic introducer,
	<b>THEN</b>	say, 'Do you have a minute?'
<b>P9</b>	<b>IF</b>	the goal is to request Professor William to write a letter of recommendation and continue the conversation by introducing the topic ( <i>Pre-Head Act 2</i> ) appropriate to the context,
	<b>THEN</b>	set a subgoal to continue the conversation with the topic introducer appropriate to the context.
<b>P10</b>	<b>IF</b>	the goal is to continue the conversation by introducing the topic appropriate to the context,
	<b>THEN</b>	send a retrieval request to declarative memory for the expression of introducing a topic appropriate to the context and set a subgoal to continue the conversation by the topic introducer.
<b>P11</b>	<b>IF</b>	the goal is to continue the conversation by the topic introducer and the topic introducer is retrieved,
	<b>THEN</b>	set a subgoal to continue the conversation with the retrieved topic introducer.
<b>P12</b>	<b>IF</b>	the goal is to continue the conversation with the retrieved topic introducer,
	<b>THEN</b>	say, 'I'm thinking of applying to MF corporation, and I need two letters of recommendation for the application'.

---

*(Continued)*

**Table 13 (Continued)**

<b>P13</b>	<b>IF</b>	the goal is to request Professor William to write a letter of recommendation and continue the conversation by making a request in conventionalised form ( <i>Head Act</i> ) with internal modification appropriate to the context,
	<b>THEN</b>	set a subgoal to continue the conversation by making a request in conventionalised form with internal modification appropriate to the context.
<b>P14</b>	<b>IF</b>	the goal is to continue the conversation by making a request in conventionalised form with internal modifications appropriate to the context,
	<b>THEN</b>	send a retrieval request to declarative memory for the expression of requesting in conventionalised form with internal modification appropriate to the context and set a subgoal to continue the conversation by making a request in conventionalised form with internal modification appropriate to the context.
<b>P15</b>	<b>IF</b>	the goal is to continue the conversation by making a request in conventionalised form with internal modifications appropriate to the context and the expression of requesting in conventionalised form with internal modification is retrieved,
	<b>THEN</b>	set a subgoal to continue the conversation with the retrieved expression of requesting in conventionalised form with internal modification.
<b>P16</b>	<b>IF</b>	the goal is to continue the conversation with the retrieved expression of requesting in conventionalised form with internal modification,
	<b>THEN</b>	say, 'I was wondering if you could write a letter of recommendation for me'.
<b>P17</b>	<b>IF</b>	the goal is to request Professor William to write a letter of recommendation and close the conversation with external post-modification ( <i>Post-Head Act</i> ) appropriate to the context,
	<b>THEN</b>	set a subgoal to close the conversation with <i>Post Head Act</i> appropriate to the context.
<b>P18</b>	<b>IF</b>	the goal is to close the conversation with <i>Post Head Act</i> appropriate to the context,
	<b>THEN</b>	send a retrieval request to declarative memory for the expression of <i>Post Head Act</i> appropriate to the context and set a subgoal to close the conversation with <i>Post Head Act</i> appropriate to the context.
<b>P19</b>	<b>IF</b>	the goal is to close the conversation with <i>Post Head Act</i> appropriate to the context and the expression of <i>Post Head Act</i> is retrieved,
	<b>THEN</b>	close the conversation with the retrieved expression of <i>Post Head Act</i> .
<b>P20</b>	<b>IF</b>	the goal is to close the conversation with the retrieved expression of <i>Post Head Act</i> ,
	<b>THEN</b>	say, 'Thank you for taking time out of your busy day'.

To achieve the goal of asking Professor William to write a letter of recommendation, appropriate production rules must be selected and executed. Figure 16 depicts the flow of processing production rules taking place in Central procedural system. In order for the first production rules from P1 to P4 to be executed, which includes the interaction with the surrounding modules (Declarative module and Vocal module), first, matching of the production rules is performed by sending an enquiry to Procedural memory, asking if there is a production rule necessary to achieve the goal. Procedural memory, then, responds by proposing potential general production rules (GPs) and/or specific production rules (SPs). For example, GPs in the diagram including GP<sub>(1)</sub> (IF the goal is to ask a professor to write a letter of recommendation, THEN...), GP<sub>(2)</sub> (IF the goal is to ask a professor to write a book review, THEN...), and GP<sub>(3)</sub> (IF the goal is to ask a professor to borrow his books, THEN...), and SPs such as SP<sub>(1)</sub> (IF the goal is to ask Prof. Sutton to write a letter of recommendation, THEN...) are proposed. Then, Selection selects one out of the potential production rules (in this case, GP<sub>(1)</sub>), and Execution executes the production rule (in this case, GP<sub>(1)</sub>, which corresponds to P1 in Table 13).

Next, in executing P1, a subgoal is set. In order to achieve the subgoal, Matching again sends Procedural memory an enquiry, asking if there is a production rule to achieve the goal. Procedural memory, then, proposes potential production rules (GP<sub>(4)</sub>, GP<sub>(5)</sub>, GP<sub>(6)</sub>), and Selection selects a candidate production rule (GP<sub>(4)</sub> = P2). P2 is a production rule to be executed to send a retrieval request to the Declarative module (memory) through the Retrieval buffer. In the current case, a declarative chunk for Alerters suitable in the context of SDL + PDS + BTH, that is, 'Excuse me, Professor William.', is retrieved.

P3 and P4 are also selected and executed in the same procedure. The P4, however, is a production rule that stipulates that the information retrieved from Declarative memory is to be uttered by the execution of P4. When P4 is executed, the information is transmitted to Vocal module through Vocal buffer. Eventually, the words, 'Excuse me, Professor William.' are uttered, and the subgoal is achieved.

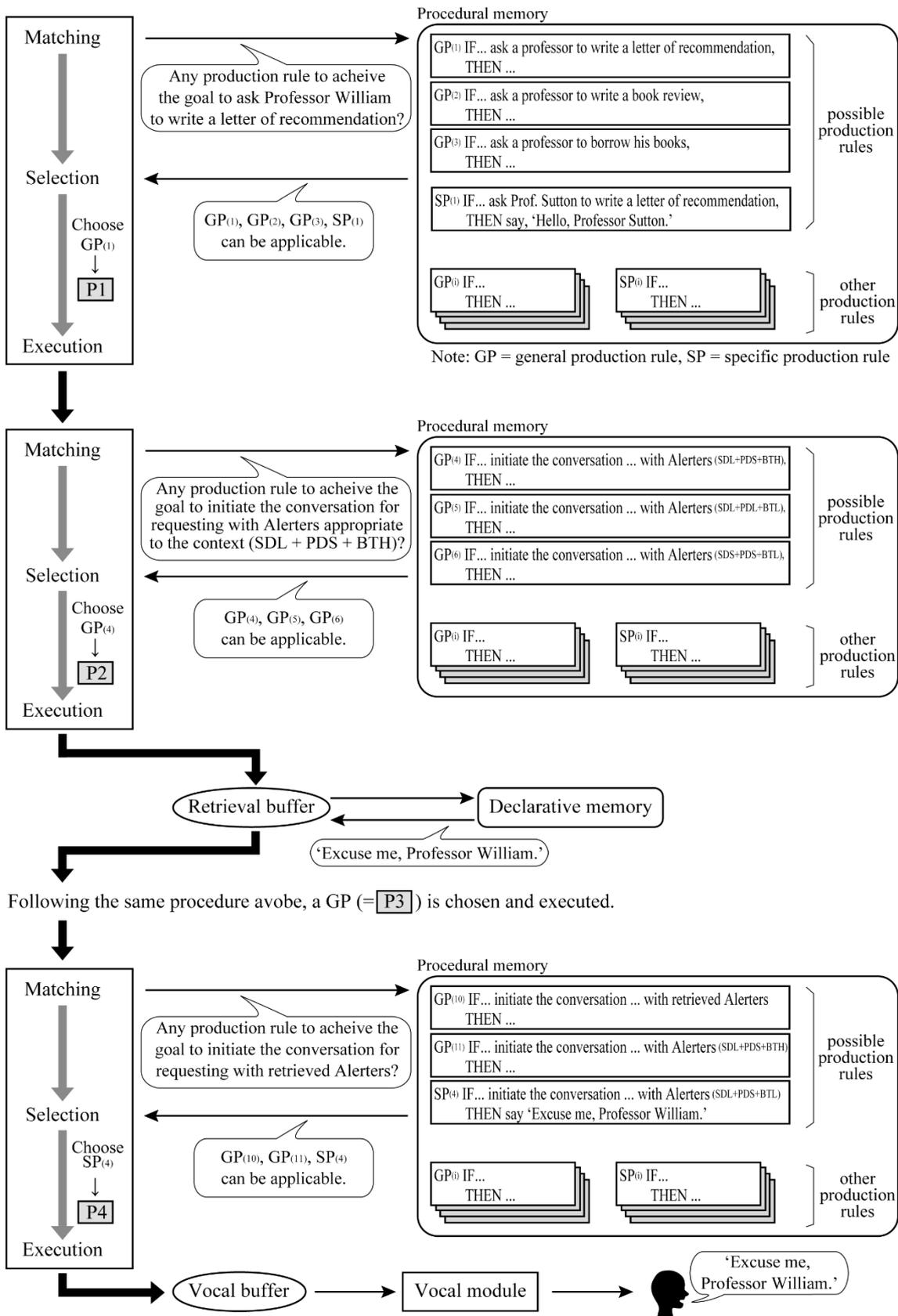


Figure 16 The flow chart of P1-P4 in Central production system

The steps of executing production rules shown above are the ones novice learners typically follow, and for them, going through so many steps to reach the goal inevitably takes time. However, after repeated and meaningful practice, novice learners get better at the task, moving up to the next learning stage through the process of production compilation described in Section 3.1.4. The next section considers how the production compilation may occur in producing request speech acts.

### **3.3.3.2 Production Compilation in Request Speech Act Construct**

In the ACT-R model, production compilation takes place by combining sequences of productions that follow each other into a single new production rule. The elimination of several production rules into one new production rule makes it possible to get to the point of performing tasks much more quickly, and with far fewer errors. A specific production that no longer requires declarative information to be retrieved into working memory is also created through the process. Therefore, production compilation is considered an essential mechanism for skill development.

The question now is, how does this process take place in the production of speech acts? As described earlier in Section 3.1.4, when the same exact task has been practised many times, production rules in sequence executed to do the task are combined into a new production. When the task is completed, the new production rule is stored in procedural memory for future use. Thus, for example, when the task of creating P2, P3 and P4 in Table 13 in the same sequence is practised repeatedly, these productions are combined into a new single production, P2\* (to distinguish from P2 in Table 13, the expression, P2\* is used).

#### **P2\* (P2 & P3 & P4)**

**IF** the goal is to initiate the conversation for requesting with Alerters,  
**THEN** say 'Excuse me, Professor William.'

Similarly, P5, P6, P7 and P8 are combined to create a new production P3\*.

**P3\* (P5 & P6 & P7 & P8)**

**IF** the goal is to request Professor William to write a letter of recommendation and continue the conversation by introducing the topic (*Pre-Head Act 1*) appropriate to the context,  
**THEN** say, ‘Do you have a minute?’

Likewise, a new production rule P4\* will be created by combining P9, P10, P11 and P12, P5\* will be created by combining P13, P14, P15 and P16, and P6\* will be created by combining P17, P18, P19 and P20. P2\* is a specific production rule for Alerters in (A): ‘Excuse me, Professor William.’ and P3\* and P4\* are specific production rules for Pre-Head Act in (B): ‘Do you have a minute?’ and ‘I’m thinking of applying to MF corporation, and I need two letters of recommendation for the application’. In a similar fashion, P5\* is a specific production rule for the Head Act in (C), and P6\* is a specific production rule for Post-Head Act in (D).

After continuous and meaningful practice, the learner now becomes able to utter a set of specific production rules (P1 & P2\* & P3\* & P4\* & P5\* & P6\*) in a sequence as in Table 14 without referring to the general production rules. The retrieval of a set of specific production rules enables the learners to perform the request speech acts in (IV) above (repeated here in Table 14) smoothly and without mistakes.

**Table 14 Production rules to perform specific speech acts in (IV)**

---

**Request making in IV (in Section 3.3.3.1)**

1. Excuse me, Professor William.	<b>(A) Alerters</b>
2. Do you have a minute? I’m thinking of applying to MF corporation, and I need two letters of recommendation for the application.	<b>(B) Pre-Head Act 1</b> <b>(B) Pre-Head Act 2</b>
3. I was wondering if you could write a letter of recommendation for me.	<b>(C) Head Act</b>
4. Thank you for taking time out of your busy day.	<b>(D) Post-Head Act</b>

**P1 IF** the goal is to request Professor William to write a letter of recommendation and the speech act to be performed is a request (actional goal) and additional work is called for to let Professor William do the task,  
**THEN** set a subgoal to initiate the conversation for request making with external pre-modification (*Alerters*) appropriate to the context.

---

(Continued)

**Table 14** (Continued)

---

<b>P2*</b>	<b>IF</b>	the goal is to initiate the conversation for request making with external pre-modification ( <i>Alerters</i> ),
	<b>THEN</b>	say, 'Excuse me, Professor William.'
<b>P3*</b>	<b>IF</b>	the goal is to request Professor William to write a letter of recommendation and continue the conversation by introducing the topic ( <i>Pre-Head Act 1</i> ) appropriate to the context,
	<b>THEN</b>	say, 'Do you have a minute?'
<b>P4*</b>	<b>IF</b>	the goal is to request Professor William to write a letter of recommendation and continue the conversation by introducing the topic ( <i>Pre-Head Act 2</i> ) appropriate to the context,
	<b>THEN</b>	say, 'I'm thinking of applying to MF corporation, and I need two letters of recommendation for the application.'
<b>P5*</b>	<b>IF</b>	the goal is to request Professor William to write a letter of recommendation and continue the conversation by making a request in conventionalised form ( <i>Head Act</i> ) with internal modification appropriate to the context,
	<b>THEN</b>	say, 'I was wondering if you could write a letter of recommendation for me.'
<b>P6*</b>	<b>IF</b>	the goal is to request Professor William to write a letter of recommendation and close the conversation with external post-modification ( <i>Post-Head Act</i> ) appropriate to the context,
	<b>THEN</b>	say, 'Thank you for taking time out of your busy day.'

---

The production compilation in the ACT-R model is an essential process for creating new production rules. However, there is also another way ACT-R can create new production rules. That is through processes such as analogy and generalisation. In the next section, I will explain how analogy and generalisation are employed to create new production rules to produce speech acts in a new situation.

### **3.3.3.3 Creation of New Production Rules by Analogy and Generalisation**

One of the basic principles of the ACT-R model is the idea that learners do not simply acquire knowledge but construct it by referring to their previous experience and then adjusting it to meet a new (current) situation. Section 3.1.3 and Section 3.1.4 mentioned that new production rules are constructed out of existing knowledge through distinct

processes, including production compilation, analogy, and generalisation. The first process and its involvement in the production of speech acts have already been discussed in the previous section. Therefore, in this section, I will discuss the latter two processes, analogy and generalisation, and how their involvement accounts further for the development of EFL learners' L2 pragmatic knowledge.

In the ACT-R model, an analogy is described as a process by which a solution is found by synthesis from previously realised solutions to similar problems. According to Anderson (1993), knowledge is extended from one situation to a new situation through the process of analogy. Generalisation, on the other hand, is explained as a process by which more general rules are generated inductively out of existing similar production rules stored.

In Anderson and Schunn (2000), this concept of knowledge extension is explained more explicitly under the term 'knowledge transfer' (p. 18). They argue that 'learning with understanding leads to the more flexible application of that knowledge, and thereby greater transfer to novel settings' is available and further that 'the knowledge will transfer to new situations to the degree to which it is applicable to those situations' (p. 18). Fakharzadeh et al. (2014) argue that such extrapolation of knowledge involves learners' ability to generalise what they have learned from what applies in one or more specific contexts and then relate it to different contexts. Although different terminologies are being used, they are fundamentally addressing the same phenomenon, both referring to learners' ability to derive knowledge from one situation and then tailor it and extend it to a new situation.

In what follows, I will explain with the aid of two examples how this knowledge extension via analogy and generalisation is applied when producing speech acts in a previously unmet situation. The first one concerns knowledge extension from one situation to another situation but within the same type of speech acts. The second one involves knowledge extension from one type of speech act to another type of speech act. The first one is like knowledge extension from a situation in (I) in Section 3.3.3.1 (in which a student wants Professor William to write a letter of recommendation) to the somewhat different situation in (V), where a student wants Professor White to write a letter of recommendation.



- P2\*\* IF** the goal is to initiate the conversation for requesting with *Alerters* appropriate to the context,  
and the context is
- the social distance between S and H is long (SDL)
  - the psychological distance between S and H is long (**PDL**)
  - the burden of the task is heavy (BTH)
- THEN** send a retrieval request to declarative buffer for the expressions of *Alerters* appropriate to the context (SDL + **PDL** + BTH)  
and set a subgoal to initiate the conversation for requesting.
- P3 IF** the goal is to initiate the conversation for request making  
and the expression of *Alerters* is retrieved,
- THEN** initiate the conversation for request making with retrieved *Alerters*.
- P4\*\* IF** the goal is to initiate the conversation for request making with  
retrieved *Alerters*,
- THEN** say ‘Hello, Professor White. My name is Ken Tanaka.’

In the IF part of P2\*\* above, the psychological distance between S and H has now become long (PDL). Therefore, the action in the THEN part will be changed accordingly. Next, by the execution of P3, the appropriate expressions for *Alerters* are searched out of existing declarative chunks used in a similar situation. Note that there is no change with P3, which is executed to retrieve the appropriate expression for *Alerters*. In the current situation, more formal greeting expressions are considered appropriate. To accord with this new condition, the following expressions, ‘Hello, Professor White. My name is Ken Tanaka.’ are retrieved from the memory of past experience, and then uttered by the execution of the production rule of P4\*\*.

Other parts of conversations, such as the topic introducer of Pre-Head Act, Head Act, and Post-Head Act, may or may not be changed, referring to the relevant expressions used in a similar situation stored in memory.

Next, I will explain knowledge transfer from one type of speech act to produce another type of speech act. This is to answer the research question in SQb.

**SQb.** Do learners improve their production of uninstructed speech acts, such as complaining and disagreeing as a result of learning request and refusal speech acts? What improvements can be traced?

In this study, I examine the learners' ability of knowledge extension/transfer described above by assessing their ability to extend the knowledge they acquired from learning the production of request and refusal speech acts to construct uninstructed complaint and disagreement speech acts.

Given that, according to Anderson and Schunn (2000, p. 19), 'the knowledge will transfer to new situations to the degree to which it is applicable to those situations', knowledge transfer from a refusal speech act, to a complaint speech act is posited, since these speech acts have some pragmatic features in common. One aspect that these speech acts have in common is that both refusal and complaint acts are inherently face-threatening acts. To reduce the risk of face-threatening, various politeness strategies or mitigation devices are used. For example, to initiate conversations, some devices such as opener and orientation are used before the Head Act statement (Pre-Head Act), and some strategies to close conversation are used after the Head Act statement (Post-Head Act).

A typical pattern in which refusal and complaint speech acts appears is illustrated below in (VIII) and (IX), which consists of three major parts (Pre-Head Act, Head Act and Post-Head Act). The sequence of utterances in (VIII) are in response to the request made by the employee's boss: 'I was wondering if you might be able to work overtime this evening, say, until about 9:00 pm or so'.

(VIII)

<b>Employee's Response</b>	<b>Refusal-sequences</b>	<b>Strategy</b>
Uh, I'd really like to,	<i>Pre-Head Act</i>	Willingness
but I can't.	<i>Head Act</i>	Direct refusal
I'm sorry,	<i>Post-Head Act</i>	Regret
I have plans.	<i>Post-Head Act</i>	Reason/Explanation
I could come earlier tomorrow morning, if you would like me to.	<i>Post-Head Act</i>	Alternative solution

Similarly, seven typical components of complaints are identified by Schaefer (1982, as cited in Celce-Murcia & Olshtain, 2000), and indicated in (IX) that can also be categorised into three components (Pre-Head Act, Head Act, Post-Head Act),

(IX) Seven typical complaints components

- |   |                 |
|---|-----------------|
| 1. <b>Opener:</b> utterance that begins the comment.  | [Pre-Head Act]  |
| 2. <b>Orientation:</b> utterance that gives the hearer information about the complainer's identity as well as the intent in initiating the complaint. | [Pre-Head Act]  |
| 3. <b>Act statement:</b> the utterance of the complaint itself.   | [Head Act]      |
| 4. <b>Justification:</b> utterance for the complainer to give reasons for the complaint or to give some justifications for the hearer's actions.      | [Post-Head Act] |
| 5. <b>Remedy:</b> utterance calling for the hearer's corrective action.   | [Post-Head Act] |
| 6. <b>Closing:</b> utterance signals the end of the complaint.  | [Post-Head Act] |
| 7. <b>Valuation:</b> utterance expressing the speaker's feelings about what is heard or the wrong action the hearer committed.                        | [Post-Head-Act] |

(Note that all these components are not necessarily present or recorded in any given complaint.)

In the list of refusal strategies (Beebe et al., 1990, pp. 72-73) given in Table 4 repeated here in Table 15, you find several strategies that can be used in complaint speech acts as well. For example, *statement of positive opinion* (e.g., 'That's a good idea.') and *statement of empathy* of refusal strategies correspond to *orientation* (e.g., 'I think your method is very innovative and effective, but I do not think it is applicable...') of complaint strategies. *Excuse/reason/explanation*, or *attempt to dissuade interlocutor* of refusal making and *justification* or *remedy* of complaint making can also be used interchangeably.

During the research, pragmatic instruction was given to the treatment groups on the use of these strategies, including specific formulaic expressions and the sequence patterns of request and refusal speech acts (declarative knowledge) and how to use these strategies and knowledge in performing these speech acts appropriately in a given social context

(procedural knowledge). Therefore, it is reasonable to assume that the knowledge and strategies that the learners have learned from the construction of request and refusal speech acts can be transferred to a related, but slightly different speech act, such as complaints or disagreement, as described in Fakharzadeh et al. (2014). The results from this research will be analysed and discussed in Chapter 4, drawing on the knowledge development mechanisms described in the ACT-R model.

**Table 15 Refusal strategies excerpt from Beebe et al. (1990)**

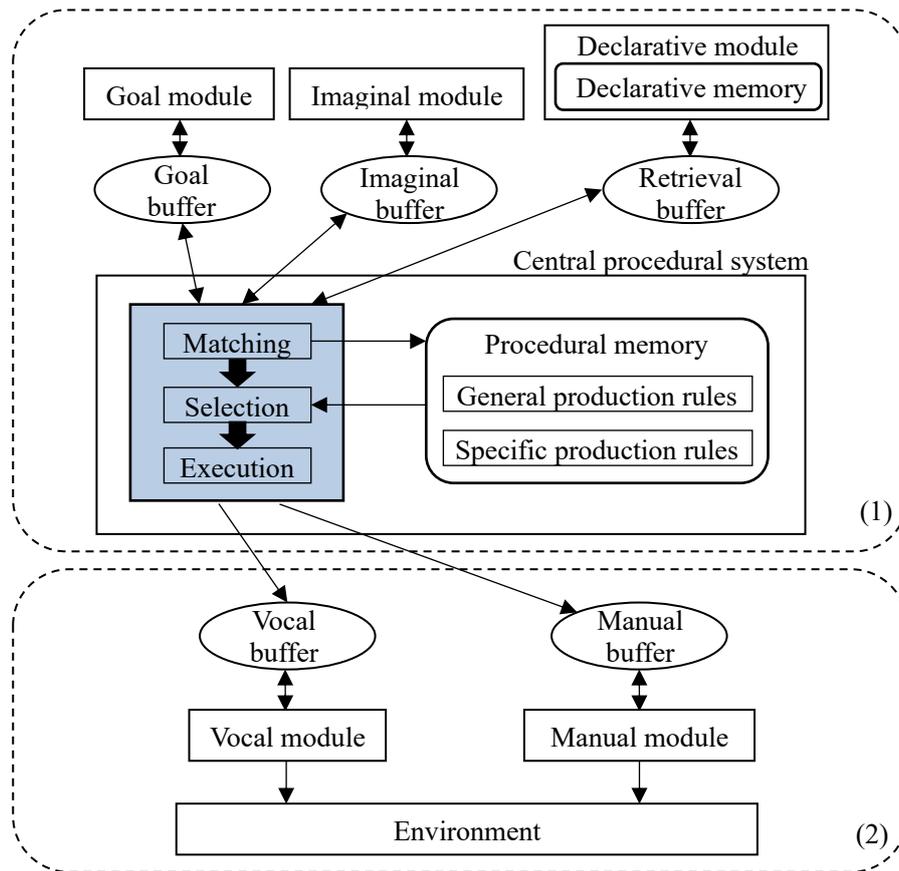
Category	Strategy
<b>Direct</b>	A. Performative
	B. Non-performative
<b>Indirect</b>	A. Statement of regret
	B. Wish
	C. Excuse, reason, explanation
	D. Statement of alternative
	E. Set condition for future or past acceptance
	F. Promise of future acceptance
	G. Statement of principle
	H. Statement of philosophy
	I. Attempt to dissuade interlocutor
	J. Acceptance that functions as a refusal
	K. Avoidance
<b>Adjuncts to refusals</b>	1. Statement of positive opinion/feeling or agreement
	2. Statement of empathy
	3. Pause fillers
	4. Gratitude/appreciation

### **3.3.4 Processing Ability in ACT-R Model**

In the previous sections, I argued that the development of pragmatic competence must be examined both in terms of the development of knowledge and the development of processing ability. In previous studies, the development of declarative knowledge has been explained quite straightforwardly, including the method of measuring development. However, in terms of processing ability, it was not made so clear what processing ability

is and how it is measured and verified. The purpose of this section is to elucidate these matters by drawing on the ACT-R model.

In the ACT-R model, to achieve the targeted action, appropriate production rules must be selected and executed in the appropriate order and thereby, appropriate declarative knowledge is retrieved and put into the targeted action, which is controlled by Central procedural system, more specifically by the processing unit (coloured in blue) in Figure 17, as explained in Section 3.2. It follows that if either the matching and selection in the processing unit failed, or a certain error occurs in the declarative module and the required declarative knowledge is not retrieved, or both of these do not work well, then, the task cannot be achieved in the desired manner. As shown earlier in Figure 12 through Figure 14, such failures will decrease as learners move up the stages of skill acquisition.



**Figure 17 Processing unit in Central procedural system**

This is because the more learners practice the target action, the more appropriate production rules are selected, and the more chances there are to complete the task in the desired manner.

ACT-R model posits two types of production rules, a general production rule and a specific production rule stored in procedural memory. A general production rule, as its name suggests, is general enough to be versatile and applicable to perform various skills, while specific production rules are applicable only to perform a specific action serving to develop a particular unique skill. Both are essential for skill development as production rules that promote the speedy and accurate performance of a particular speech act appropriate to a particular context, but they also need versatile general production rules to perform various types of speech acts in broader contexts. Furthermore, what is really at least as important is to enhance processing ability, and thereby enable smooth access to appropriate production rules through repeated and meaningful practice.

#### **3.3.4.1 Previous Studies on the Development of Processing Ability**

In previous studies (e.g., Li, 2014; Li & Taguchi, 2014), the development of processing ability was measured in terms of the speed/fluency (planning time and speech rate) to perform speech acts. Their measurement of planning time includes the time spent in (1) and (2) in Figure 17. The problem here is the time measured in the areas includes the area (2), which is outside of Central procedural system. For advanced English learners, it may not take time to go from vocal buffer through vocal to the Environment in (2), but for beginner to intermediate learners of English, who are the subjects of this study, it likely takes much more time. It may take more time in (2) than in (1). It is important not to forget that, even among English L1 speakers, there is a considerable range in how much time it takes before speaking out. Therefore, the measurement of the time spent in the areas, including (2), may not accurately reflect the time spent for processing in (1). The problem was also pointed out by Li (2019). Thus, there seems a need to measure the development of pragmatic ability using a different method, especially for lower-level of English learners, such as the subjects of this study.

### 3.3.4.2 Alternative Account for the Development of Processing Ability

In the current study, processing ability is measured in terms of learners' ability of knowledge extension/transfer discussed in Section 3.3.3.3, which is associated with the area of (1) in Figure 17. As explained earlier, knowledge extension is one of the means of creating new production rules, which is on par with increasing general production rules applicable to produce speech acts in a given context.

In what follows, I will explicate what it means for applicable production rules to increase as skill acquisition progresses through its various stages, and to do so, I will take the example of request making. Figure 18 depicts an image of the production rules necessary to produce a request speech act such as that shown earlier in Table 13, where a 'student asks the professor for a letter of recommendation'. It is important to notice the slots in which each of the production rules is inserted. For ease of explanation, a number of production rules and slots are tentatively posited. Since conversations are generally held interactively in the form of two-way exchanges, it is impossible to set the number of production rules at the initiation of a conversation. Furthermore, in general, far more than 20 production rules are executed for actual task solving, as discussed in Section 3.3.3.1.

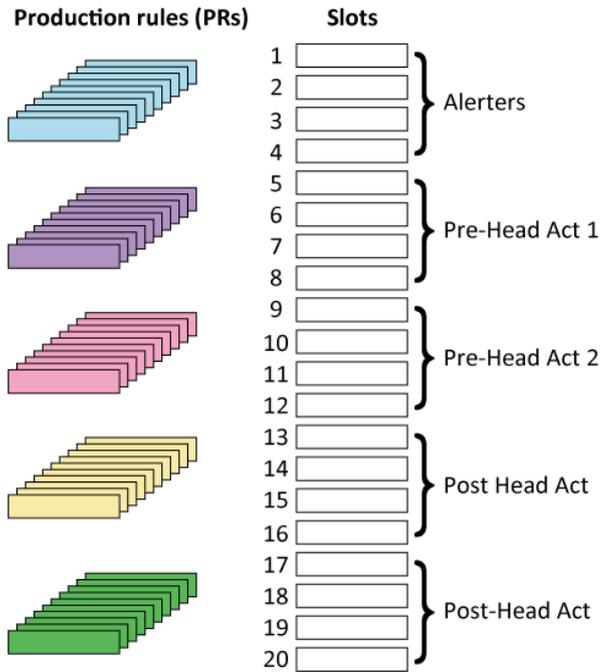
#### Example 1: A sequence of Request Speech Acts

1. Excuse me, Professor William.	<b>(A) Alerters</b>
2. Do you have a minute?	<b>(B) Pre-Head Act 1</b>
I'm thinking of applying to MF corporation, and I need two letters of recommendation for the application.	<b>(B) Pre-Head Act 2</b>
3. I was wondering if you could write a letter of recommendation for me.	<b>(C) Head Act</b>
4. Thank you for taking time out of your busy day.	<b>(D) Post-Head Act</b>

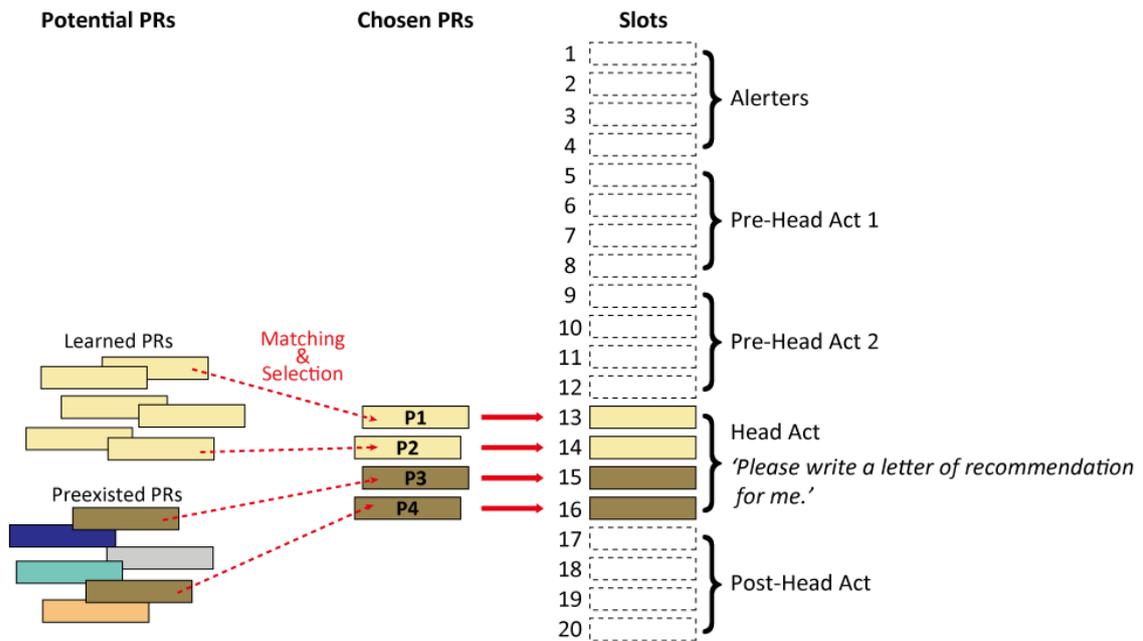
The first diagram in Figure 18 illustrates the 20 potential production rules to be used to perform the speech act in question and the 20 slots that hold the production rules required. The 20 slots are divided into five groups of slots for the sake of convenience: the four slots in the first group are allocated for the utterance corresponding to the Alerters

part. The next four in the second group are for the utterance corresponding to Pre-Head Act 1, and the other four slots are for Pre-Head Act 2, Head Act, and Post-Head Act.

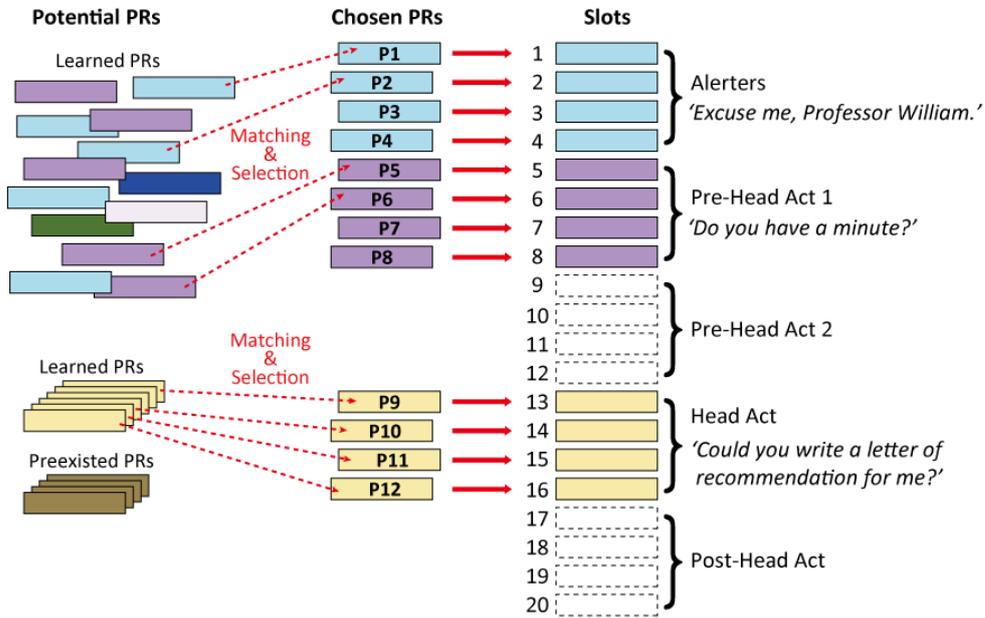
**A) All potential production rules and all slots for the utterance**



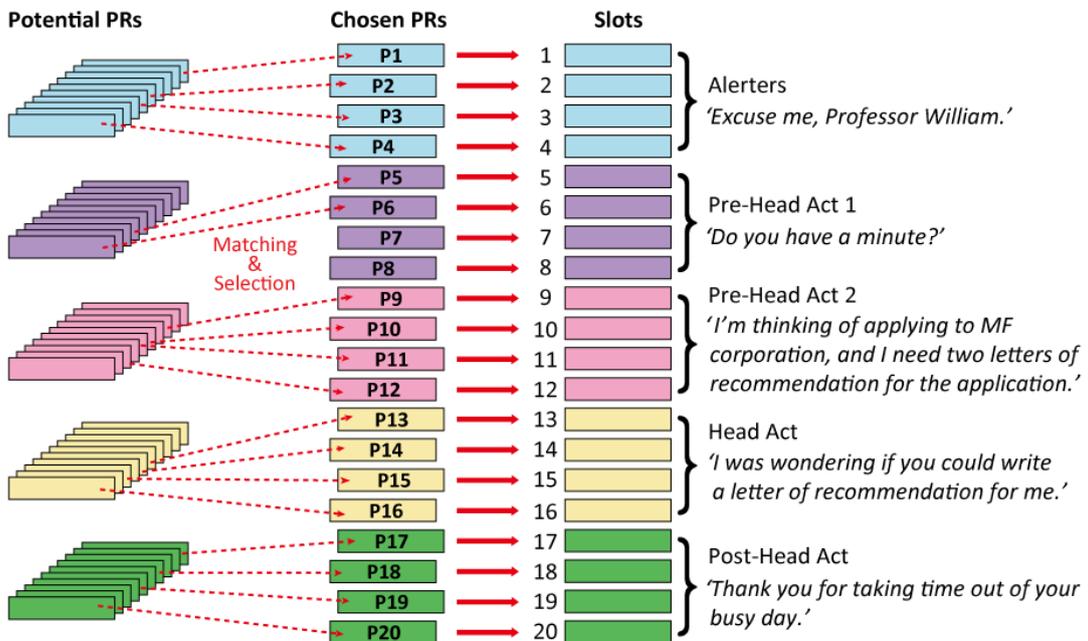
**B) Stage 1**



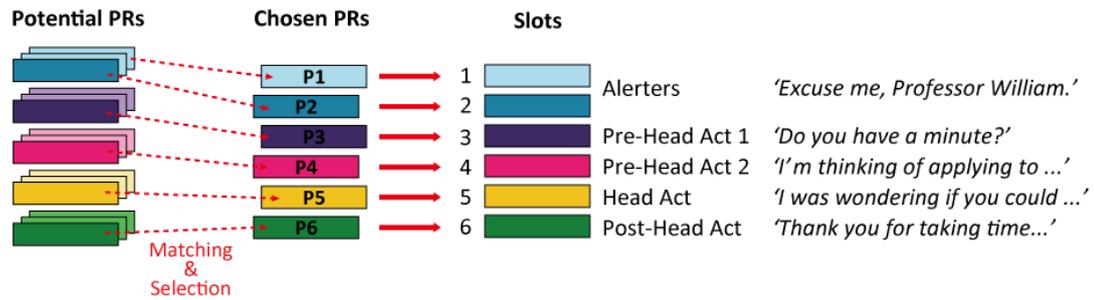
### C) Stage 2



### D) Stage 3



#### E) Stage 4



**Figure 18 Graphical display of the matching selection and execution**

At the early stages of learning, learners do not have all the necessary production rules to complete the utterance in question, as described earlier in Figure 12. They do have some limited production rules to fill in a slot at Stage 1, as in Figure 18, where only the Head Act part of the request speech act is filled. In addition, declarative knowledge in memory is limited. Only simple and direct request expressions such as, 'Please write a letter of recommendation for me' (a production rule in gold colour) is available at this stage.

However, as learning progressed to Stage 2, a production rule (P2 in Table 13) to judge a social relationship, such as the one between a professor and a student, has been created from the learner's past experience or learning. Production rules for Alerters (P3-P4) and the Pre-Head Act (P5-P8) have also been created. At the same time, declarative knowledge in memory has also increased, and now contains more sophisticated expressions such as, 'Could you please ...?' and the learner now has a production rule to retrieve such expressions. Therefore, compared to the utterance at Stage 1, the amount of information is greater and includes more indirect and more polite expressions such as 'Excuse me, Professor William. Do you have a minute? Could you write a letter of recommendation for me?' can be uttered.

As learning further progresses to Stage 3, all 20 necessary production rules are created to fill in all the slots in a correct order, and an entire sequence of request speech acts is produced. At this stage, targeted speech acts such as 'Excuse me, Professor William. Do you have a minute? I'm thinking of applying to MF corporation, and I need two letters of recommendation for the application. I was wondering if you could write a letter of

recommendation for me. Thank you for taking time out of your busy day.’, can be uttered. During this transition, production compilation also progresses, so, as shown in Table 14, the number of slots required decreases, making it possible to produce faster and less error-prone speech acts.

Production rules such as P2 in Table 13 can be more versatile production rules such as P2\*\* when they are used to produce similar speech acts repeated in a similar context. This P2\*\* is a so-called general production rule, and such a production rule is sometimes used in the production of other speech acts.

**P2**    **IF**        the goal is to initiate the conversation for requesting with *Alerters* appropriate to the context  
and the context is

- the social distance between S and H is long (SDL)
- the psychological distance between S and H is short (PDS)
- the burden of the task is heavy (BTH),

**THEN** send a retrieval request to declarative buffer for the expressions of *Alerters* appropriate to the context (SDL + PDS + BTH)  
and set a subgoal to initiate the conversation for requesting.

**P2\*\*** **IF**        the goal is to initiate the conversation for **X** with *Alerters* appropriate to the context  
and the context is

- the social distance between S and H is long (SDL)
- the psychological distance between S and H is short (PDS)
- the burden of the task is heavy (BTH),

**THEN** send a retrieval request to declarative buffer for the expressions of *Alerters* appropriate to the context (SDL + PDS + BTH)  
and set a subgoal to initiate the conversation for **X**.

In what follows, I will explain how the production rules to produce request making shown above are applied to produce a complaint speech act in a context such as where a student complains about his or her grades to a professor.

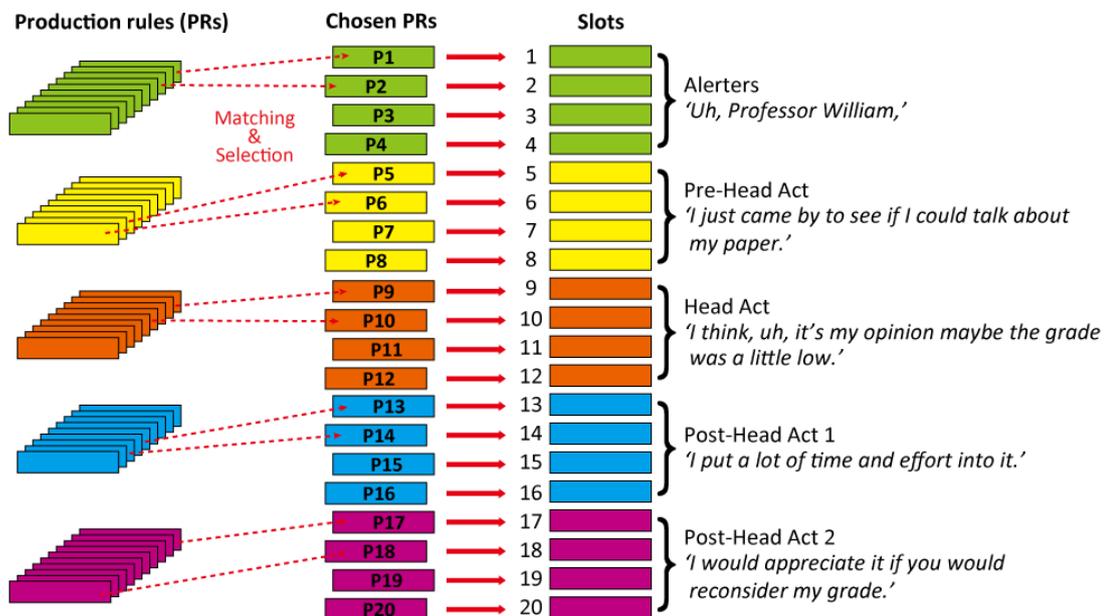
## Example 2. A sequence of speech acts of complaint

1. Uh, Professor William,	(A) <i>Alerters</i>
2. I just came by to see if I could talk about my paper.	(B) <i>Pre-Head Act</i>
3. I think, uh, it's my opinion maybe the grade was a little low.	(C) <i>Head Act</i>
4. I put a lot of time and effort into it.	(D) <i>Post-Head Act 1</i>
I would appreciate it if you would reconsider my grade.	(D) <i>Post-Head Act 2</i>

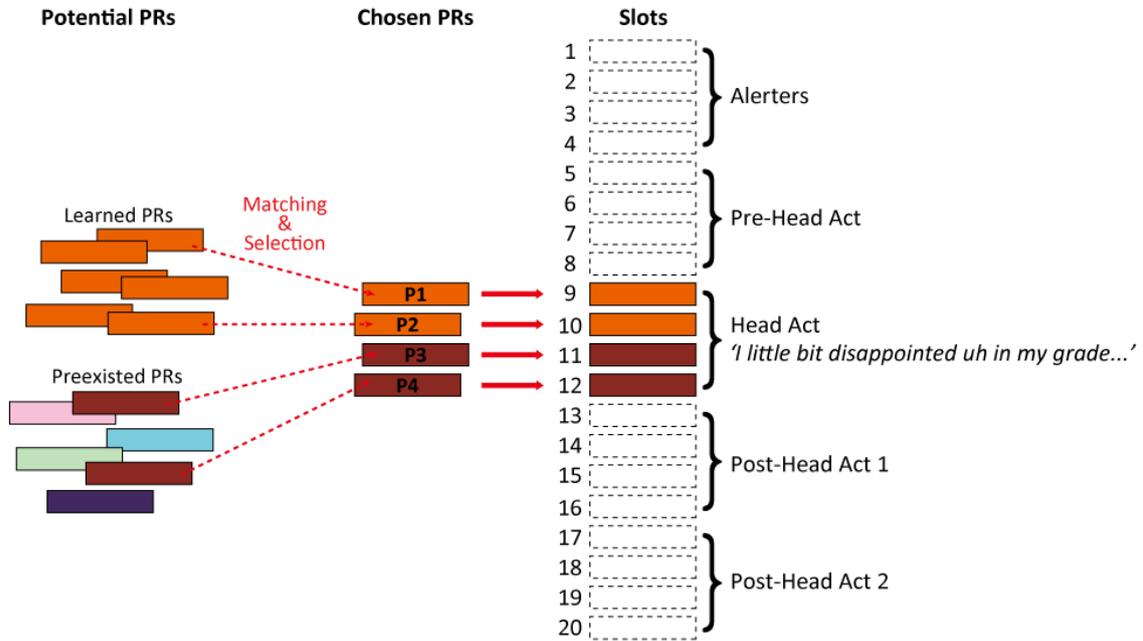
(Adapted from Murphy & Neu, 1996)

As with Figure 18, suppose we need 20 production rules to produce compliant speech acts shown above. The first diagram, (A) in Figure 19, depicts the stage where the utterance is perfectly performed. All the production rules necessary to perform the complaint speech acts are created and placed in the slot in the appropriate order.

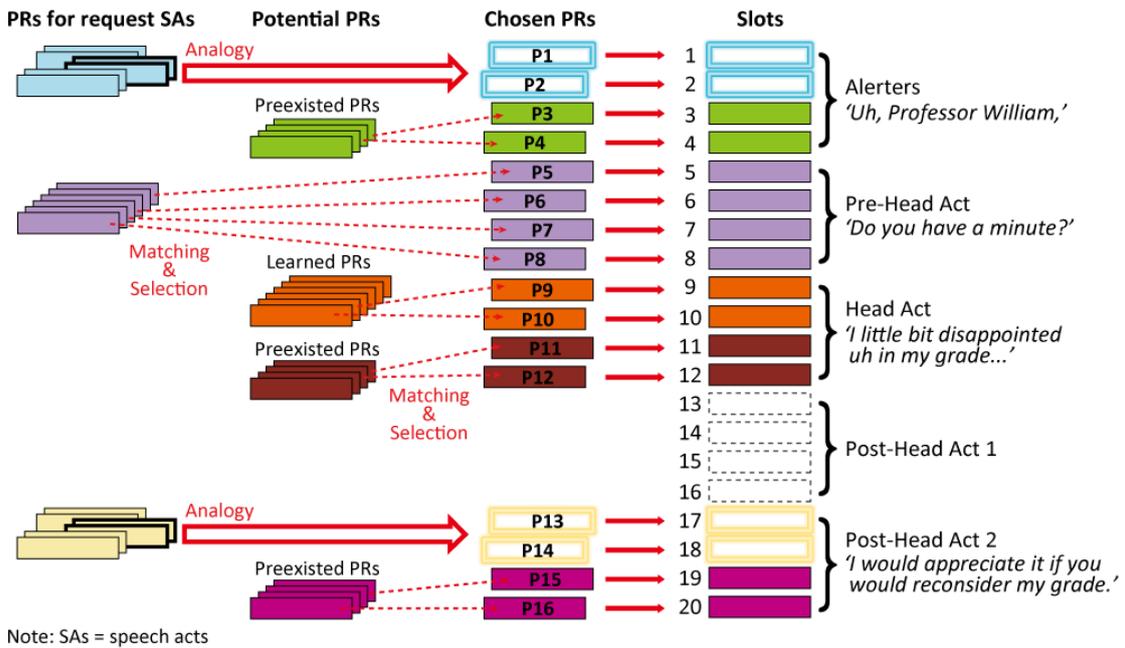
### A) All potential production rules and all slots for the utterance



**B) Stage 1**



**C) Stage 2**



**Figure 19 Graphical display of knowledge extension**

Stage 1 illustrates where learners are at the early stage of learning the complaint speech and have limited production rules available. Among the cluster of preexisting and learned production rules, appropriated production rules are selected via the matching and selection process. At this stage, only the production rule to fill a slot for Head Act is available, which means that utterance enters straight to complain. In addition, the declarative knowledge in memory is limited, and thus, accessible expression is limited to phrasing, such as 'I (am a) little bit disappointed uh in my grade...' very direct expressions.

Next is Stage 2 learners can attain after learning request speech acts. Unlike the production of request speech acts, no specific instruction to produce compliant speech acts has been given. Thus, learners may not improve the production of compliant speech acts. In fact, expressions used for the Head Act part in Stage 2 have not improved from the ones used in Stage 1. However, learners may have increased production rules through learning request making to fill up Alerters, Pre-Head Act or Post-Head Act slots. As learning progresses, more versatile general production rules (or potential production rules) as in the diagram (C) are created, which can be applied to produce various speech acts. Consequently, production rules to fill the slots for Alerters, Pre-Head Act, and Post-Head Act become available, which makes it possible to produce a more indirect complaint speech act as a whole.

I have shown earlier that by knowledge extension/transfer, new production rules are created, which means that, as a result, applicable production rules also increase. In addition to increasing production rules, appropriate production rules must be selected and executed to achieve the task in the desired manner. All these are done at the processing unit and controlled by processing ability. Based on this idea, I examined the development of pragmatic ability by measuring the increased production rules that are selected and executed to produce new speech acts. This was done by measuring what knowledge and strategies acquired through learning request and refusal making are applied to produce uninstructed complaint and refusal speech acts. The method of measurement will be explained in detail in Chapter 4.

### 3.4 Summary of Theoretical Frameworks for L2 Pragmatics Development

This section summarises the main theoretical framework of Anderson's ACT-R model employed in this study to explain L2 pragmatic development. The model was introduced as a cognitive architecture that explains a cognitive process operating in the human mind regarding how information is processed, stored and retrieved. The section started with an overall explanation of the ACT-R model and major changes made during the transition from the original ACT to the latest ACT-R 7.0. This section also pointed out the problems caused by the changes made without clear explanations by Anderson, and went on to propose an alternative model that is able to explain more precisely the interaction of three memory components (declarative, procedural and working memory) for the purpose of the current study. After the overall explanation of this model, the production system, a core part of the ACT-R model, was elaborated, referring to the function of each memory component. Declarative knowledge was depicted in terms of chunks representing a propositional semantic network, while procedural knowledge was represented as a set of production rules which control all cognitive behaviour.

ACT-R was introduced as mainly accounting for knowledge development coming out of existing knowledge, but also used to describe how new production rules are created. The two ways of creating new rules were described: one was by encoding the object of external events, and the other was by retrieving the chunk from the outcome of the previously executed production rule that had come to be stored in declarative memory. The production rules from previous experience were reprogrammed into new production rules through processes such as *analogy* and *proceduralisation*. The model I proposed was shown to draw the process of knowledge development and the interaction of the declarative module and the procedural system more clearly through which production rules are selected and executed in order to put the declarative knowledge into the performance of speech acts.

The key parts of the section relevant to the current study are found in its description of *production compilation* and *knowledge extension*, the two of the core functions of ACT-R. Production compilation was explained as the process of combining two mechanisms into a single mechanism through which declarative knowledge is compiled into procedural knowledge while also combining multiple production rules into a new

single rule. Knowledge extension was introduced as another way of creating new productions. New production rules are created by extending the existing knowledge by analogy and generalisation to the new situation. Both knowledge extension and production compilation were depicted as important processes for learning development since, through these, the smooth retrieval and processing of the existing knowledge become possible.

In summary, this section introduced the core concept and functions of Anderson's ACT-R that operate the learning development through an interactive memory system, and it is this which was applied in the current study to account for L2 pragmatics development and the underlying mechanisms that facilitate such development.

## **Chapter 4: Methodology**

Following the literature review, and the explanation of frameworks used in this study, this chapter introduces the research methodology adopted, including the research design, data collection and analysis methods used to investigate the production of speech acts by Japanese EFL learners. As such, Section 4.1 looks at matters relating to the participants in this research, while Section 4.2 concerns itself with instruction procedures and teaching materials. The research design and data collection methods employed for this study are introduced in Sections 4.3. The procedure for collecting data and instruments used for the data collection, such as DCTs and recorded roleplays, are explained in detail in Section 4.4. and 4.5. The data collected in the procedure and using the instruments described are analysed quantitatively and qualitatively in Section 4.6. The validity and reliability of the data are important aspects of the empirical study. How this study confirms the validity and reliability are described in Section 4.7, and the final section of 4.8 summarises the methodology adopted for this study.

### **4.1 Participants**

The student participants in this study comprised 120 male and female Japanese undergraduate students in their first or second year, aged from 18 to 21 (average 19.23). They were all studying at a faculty of Science and Engineering in a particular university in Tokyo, Japan. The length of studying English is 7.6 years on average, but their English proficiency was a little below intermediate (the mean score of TOEIC is 451.59,  $SD = 74.85$ , min. 225, max. 585), which corresponds to A2 of CEFR levels (ETS, 2016). TOEIC is a worldwide English language test for listening and reading skills, and is the most widely used test in Japan. The mean TOEIC score of Japanese candidates in 2017 was 517 (ETS, 2018). Therefore, the participants' English proficiency is similar to the overall average score of all Japanese TOEIC candidates. Students' experience of living abroad or studying languages other than English was surveyed, as these experiences may affect the results of this research. The results of the survey showed that there were only

four students who studied abroad for more than one year (countries they stayed in include Indonesia, Malaysia, Australia and South Korea, and UK), and that more than half of the participants had studied languages other than English but only for about a year and their proficiency in that language is at the beginner's level. Therefore, the impact of these experiences is considered to be limited (See Appendix C for a detailed learning history).

This university was selected because its students' English learning environment provided a near-perfect fit with the purpose of the research. Furthermore, access to an instructor who teaches English at the university and is interested in ILP in the field of language teaching was provided. In addition, I myself had previous experience in conducting research at this institute (for my MA study), out of which a cooperative relationship with the instructor had already become established. She was the sole instructor participant in the current study, and as such, it was essential that her background met certain criteria.

The instructor's background evidenced ample qualifications to participate in the research as an instructor. She is Japanese and has taught English for more than thirty years at universities in Japan, including the one this research was carried out at. She majored in Education for her MA, and in English Linguistics for her doctoral study in Japan. Moreover, her most recent research interest had itself been in the teaching of pragmatics, including attendance at several conferences on L2 pragmatics and thus encompassed an in-depth knowledge of the field. Additional relevant attributes included her long vocational career as an English-Japanese simultaneous interpreter dealing with pragmatics in her daily workplace. She has extensive knowledge of the English language, including its use in various social and professional contexts. The researcher maintained sufficient communication with the instructor during all phases of this investigation to ensure a mutual understanding of the purpose of this investigation was sustained throughout.

The research was conducted in four of the instructor's EFL classes, which made up four intact classes for this quasi-experiment, as detailed below in Table 16. One of the two classes focussing on reading was randomly selected to serve as the control group (CG), and therefore this class did not receive any specific pragmatic instruction. The CG attends at academic reading class and studies about academic reading as they normally do. The reason why this class was selected as a CG was that it was considered suitable

for comparison with TG3, another academic reading class, who studied under the same learning environment as the CG. The other three classes: a communication focussed class, a listening comprehension focussed class, and the reading focused class, were designated to be treatment groups (TGs), and they did receive pragmatic instruction.

**Table 16 Summary of the participant groups**

<b>Group</b>	<b>N</b>	<b>Group Description</b>	<b>Year/Age</b>
TG1	24	Students attending a communication focus class designed to improve their communication skills by learning various types of conversational structures	Year 1
TG2	28	Students attending a listening comprehension class designed to foster their ability to comprehend the lecture and note-taking by improving their listening skills	Year 1
TG3	33	Students attending a reading class designed to improve their skills in reading by learning various types of learning strategies	Year 2
CG	35	Students attending a reading class designed to improve their skills in reading by learning various types of learning strategies	Year 2
RG	17	English L1 participant group	Age (24-50)

Initially, in order to find out whether there was any significant difference in the levels of English proficiency between the TGs and the CG, a Steel-Dwass test ( $\alpha = .05$ ) was conducted by using recent TOEIC scores. This importantly confirmed that, indeed, there was no significant difference in average TOEIC scores between the CG ( $M = 480.43$ ,  $SD = 42.01$ ) and the TGs (TG1:  $M = 442.29$ ,  $SD = 97.55$ ; TG3:  $M = 499.12$ ,  $SD = 35.53$ ) except TG2 ( $M = 367.50$ ,  $SD = 40.27$ ). The average TOEIC score of TG2 is slightly lower than other three groups.

Regarding the difference in TOEIC scores between the first- and second-year students, there was not much difference between the two groups. According to the instructor, this may be because the participants of this study are science and engineering major, and their focus of studying is on the subjects other than English. Therefore, most of them do not spend much time on studying English. In fact, the Institute for International Business Communication (IIBC) reported that there was almost no difference in the average scores of first-year and second-year students studying science, engineering or agriculture in Japan, who took TOEIC in 2017 (IIBC, 2018).

There was one more group that did participate in this research; the reference group (RG). This group comprised 17 English L1 speakers from the UK and Australia, including twelve participants living in the UK, together with the other five who were living in Japan during the research period. In contrast to the Japanese participants, the group of English L1 speakers spanned a wide range of ages (from 24 to 50) and were engaged in a broad spread of different occupations, leading likewise to a wider variety of responses. The data from the RG was what provided a reference standard for rating purposes.

#### **4.2 Instruction Procedure and Materials**

The current research was designed based on my previous experience conducting MA research and to obtain further support for the previous findings on L2 pragmatic development. This research was conducted in the same environment as the previous research, which is to say, in the same university with the same instructor using the same instructional materials, albeit with some limited revision to the instructional procedure.

During the 14 weeks of the research, students in the treatment groups received pragmatic instruction as a part of a regular EFL class. At the beginning of each class, the instructor devoted approximately 20 minutes to providing pragmatic instruction concerning request and refusal makings; putting an emphasis on raising students' awareness of pragmatic features pertaining to the L2. The 20 minutes was the maximum time the instructor could allocate for pragmatic instruction within a regular class.

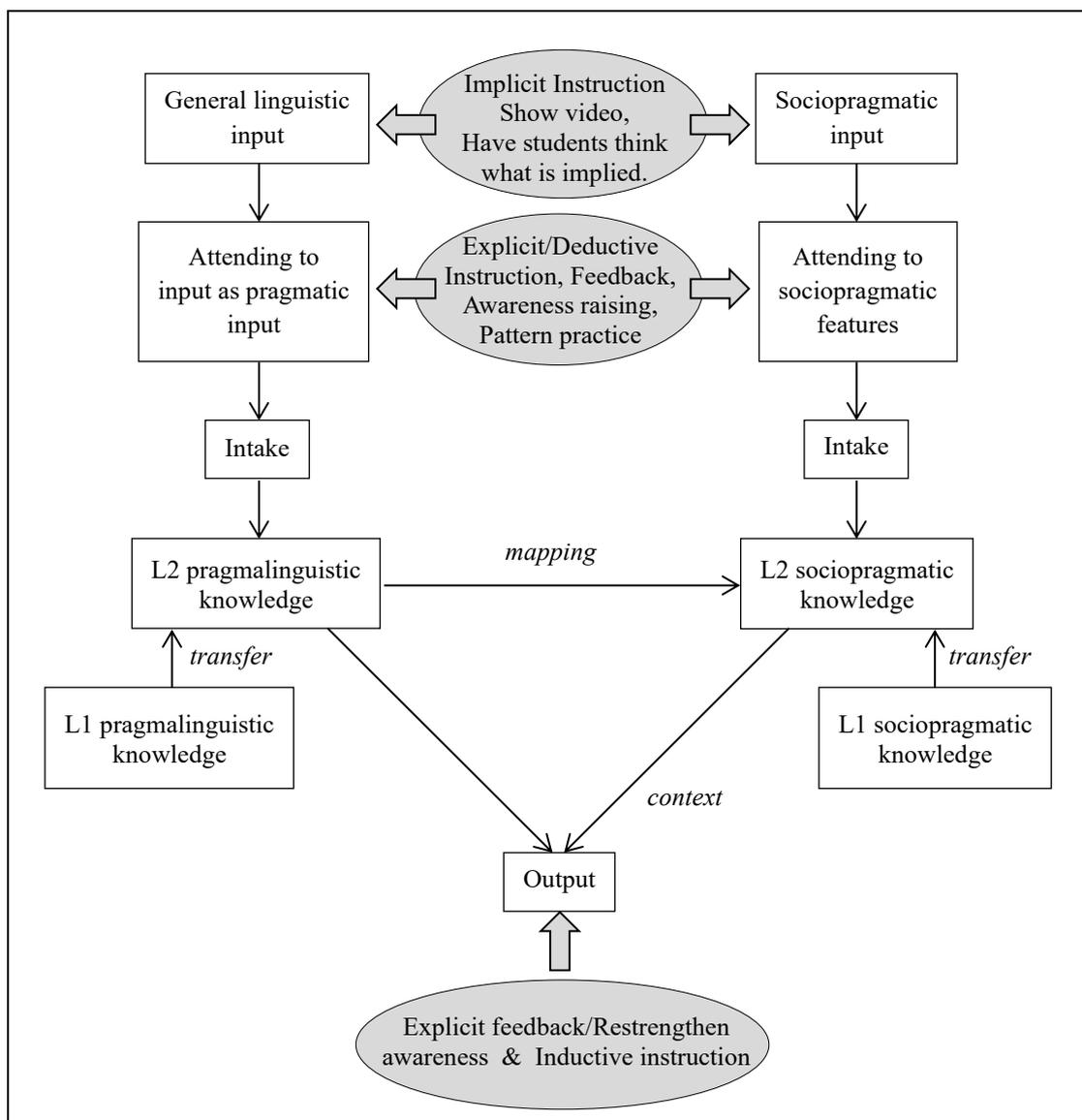
One may wonder if the 20-minute instruction is long enough to gain the effect. However, it has been shown in previous studies that even a short period, 20-minute instruction spans can be effective. For example, Olshtain and Cohen (1990) investigated the use of apology strategies by Hebrew-speaking English learners given three 20-minute instruction sessions, and yet reported a positive effect of instruction. Tateyama (2001) investigated the use of the Japanese expression 'sumimasen' based on giving just four 20-minute lessons, and was nevertheless able to confirm the effectiveness of the lessons. Furthermore, in my MA research, which is the basis of the current research, 20-minute instruction sessions were implemented for seven weeks, and again showed positive effects of instruction.

Taguchi (2012) points out that long-term observation for the development of pragmatic competence is desirable. Therefore, in this research as well, I tried to secure the longest possible period of 14 weeks for the experiment.

Given this time constraint, it was essential to use the given time as effectively as possible. I worked closely with the instructor to design a presentation and to make sure that full use was made of the 20-minutes pragmatic instruction. Note also that the capability of the instructor to conduct effective instruction within the limited time is essential. The instructor's capability was proven when she participated as an instructor in my MA research.

Instruction was designed incorporating four important notions: Schmidt's (2001), Noticing Hypothesis, saying that, for successful learning to occur, learners must be aware of target language features; Swain's (1995, 2000) Output Hypothesis, saying that, along with input, output practice is equally important, since it is only through noticing their interlocutors' reactions that learners can verify their own hypothesis; DeKeyser's (2015) developmental stages for skill acquisition and lastly, Anderson and Schunn's (2000) conceptualisation of 'knowledge extension'. Of these, the first two are incorporated in the models I propose in Figure 20 and Figure 21, while likewise, the last two are in Figure 22.

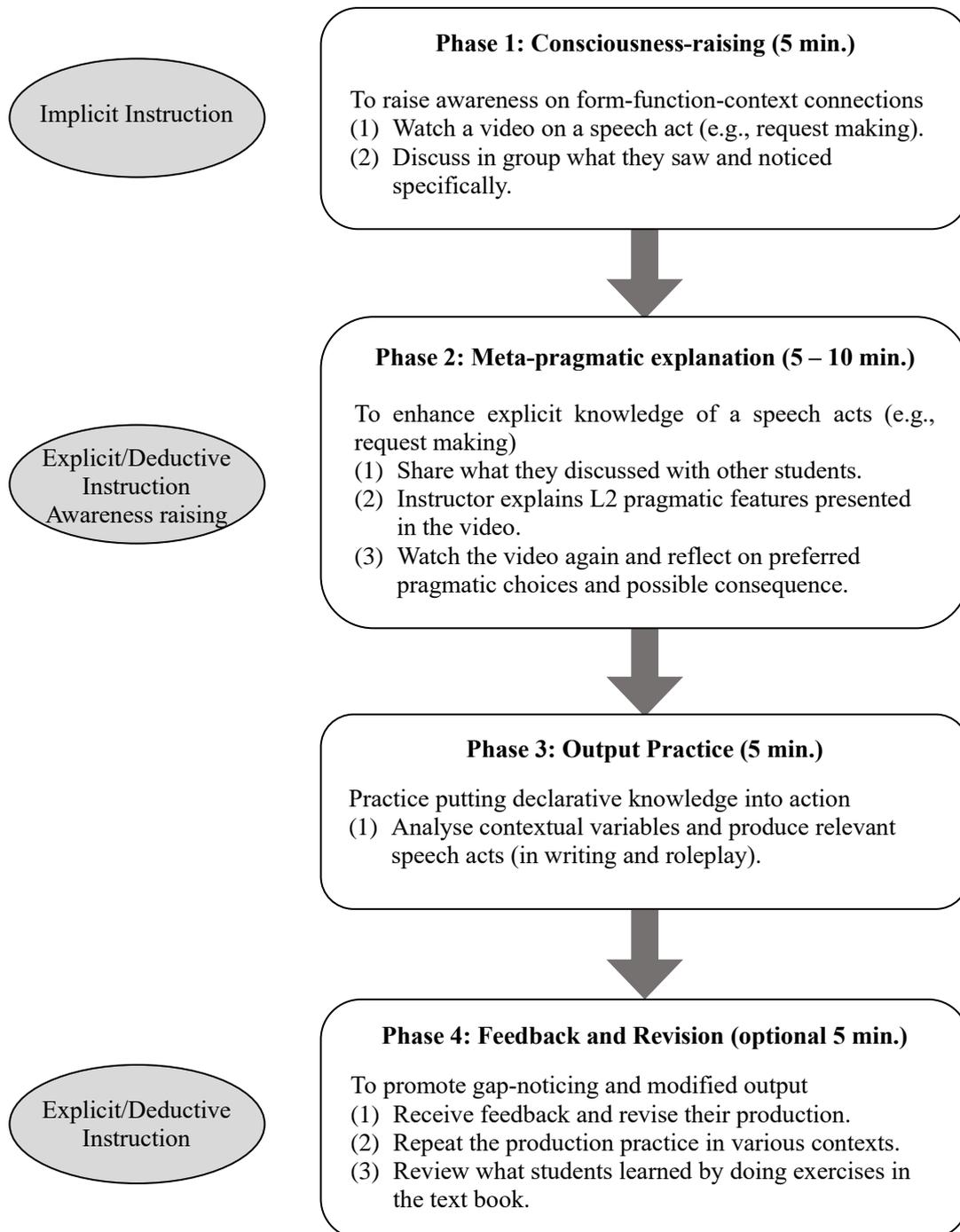
The basic flow of instruction is depicted in the model in Figure 20. This was formulated by slightly revising Roever's (2009) learning model (see Appendix D), which intends to account for the developmental process of the learners' pragmatic knowledge in L2. The model indicates the stage of input at which learners notice pragmalinguistic and sociopragmatic features. As they progressively take in information, through transfer from L1 knowledge, they construct L2 pragmalinguistic and sociopragmatic knowledge. Since the current study deals with L2 pragmatic development, the portion of the diagram from immediately after *intake*, right through to *output*, is appended to the diagram. The L2 pragmalinguistic knowledge and sociopragmatic knowledge shown in the diagram as being constructed corresponds to the declarative knowledge stored in the long-term memory in the ACT-R model. It is out of this declarative knowledge that the *output* is generated. At the stage of generating output, explicit and inductive instruction is given so that students can retrieve appropriate declarative knowledge stored in their memory and apply it to their speech act performance, as described in Section 3.3.



**Figure 20 Learning model of L2 pragmatic knowledge based on Roever (2009)**

The instruction provided in this study was based on the learning model described above. The diagram in Figure 21 below indicates the flow of instruction that starts with implicit instruction. In my MA study, I examined how learners employ the learned knowledge on request making to produce uninstructed refusal speech acts. For this purpose, the lesson focused on raising learners' awareness on L2 pragmatic features and encouraging them to think about how to utilise the knowledge in their hypothetical output. Then, feedback from their peers or instructor was given. After the feedback, instruction

time was allocated for students to practice speech acts through activities such as roleplay by taking the feedback into performance. This was complimented by doing some exercises in the textbook, which, by way of review, explained the basics of speech acts.



**Figure 21** Flow chart of the instructional procedure

Part of this approach also involved showing students a video without giving any specific explanation or instruction and observing if students noticed some related L2 pragmatic features. After viewing a video, students were encouraged to speak out or discuss whatever they noticed in the video. After that, the instructor gave some tips to assist students in noticing some features related to request and refusal making in L2. This corresponds to the first two steps of the diagram in Figure 21, with its aim of encouraging students' active involvement in learning, coaxing their initiative to use their abilities to think and find solutions themselves, reflecting the major focus of the instruction. The instructional procedure of the current research basically follows this idea. Throughout the entire procedure, multiple methods involving explicit, implicit (based on Glaser, 2013; Rose, 2005), inductive and deductive (based on Decoo, 1996) approaches are combined and incorporated in the design of L2 pragmatic instruction as indicated in Figure 21 (a more detailed description on teaching plan is given in Table 17).

The instruction essentially follows the flow of Phases 1 to 4 in Figure 21. Instruction in phases 1 and 2 were intended to promote learners' acquisition and understanding (intake) of declarative knowledge, while that in phases 3 and 4 were intended for output practice; thus, encouraging learners to use the acquired declarative knowledge into performance (procedural knowledge).

The instruction on speech acts production was planned to accord with DeKeyser's (2015) three stages of skill acquisition theory (declarative, procedural and automatised) described in Section 3.2.1. In DeKeyser's model, learners first acquire declarative knowledge, pragmalinguistic knowledge and sociopragmatic knowledge, or rules, in this case. To promote the acquisition of declarative knowledge, the instruction was planned focusing on three strategies: (1) the use of indirect strategies (e.g., Blum-Kulka, 1987; Leech, 1983), (2) the amount of and the order of strategies used, and (3) the contextual appropriateness determined based on three elements of politeness judgment of Brown and Levinson's Politeness Theory (social distance, psychological distance, and size of burden). Through repeated practice of using this pragmatic knowledge or strategies, learners develop the knowledge into procedural knowledge, as described in Section 3.2.1.

As Figure 22 indicates, students first learn request making, then refusal making. Before teaching refusal making, the instructor encourages students to recall what knowledge and strategies they learned to make a request and to think about how this

knowledge and strategies can be applied to construct refusal speech. In other words, learners are guided to retrieve the existing schema of request making to construct a refusal making. Then, from the retrieved request making schema (a specific production rule), general production rules are extracted by analogy and generalisation described in Section 3.3.3.3. The general production rule is reconstructed in accordance with the new situation (with the GOAL of refusal-making in this case). This creates a specific production rule to be executed to perform the refusal speech act.

The conceptualisation of knowledge development by knowledge extension is depicted in Figure 22. First, pragmatic knowledge and rules, acquired through learning request speech acts are added to form a part of declarative knowledge to construct refusal speech acts. This knowledge acquired through learning to construct refusal speech acts are added to form a part of declarative knowledge of other speech act construction.

The instruction planning and selection of teaching materials were performed with the close cooperation of the instructor, who taught these classes in accordance with the university's curriculum. A text book, *Heart to Heart* (Yoshida et al., 2000), was selected, as it is designed to teach cross-cultural pragmatics to Japanese EFL learners in the classroom with the purpose of enhancing learners awareness of L2 pragmatic features. In addition, the textbook is well organised with an appropriate amount of content for each chapter and concise explanation on targeted speech acts, which is feasible within 20 minutes of instruction.

For main videos, I chose the animation videos developed by Tanaka (2015) for the following reasons. First, these videos incorporated pragmatic routines that learners can use in real situations and also the pragmatic failures that Japanese learners tend to make. The videos precisely show how a main character commits pragmatic failure and is corrected by peers and learns gradually to behave appropriately in a given context. The videos are devised to raise learners' awareness on cross cultural differences. Other videos and teaching materials were tailored to accord with the specific purpose of instruction described above.

(P): the power situation.  
 (D): the social distance.  
 (R): the degree of imposition.

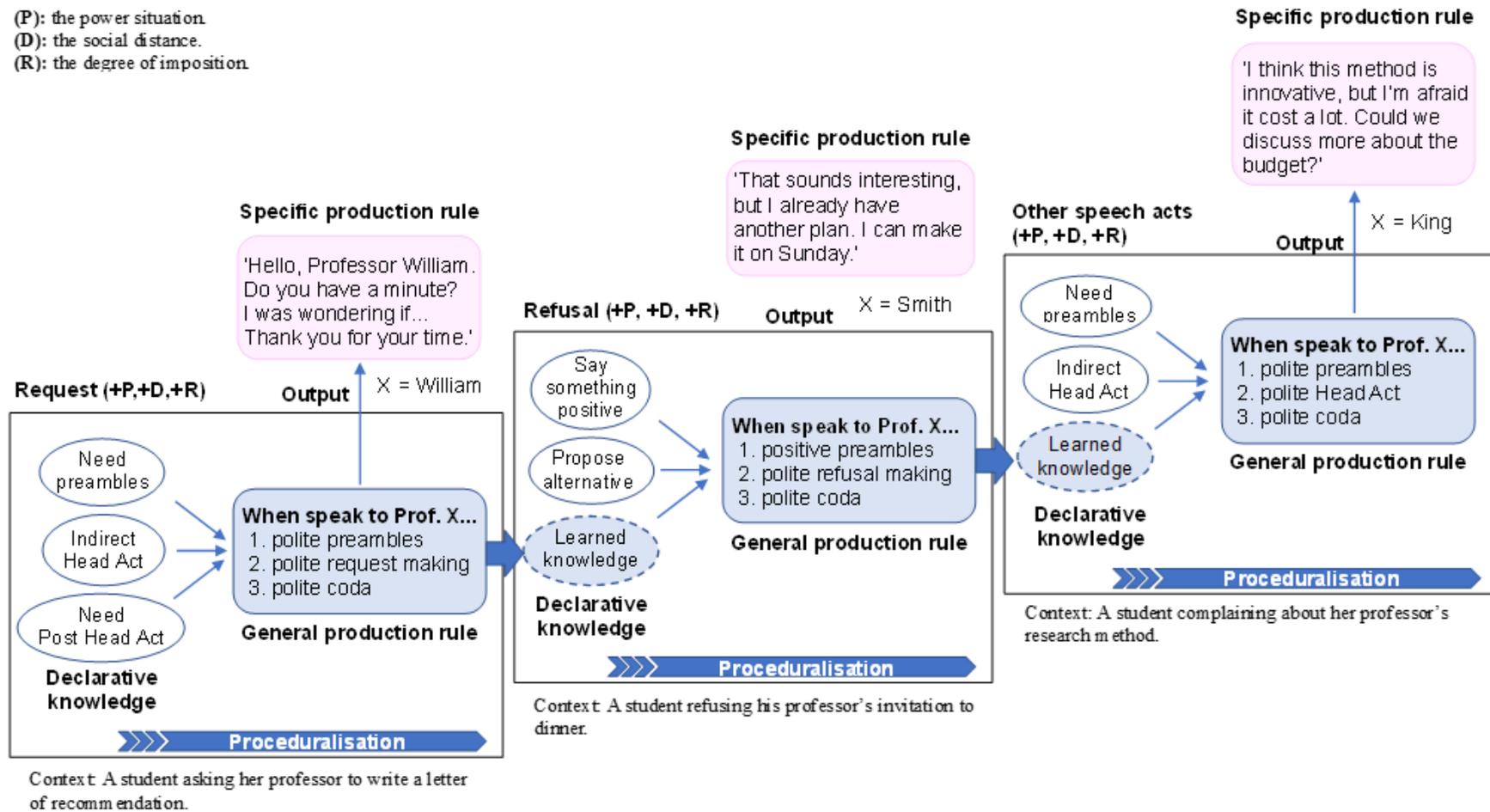


Figure 22 Knowledge extension over the production of different types of speech acts

The time frame of instruction is indicated in Table 17 (see also Appendix E). They were carefully designed to raise students' awareness of L2 pragmatic features and encourage them to use their abduction and heuristics abilities to gain declarative knowledge, and from there, to develop it into procedural knowledge.

**Table 17 Time frame for instruction**

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<b>Week 1</b> (90 min.)	<b>Introduction of the research and guidance to procedures</b> 1. Brief explanation of the research, researcher, and schedule (10min.) 2. Pre-DCT (80 min.)
<b>Week 2</b> (20 min.)	<b>The preliminary session on pragmatic instruction</b> 1. Implicit instruction: watch a video, nothing directly related to the speech acts but showing some cultural difference in starting a conversation. 2. Introduction to speech acts: explain briefly about the basic concept of pragmatics and production of speech acts. Encourage students to proactively interact with the instructor and peers through Q&A discussion. 3. Group discussion: how to ask a professor to write a letter of recommendation for you. 4. Instructional feedback from the instructor.
<b>Week 3</b> (20 min.)	<b>Explicit instruction on Requests</b> 1. Watch a video requesting a subordinate to make a copy. 2. Group discussion on what students noticed about requesting something from the people in the lower social status in L2 (e.g., difference in request making in L1 and L2). 3. Feedback from the instructor.
<b>Week 4</b> (20 min.)	<b>Explicit instruction on Requests</b> 1. Group discussion: how to make a request to a friend. 2. Feedback from the instructor. 3. Practice a short roleplay. Do some exercises in the textbook (Heart to Heart) to review and confirm what they learned.
<b>Week 5</b> (20 min.)	<b>Implicit introduction on Refusals</b> 1. Learning through video: how to say 'No' nicely. 2. Preparation to learn about refusal making (Brainstorming). 3. Group discussion on how to produce refusal speech acts (checking if students discuss using the knowledge on request making to construct refusal speech acts).
<b>Week 6</b> (20 min.)	<b>Explicit instruction on Refusals</b> 1. Learning through video on refusing the offer of lunch. 2. Group discussion: what students noticed when viewing a video on how to say 'No' to the offer of barbecue.
<b>Week 7</b> (20 min.)	<b>Explicit instruction on Refusals</b> 1. Learning through video: Being Polite, How to soften your English. 2. Instruction on 'softening strategies' in the textbook. 3. Group discussion: how to ask your professor to check your homework politely. 4. Feedback from the instructor.
<b>Week 8</b> (20 min.)	1. Review on request making (e.g., tips to make requests politely in L2). 2. Instruction about 'structuring speech acts' and formulaic expressions. 3. Group discussion to prepare roleplays on refusal making.

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*(Continued)*

**Table 17** (Continued)

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<b>Week 9</b> (20 min.)	1. Review on how to start conversation politely. 2. Group discussion about what students noticed comparing the Japanese press interview with the UK press interview they saw in the video in the second week.
<b>Week 10</b> (20 min.)	1. Review on refusal making. 2. Roleplay activities (group discussion + creating scripts + roleplay). 3. Feedback from the instructor.
<b>Week 11</b> (20 min.)	1. Roleplay activities (group discussion + roleplay), creating scripts and do roleplay on refusal making in different contexts. 2. Feedback from the instructor.
<b>Week 12</b> (20 min.)	1. Review on request and refusal makings. 2. Roleplay activities and group discussion on what students learned about speech acts production in different context. 3. Feedback from the instructor.
<b>Week 13</b> (20 min.)	1. Review what students learned about contextually appropriate production of speech acts. 2. Group discussion on how to say things politely in L1 and L2. 3. Feedback from the instructor.
<b>Week 14</b>	1. Post-DCT (80 min.)

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### 4.3 Research Design and Procedure

The purpose of this study is to investigate the development of pragmatic competence by Japanese EFL learners in the classroom context, and to identify the underlying cognitive mechanisms that are conducive to this development. To answer the research sub-questions (SQs) formulated under one overarching question identified in Chapter 1, and repeated here below, this study conducted quasi-experimental research that was designed around the intervention of pragmatic instruction between the two DCTs (the pre-DCT - instruction - post-DCT) with the participants of the treatment groups, TGs and of the control group, CG (no particular instruction being given between the two DCTs).

**RQ:** How do Japanese EFL learners develop their pragmatic competence in the classroom context?

**SQa.** Do learners improve the production of request and refusal speech acts after receiving pragmatic instruction? If yes, what are the indications of learners' development?

**SQb.** Do learners improve their production of uninstructed speech acts, such as complaining and disagreeing as a result of learning request and refusal speech acts? What improvements can be traced?

The data were collected by adopting a mixed method of qualitative and quantitative approaches.

Over the past few decades, mixed method research has been increasingly employed in the field of Applied Linguistics. One possible reason for this is that a mixed approach is considered to provide 'a more complete understanding on a research problem than either approach alone' (Creswell, 2014, p. 4). A quantitative approach allows us to obtain data that statistically analyse scores through instruments such as tests or questionnaires. This data type can provide us with objective and macro views of the items under question, but does not explain why these results were brought about. Qualitative data, on the other hand, respond to this type of question, which are mainly linguistic data obtained through instruments such as interviews, and analysed individually without quantifying (Mizumoto, 2014). Furthermore, from the perspective of triangulation, where more than one method is used to collect data on the same topic to assure the validity of research, mixed methods research is recommended (Dörnyei, 2007).

In recent years, mixed methods designs have been further classified into several typologies, depending on the timing and status at which qualitative and quantitative data are connected and integrated. Schoonenboom and Johnson (2017) proposed nine designs. For example, when qualitative and quantitative data are collected concurrently, and two data have equal status, they are labelled as QUAL + QUAN. When the two data have equal status but are sequentially ordered, this is indicated as QUAL → QUAN/ QUAN → QUAL. If the data were qualitatively driven, and in sequential design, it is indicated as (QUAL → quan), while if the reverse, it is (QUAN → qual).

In this study, speech act production before and after instruction was compared and analysed statistically in the quantitative analysis. If there was a change between pre and post production, the reason why the change took place needs to be investigated, which was done in qualitative analysis. More specifically, qualitative analysis focussed on examining if the students were attentive to the pragmatic feature in L2, whether the noticed L2 feature was incorporated for hypothesis testing (Swain, 1995) and reflected in

their output performance during activities such as group discussions and roleplays, and finally, whether the enhancement of learners' awareness of L2 pragmatic features and its incorporation into their output practice motivated the changes in the results of the post DCT. Therefore, the current research took a QUAN + QUAL mixed methods approach (Schoonenboom & Johnson, 2017). To answer the sub-questions (SQa, SQb) presented above, the data collected from various instruments are analysed, which are summarised in Table 18. Instruments such as WDCT, ODCT, roleplay and PRT and analyses method for the data obtained from these instruments were piloted through my MA research.

In the quantitative approach, the data from pre/post WDCTs, some closed-ended questions in the questionnaire on the pragmatic instruction, and PRT (see Appendix F - Appendix I) were analysed. In addition, the TOEIC score was used to assess the English proficiency of Japanese students in the TGs and the CG. Among these, the data from WDCT are the key source to answering SQa and SQb presented above. They were first rated and then analysed by using a paired samples *t*-test or other inferential statistical approaches via analysis software such as SPSS (IBM, 2021).

Regarding the results from the questionnaire, they were used for descriptive statistical analysis to find out students' attitudes toward receiving pragmatic instruction. Students' attitude on pragmatic instruction is an important element that has influenced their motivation in learning pragmatics, and their motivation is one of the important factors that affect the development of pragmatic competence, as has been pointed out in the previous literature (e.g., Takahashi, 2008).

Prior to these procedures, personal information was obtained from the other questionnaire on educational background and by using descriptive statistics. This is to find out each student's background in learning English, for instance, if the student has experience learning English in any English-speaking country.

PRT was conducted by the English L1 speakers. The data obtained were used as a reference point for the degree of the politeness. Detailed information concerning the instruments used for quantitative analysis, along with the data analysis methods, is given in Sections 4.4 and 4.5.

**Table 18 Summary of data collection methods**

	Type of Data	RQ	Method of Analysis		Purpose of Analysis	Data Collection Period (2018-2019)
			Quan	Qual		
<b>Main Instrument</b>	WDCT	SQa/b	Descriptive statistical analysis/ Inferential statistical analysis (ANOVA, <i>t</i> -test, etc.)	Content analysis	Pre-/Post-DCT comparison on learners' use of pragmatic knowledge and strategies in their utterances.	October (2018) & January (2019)
<b>Sub Instrument</b>	ODCT	SQa/b	-		Pre-/Post-DCT comparison on learners' use of pragmatic knowledge and strategies in their utterances.	October & January
	Roleplay	SQa/b	-		To find out what L2 pragmatic features of request/refusal making learners are aware of and what they say about utilising the features to construct the request/refusal speech acts.	November - December (2018)
	Questionnaire on learning pragmatics	SQa/b	Descriptive statistical analysis	Content analysis	To identify what L2 pragmatic features students are aware of.	January
	Student notebook	SQa/b	-		To find out what L2 pragmatic features students may pay attention to.	October - January
	Instructor's journal	SQa	-		To find out what the instructor noticed about learners' progress in communicating in English.	October - January
	E-mails	SQa	-		To find out what L2 pragmatic features of request/refusal making learners are used.	April (2018) - March (2019)
<b>Sub Instrument</b>	Questionnaire on language educational background PRT	-	Descriptive statistical analysis	-	To obtain personal information on language education background. Supplement for DCT analysis.	October (2018)

In the qualitative approach, the data collected for analysis included the followings. WDCT and ODCCT results, the data from roleplays (see Appendix J) and students' discussions and utterances during roleplays were recorded and transcribed. Open-ended questions in the questionnaire on the pragmatic instruction (part of the questionnaire mentioned above) were analysed to find the rationale for the results obtained from quantitative analysis. They were coded for content analysis to answer SQa and SQb (see Section 4.6.1.2 for details). In addition, students' notebooks (being specially prepared for them to take notes on pragmatic instruction), the reflective journal by the instructor (11 entries), and around 200 e-mails were collected and analysed. For this research, no e-mails were collected without getting the permission of the students involved.

To validate the instructional effect, this study employed a quasi-experimental design where target groups received the pragmatic instruction, and could be contrasted with the control group that did not.

#### **4.4 Data Collection Procedure**

The data for the current study were collected from October 2018 to March 2019 in Japan and the UK. At a Japanese university, research was conducted in a 90 minute-English class held once a week over 14 weeks. On the first day of this research, its details were explained on an information sheet which, together with a consent form, was distributed to all the students. They were asked to read the information and to sign the form if they agreed to participate in the research. The instructor explained to the students that they were at liberty to withdraw from the research at any time and would be able to obtain the research results if they wanted (see Appendix K and Appendix L for all details).

After that, all the participants (TGs and CG) were asked to respond to the first WDCT and the questionnaire on educational background, and the ODCCT was conducted on students in the TG1. For the purposes of this study, the research was conducted integrally within regular EFL classes. The reason why ODCCT was possible only with students of TG1 was that it could be conducted as a part of an oral test regularly conducted with TG1, and no extra time was needed to be allocated, but this was not the case with other TGs and CG.

The pragmatic instruction was given to the TGs 12 times. For each lesson, several teaching material components, such as textbooks and videos on request/refusal speech acts, were used, and their tasks further developed to include interactive pragmatic activities, most especially roleplay was much facilitated. Participants were encouraged to discuss what, through doing these activities, they came to notice about L2 pragmatics, and these discussions were themselves duly audio-recorded. To avoid disturbing students' learning, the author remained largely discrete, sitting down in the rearmost row throughout, making and noting observations. Careful attention had been paid to ensuring compliance with the ethical guidelines (BERA, 2011; MEXT, 2014; SCJ, 2015; X University, 2017) with regard to making sure that this research was, at all times, conducted in an ethical manner.

When pragmatic instruction was completed in the 13th week, the second WDCT was conducted for both the CG and TGs, while the ODCCT was conducted only for the TG1, and another questionnaire was given to the TGs and collected. For the participants of the English L1 speakers, WDCT, PRT and a questionnaire on personal background were distributed, and the responses were collected.

#### **4.5 Data Collection Instruments**

A mixed-method approach was taken to collect both qualitative and quantitative data to gain a more comprehensive understanding of the development of L2 pragmatic knowledge. This section describes in detail some of the key instruments used to collect data.

##### **4.5.1 Main Instrument: WDCT**

Since Blum-Kulka (1982) first introduced DCT to pragmatic research, it has become one of the most used data-collection tools for studies involving cross-cultural matters, or ILP (Bardovi-Harlig, 2018; Economidou-Kogetsidis, 2010; Wojtaszek, 2016). There are several reasons why DCT is widely used as a method of data collection in pragmatic studies. Firstly, DCT can provide highly controlled situational variables, which enable us

to collect data on specific speech acts by setting up specific contexts and participants (Bardovi-Harlig, 2018; Economidou-Kogetsidis, 2010; Wojtaszek, 2016). Second, DCT is an efficient instrument. As Wojtaszek (2016) points out, DCT allows us to collect a considerable amount of data in a short time, and with a relatively small amount of effort compared to other data collection methods, such as face-to-face interviews, because DCT allows multiple participants to respond to the questions concurrently.

At the same time, however, there are some issues with DCT that must be acknowledged. One of the biggest criticisms concerns the authenticity of the data collected through DCTs. As addressed in previous studies, DCT requires the squeezing of every strategy in speech acts that respondents can think of, into a single blank. This is unusual, as interlocutors normally take several turns to complete a certain speech act, such as making a request, in real conversation (e.g., Beebe & Cummings, 1996; McNamara & Roever, 2006). Regarding turn-taking, Wojtaszek (2016) also points out that some linguistic features which are found in natural conversations, such as discourse markers, repetitions, or false starts, may not appear in a single utterance in DCT. Furthermore, prosody or nonverbal features such as facial expressions have never been examined from the point of view of a written-format task (Cohen, 1996; Wojtaszek, 2016).

Another point of contention, concerning DCT, is its validity. Cohen (1996) notes that responding in written form can take more time than oral responses. Thus, the former response may be more elegant and thoughtful than that of the latter. Moreover, written language has its own particular forms, and these often diverge from those that characterise spoken language. Therefore, some researchers, Bardovi-Harlig (2018) among them, claim that written language should be examined by using a written form.

In order to offset the disadvantages of DCT, ODCT and roleplay have been employed as alternative methods. The ODCT is very similar to the WDCT, but it requires answering by speaking instead of writing. The ODCT was first introduced by Cohen and Olshtain's study in 1981 (see Félix-Brasdefer, 2010). However, the issue of turn-taking remained unsolved, as the ODCT took a 'single-response approach' (Cohen & Olshtain, 1981, p. 117). Yuan (2001) reported research data indicating that ODCT draws more natural conversation features such as repetitions, inversions or omissions than does WDCT, no matter that a single turn-taking format was used in the ODCT designed.

While acknowledging that WDCT falls short of being a full-fledged instrument,

there remained nevertheless valid and compelling reasons to employ WDCT for this research. One of the reasons is its usability when it comes to examining pragmatic knowledge. For this reason, many studies chose WDCT (Bardovi-Harlig, 1999; Kasper & Rose, 2002; Kim & Taguchi, 2015). Another reason is that WDCT is considered more suitable for students with lower speaking proficiency (Eslami-Rasekh, 2005), that being the pertinent scenario in this research.

Regarding the problem of a single turn, which all the necessary information is squeezed in, it can be improved by adopting the Free DCT style (e.g., Barron, 2003; Barron, 2007; Palanques, 2015). As the Free DCT style is designed to allow the interlocutors to take turns freely, and thereby more flexible and closer to a normal conversation can be performed. Taking all these insights into consideration, the WDCT was selected for the present research, which was generated by modifying the WDCT used in this author's MA study (Oyama, 2017). The Free DCT (FDCT) style was also incorporated into the second part (Situation 11-13) of the WDCT.

The first part of WDCT (Part I) was designed to find out the answer to SQa. The question SQa asked if the participants, Japanese EFL learners improved their L2 pragmatic knowledge and processing ability in producing request and refusal speech acts after they received relevant pragmatic instruction. Part I consists of ten situations for request and nine situations for the refusal speech acts. For each situation, the making of a request was book-ended by the response of refusal, to constitute a matching pair, as in the examples given below. In situation 2A, Speaker A makes a request to borrow a notebook, and in situation 2B, Speaker B refuses the request.

### **Situation 2A**

You are a freshman in college and having a chemistry test in two days. As you missed the class several times, you want to ask your friend, Hiroko, for the lecture notes, who attended the class regularly and took good notes. What would you say to her?

あなたは大学1年生です。2日後に化学のテストがありますが、授業を何回か欠席してしまっただけ、毎回授業に出席ししっかりノートをとっていた友人のヒロコさんにノートを借りたいと思っていますがどのように頼みますか。

You: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Situation 2B**

Suppose you are a student. Since you attended the class every time seriously and took good notes, you'd rather not lend the notes to your friend Taro, who often missed the classes. How do you respond to him?

あなたがノートを頼まれた学生の立場だったとします。毎回まじめに授業に出席してしっかりとったノートなので出来ればノートを貸したくないと思っています。友人のタロウに対してどう答えますか。

You: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Each question contains different situational variables, such as the level of social distance or the magnitude of imposition, as was summarised in Table 19. Those situations and variables play a key role in determining the forms of speech act that would be appropriate in the given context. The episodes in the DCTs were prepared by extracting and modifying those in the DCT used in Liu (2007) and Fukuya (1997), and in Beebe et al. (1990), both of which used written open-ended style questionnaires.

**Table 19 WDCT situational variation (Part I: S1-10)**

Sit.	SD	PD	I	SA	Situation
1	+	+	-	Request	Ask a student passing by to open the door
2A	=	-	+	Request	Borrow a notebook from a friend just before the test
2B	=	-	+	Refusal	Decline a friend's request to borrow a notebook
3A	+	-	-	Request	A boss asks his subordinate to make a copy.
3B	-	-	-	Refusal	Decline the request to make a copy from his/her boss
4A	-	+	+	Request	Request a change in interview time
4B	+	+	+	Refusal	Decline the student's request to change the interview time
5A	+	-	+	Request	Ask your subordinates to work on holidays
5B	-	-	+	Refusal	Decline the request from his/her boss to work on holidays
6A	-	-	-	Request	Ask the teacher for a copy of the course materials
6B	+	-	-	Refusal	Decline the request from the student for a copy

*(Continued)*

**Table 19 (Continued)**

7A	=	+	+	Request	Ask a student you don't know to participate in the experiment
7B	=	+	+	Refusal	Refuse the request to participate in the experiment
8A	-	-	+	Request	Ask the teacher to postpone the submission deadline
8B	+	-	+	Refusal	Decline the student's request to postpone the submission deadline
9A	+	+	+	Request	A professor asks students from other faculties to participate in joint research
9B	-	+	+	Refusal	Decline the request from the professor of other faculties to participate in joint research
10A	-	+	-	Request	Borrow a pen from an unfamiliar professor sitting next to you
10B	+	+	-	Refusal	Refuse the request from the student to lend a pen

Note: Sit. = situation, SD = social distance, PD = psychological distance, I = imposition, SA = speech act.

Plus (+): Utterance from a speaker with a higher social status to a listener with a lower social status, the psychological distance between interlocutors is long, and the magnitude of imposition is large.

Minus (-): Utterance from a speaker with a lower social status to a listener with a higher social status, the psychological distance between interlocutors is short, and the magnitude of imposition is small.

Equal (=): Equal social status between interlocutors.

The second part of the WDCT (Part II) was designed to answer SQb. The SQb inquires if the learners improve their production of uninstructed speech acts, such as complaining and disagreeing as a result of learning request and refusal speech acts. This is to assess learners' ability of knowledge extension/transfer described in Section 3.3.4.2, which is associated with processing ability. The example of questions asked in Part II is given below. Table 20 summarises situations described in Part II (see Appendix F for the entire questions).

### **Situation 12**

Situation: Planning a project at lab, Purpose: propose an alternative method, Role: Student and Professor.

You participated in an experimental research project. You believe the experimental method the principal professor is proposing will not work. You want to explain your thought and propose to him to change the method. 1) What do you say? Despite your effort, the professor seemed not willing to accept your proposal. 2) What does the professor say? You want to persuade him by any means to accept his alternative method. 3) What do you say? 4) Please continue writing, if necessary, how the dialogue goes on between the two.

あなたはある実験研究プロジェクトに参加していますが、主任教授の実験方法では上手く行かないと考えています。自分の考えを説明し、方法を変えてもらいたいと思っています。1) どのように伝えますか。一方、教授はその考えに賛同できません。2) どのように学生に反論しますか。それに対し、あなたは何とか教授を説得をして代案を受け入れてもらいたいと考えています。3) 教授をどのように説得しますか。4) その後教授が同意するまでどの様に会話が進んでいくでしょうか書いてみて下さい。

You: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Professor: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

( ): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

( ): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

( ): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Professor: Great (finally the professor accepted your idea).

**Table 20 WDCT situational variation (Part II: S11-13)**

Sit.	SA	Situation
11 (1)	Request	Ask a friend to buy sugar
11 (2)	Complaint	Express dissatisfaction with buying salt by mistake and tell the interlocutor to go and buy sugar again
11 (3)		
12 (1)	Complaint	Express dissatisfaction with the professor's research method
12 (2)	Disagree	Professor expresses disagreement with his students' complaints about the research method
12 (3)	Complaint	Complain to the professor again
13 (1)	Complaint	Express dissatisfaction with the high product price and request a price reduction
13 (2)	Disagree	Express disagreement with the request for price cuts
13 (3)	Disagree	Attempt to continue trading while continuously expressing disagreement with price cut requests

## **4.5.2 Sub Instruments**

In addition to WDCT, sub instruments such as ODCT, roleplays, questionnaires, and some others such as students' notebooks, the instructor's journal, and e-mails were used complementary to obtain the data from multiple sources that support the findings from WDCT.

### **4.5.2.1 ODCT**

The ODCT was conducted as supplemental instruments to obtain more authentic natural conversational data (see Bardovi-Harlig, 2018). As described earlier, in this study, WDCT was selected as the main instrument because it is considered more suitable for the current research with students of lower speaking proficiency. Although the comparison of the data from these two different modes of DCTs provided important insights, since the sample size of the ODCT was small (as I mentioned earlier, the ODCT was limited to the TG1), they were used complementarily for qualitative analysis.

The ODCT was conducted twice, once before and once after the instructional intervention. One-to-one verbal interaction between the instructor and each student was performed and recorded. The test was designed to examine the qualitative and quantitative change in their performance at making requests and responding with making refusals in real-time conversation before and after the instructional intervention. Their processing ability in the pre and post-ODCT, in terms of how smoothly students initiate conversation or take turns or select contextually appropriate strategies, were compared. The combination of WDCT with FDCT and ODCT that was employed in this study, aimed to cover the shortfall found in previous studies.

### **4.5.2.2 Roleplay**

In addition to the ODCT, roleplays are also promising instruments that provide authentic natural conversational data. Compared to the WDCT, roleplays are considered a more

interactive method, especially valued for their ability to elicit spoken data from interlocutors. In the setting up of roleplays, interlocutors are given basic information in advance concerning the envisioned situation, the relationship between interlocutors, their ages, and the communication tasks to be enacted. Having assimilated these situational details, students then act out their own roles in achieving a certain goal. There is a technical distinction, roleplays being classified as either a closed type, or an open type (Kasper & Dahl, 1991). The former is designed as a ‘no interaction’ roleplay since a ‘player’ need only respond once to complete the manoeuvre, with no follow-on replies from the other being expected. In contrast, the latter is ‘self-directed’ (Kasper & Dahl, 1991, p. 217), with the outcome of the roleplay being intentionally open-ended, and, therefore, unpredictable (Félix-Brasdefer, 2010). It is easy to see, therefore, why open roleplays are regarded as being better able to provide more natural and richer data than DCTs can (Kasper & Dahl, 1991).

In this research, students were encouraged to participate in open roleplays in various contexts, such as listed in Table 21 (see Appendix J for full scenarios). Each group of students was given two contexts out of eight possible contexts, and was asked to write scenarios and act them out. Every two groups were assigned to the same contexts. However, one party was asked to make a request, while the other was asked to decline the request. This instrument was used to examine what kind of pragmatic strategies or knowledge was used, and how they were performed in the oral interaction. The data obtained were used supplementary to support the primary data from WDCT, due to the reason described in Section 4.5.1, that is, WDCT was considered more suitable for students with lower speaking proficiency.

**Table 21 Roleplay contexts**

<b>Sit.</b>	<b>Relationship</b>	<b>Situation</b>
1	professor and student	A student asks a professor who misunderstands the test date to give the test as planned.
2	professor and student	A student asks a professor to change from grammar-centric to communication-centric English lessons
3	professor and student	A student asks a professor to reschedule the presentation
4	Between classmates	Ask your classmate to help with the report to be submitted the day after tomorrow

*(Continued)*

**Table 21** (Continued)

5	boss and subordinates	Ask your boss to allow you to buy a computer
6	professor and student	A student who wrote the report on the wrong topic asks the professor to accept and read his/her report
7	between classmates	Ask your classmates to change the theme of your presentation
8	boss and subordinates	Ask your subordinates to work overtime

### 4.5.2.3 Questionnaires

Two types of questionnaires were used in this research: one was to ask about participants' personal backgrounds: demographic information such as age, and gender, along with language learning histories, such as length of foreign language study and any experience of study abroad (see Appendix G). It has been pointed out that age and any experience of living abroad, likely have a significant effect on pragmatic performance (Wai-Cook, 2012). As regards the experience of learning foreign languages, this is asked, in the case of Japanese students, to determine to what extent there might be any relevance between study-abroad experience and students' performance in English. In the case of the English L1 speakers, it was asked to make sure that there could be no impact of foreign language learning on their responses to DCT. Some studies suggested that English variation affects the speakers' pragmatic performance. Therefore, a question asking about English L1 speakers' nationality was included.

The other type of questionnaire was designed to ask about participants' impressions of receiving pragmatic instruction. This was prepared in both open-ended and closed-ended forms (see Appendix H), to examine how the use of pragmatic instruction affects learners' perception of learning pragmatics.

It has been pointed out that the way of asking questions risks affecting the responses (e.g., Rose et al., 2020). In an effort to minimise any such error, steps were taken, such as avoiding the use of negative constructions and double-barrelled questions. Furthermore, it has not escaped the attention of some cases such that Japanese respondents tend to prefer the mid-point response style (Chen et al., 1995; Tasaki & Shin, 2017). That is, respondents have a tendency to play safe by choosing something in between, neither too

high nor too low, when they cannot decide which to choose, or do not want to stick their necks out. By taking this into consideration, this study does not adopt a mid-point response style.

#### **4.5.2.4 Other Instruments Used**

Other instruments used in this research include students' notebooks, the instructor's journal, and e-mails. As for students' notebooks, the researcher prepared each student with a notebook and asked them to take notes on what they learned from pragmatic instruction or from the discussion with peers. This was intended to determine what each student could learn and to what extent he/she could use the learned knowledge in communication in the classroom. Instructing students what to write about is sometimes more beneficial than free-form notebook writing, as systematic data can be obtained. However, since the purpose of this study was to find out what pragmatic features students may pay attention to, free-form writing is adopted to avoid control over their writing (see the example of the notebook distributed to the students in Appendix M). The notebooks were distributed before each class and collected after the class from Week 2 to Week 13. Almost all of the TGs filled in something each time, all of which were related to pragmatic learning.

The instructor's journal was intended to keep detailed records of her own observations vis-à-vis whatever else she noticed concerning students' realisation of L2 pragmatic features and their application of the learned knowledge into practice. These instruments were included based on the researcher's particular interest to find out if students were aware of specific politeness rules and strategies and whether, and to what extent, they utilised them to perform speech acts verbally or in the written form. To keep memory deterioration and retrospection bias (Rose et al., 2020) minimum, the journal was designed following strictly event-contingent procedures (Christensen et al., 2003). I asked the instructor to take notes on the spot as much as possible during the class, and to fill in the journal immediately after the class. The instructor was also asked to note the following points in her journal to avoid writing irrelevant statements that would not be subject to research:

- What is noticed about students' use of strategies
- What is noticed about students' awareness on the structure of pragmatic utterances
- What is noticed about the use of politeness expressions by the students

The instructor was given a journal template (see Appendix N) that clearly stated the points above and asked to fill in the journal for each lesson from Week 2 to Week 13.

After the author's MA research, the instructor reported a positive effect of pragmatic instruction observable in the students' communicative performance. She considered this was because students learned more precisely to gauge what information and how much information was needed, and further, in what order the information had to be structured to produce contextually appropriate speech acts. Due to the limited scope of the author's MA study, this information was not included, but the current study includes such information as it provided complementary information from which a comprehensive picture of the participants' EFL learning was drawn. This source records in detail numerous miscellaneous observations she noticed during instruction. Doing so would enable her to identify whatever genuine change in their politeness behaviour might come about after the instructional intervention. The information given in the journal was complementary to, rather than part of, the qualitative analysis.

Similarly, e-mail exchanges between the instructor and students were used as a complement to the qualitative analysis. The instructor extracted the relevant parts of the e-mails, indicating the use of politeness expressions and provided them to the author for qualitative analysis. The data collected from these sources were used to support the main argument of the qualitative analyses on the development of L2 pragmatic competence by Japanese EFL learners.

In addition to the above-mentioned complementary data, the PRT was utilised to examine the English L1 speakers' perception of the degree of politeness in request expressions in English. This was used as complementary data to analyse the degree of politeness of the expressions used for the Head Act by the students in the DCT. In this PRT, there were 28 politeness expressions the participants were asked to order from most polite to least polite (see Appendix I). The 28 types of Head Act expressions to be targeted

were selected with reference to previous studies such as Aoki (1988), Hill et al. (1986) and Tanaka and Kawade (1982). To determine the ranking, the weighted mean method was used, as it has been widely used in various studies, including the aforementioned studies.

In this method, first, a set of 28 expressions was sorted in the order of politeness from the most to the least polite by each participant. Next, the expression that was judged to be the most polite was given a score of '28'. Then, to the next-ranked polite, '27' was given, and so on, progressively, each rank down, meaning one less point. The scores given to each expression were added and divided by the number of participants to generate the mean score for each expression. Then each of the 28 expressions was ranked from the highest to the lowest according to the mean score given to the expression. The results from the PRT provide supplemental data for the analysis of DCT (see Section 5.3.1.1).

## **4.6 Data Analysis Methods**

To examine the development of pragmatic competence, data collected from the aforementioned instruments, such as DCTs, roleplay, questionnaire and some other sources (student's notebook, instructor's journal, PRT) are analysed. In this section, methods to analyse the data obtained are described in detail.

### **4.6.1 Analysis for DCTs**

In this study, the development of L2 pragmatic abilities is examined in terms of the development of knowledge and processing ability of the learners. The development of knowledge (more specifically, declarative pragmatic knowledge) is assessed by contrasting the amount and quality of politeness strategies used in the pre- and post-DCTs. The development of processing ability (associated with procedural knowledge), on the other hand, is assessed in two different ways. One way is to assess learners' judgment on context, the degree of indirectness and organisation of speech act sequence (e.g., ordering Alerters, Pre-Head Act, Head Act and Post-Head Act) in the pre- and post-DCTs. The other is to assess learners' ability to extend learned knowledge (e.g., production of

instructed request and refusal speech acts) to the production of new speech acts (e.g., uninstructed complaints and disagreements). Part II of DCTs is designated for this assessment.

The results of WDCT are the primary source for these assessments. The data from WDCT were analysed quantitatively and qualitatively. For the quantitative analysis, the change in the use of politeness strategies in producing speech acts before and after instruction is measured by using the rating system described in the next section. The scored data were analysed by both descriptive and inferential statistical analyses (one-way ANOVA, two-way ANOVA, paired samples *t*-test, etc.). To find out why and how the changes are brought about, content analysis is conducted for qualitative analysis.

#### **4.6.1.1 Rating System and Rater Assessment**

Assessment of pragmatic competence is one of the more important but difficult questions for researchers. According to Ishihara and Cohen (2010), it is difficult because what is appropriate varies by person and context. However, a few notable studies developed instruments, or rubrics, to assess pragmatic competence (e.g., Hudson et al., 1995; Ishihara, 2010; Liu, 2007). Comparing the realisation of request, refusal and apology speech acts, Hudson et al. (1995) established a rating system which consists of six items: speech act, expressions, amount of information, formality, directness and politeness. Each item is rated using a five-point Likert scale, from 1 (very unsatisfactory) to 5 (completely appropriate). Subsequently, their framework has come to be widely used by researchers for the assessment of speech act production. Some criteria of the system, however, are not especially clearly defined. For example, they make no clear distinction between the terms, ‘formality’, ‘directness’ and ‘politeness’. In addition, their assessment for each item relies to a large extent on the intuitions of English L1 speakers.

To resolve these problems, Liu (2007) chose four items (speech act, expressions, amount of information and politeness) from the rating system Hudson et al. (1995) had created, and set up clear scoring criteria from 1 to 5 to facilitate a more definitive rating system. In my MA dissertation (Oyama, 2017), I employed Liu’s system to score WDCT results. However, I found that some augmentation was necessary to allow greater scrutiny

of the data analysis. For example, whenever completely irrelevant responses showed up, or whenever a response was entirely absent, these could not be rated adequately in Liu's system. Furthermore, certain ambiguities within the categorisation of items in the rating system still remained, although Liu has followed the definitions delineated in Hudson et al. (1995). This led to two concerns. The first was a matter of ambiguity, there being some responses for which the allocation of item classification was not clear-cut. Secondly, with this rating system, pragmalinguistic and sociopragmatic features could not, in fact, be assessed separately, despite Liu acknowledging the importance of separate analyses of these two aspects of pragmatics. For this reason, in the assessment for the MA study, even though the learners showed pragmalinguistic improvement, the nature of this improvement failed to register in the scores, since the lower sociolinguistic features dragged the total scores downward.

In order to deal with these problems, I proposed a revised rating system in this study. Bearing in mind that, as Ishihara and Cohen (2015) pointed out, the assessment criteria must be compatible with the instruction target, this study needed to create appropriate criteria in order to more precisely assess the effectiveness of instruction on the speech-act structures and strategies that the students accomplished. Furthermore, it has been shown that pragmalinguistic aspects differ greatly from some sociopragmatic aspects, especially regarding developmental timing, pace and rate of growth through to emergence. In consideration of this point, assessment criteria capable of assessing each item separately were designed.

The rating system used in this study was created by combining the system used in Hudson et al. (1995) with that of Nicholas (2016), to meet the particular assessment criteria required for this study. This combination is because while Hudson et al. (1995) refer to the composing elements of request, refusal, and apology as *Alerters*, *Head Act*, *Supportive Moves* and *Modifications*, they do not specify anything about 'the organisation of sequences' (Schegloff, 2007, p. 2) other than saying that *Alerters* proceed *Head Act*. In contrast, Nicholas (2016), focuses his examination very much on the organisation of sequence, as expressed by the three elements of *opening*, *request* and *closing*. A rating system was configured for this study that consists of four components of criteria: *Amount of information*, *Quality of Information*, *Organisation of information* and *Level of*

*Indirectness*, as in Figure 23. The responses given to the pre- and post-DCT were rated according to the criteria above and by situation.

**Situation 1**

		Amount of Information		Quality of Information			Notes:
		Strategy	Quantity	Expression	Context	Grammar	
<b>Alerters</b>	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Pre-HA</b>	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Head Act</b>	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Post-HA</b>	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="text"/>	<input type="text"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Organisation of Information</b>		<b>Level of Indirectness</b>		<b>Total</b>			0

**Figure 23** WDCT score sheet

The Amount of Information component was rated based on the amount of information each student could provide, which itself was determined by the number of strategies used. This component subsumes four elements (Alerters, Pre-Head Act, Head Act and Post-Head Act). The frequency of use of expressions such as ‘Excuse me’ (attention getting for Alerters) was counted up and accumulated in the ‘Quantity’ column, thereby representing the total amount of information provided for that element. This was rated not only for quantity but, importantly, also for quality. It was rated in terms of the information provided being appropriate for a given context. For example, if there was no response for Alerters or the response made no sense, it was rated as ‘0’, if the response was appropriate such as ‘Hello’ or ‘Excuse me’ as listed below (a partial list of rating criteria and description), it was rated as ‘1’ respectively.

<b>Alerters</b>	
0: No score	1: Good
<i>No response/ make no sense</i>	- Hello - Excuse me - Tim

The Quality of Information was rated on the basis of the quality of expressions used, as determined by how adequately and precisely they conveyed the information. In this regard, though Quality of Information, is one component, bear in mind that it actually subsumes three items, namely, *Expression*, *Context* and *Grammar*. The quality of expression was rated on a 4-point rating scale ranging from 0 to 3 as indicated below. If no response or the response that did not make sense was provided, the score '0' was given. If the response was not sophisticated and simple expressions such as 'I don't have a book with me, now' were used, it was rated as 'Fair' and 1 point was given. If sophisticated and high quality expressions were used, 3 points were given.

### Pre-Head Act

0: No score	1: Fair	2: Good	3: Excellent
<i>No esponse/ make no sense</i>	<i>Not sophisticated, simple expressions are used.</i>  - I don't have a book with me, now. - I have to cancel the meeting.	<i>Not very sophisticated but reasonably good expressions are used.</i>  - I have to cancel the meeting, as I am sick. - Due to the heavy rain, Tom had to give up his trip.	<i>Sophisticated and high quality expressions are used.</i>  - I'm afraid I have some rather awkward news. The materials to hand in to the schedule are getting late.

Similarly, the context was rated on a 3-point rating scale ranging from -2 to 0 on the basis of the contextual appropriateness of the expressions used. The context rating starts with negative to enable it to capture cases, such as the one where the quality of expression itself was high, so 3 points were added, but the expression was not contextually appropriate, then -1 point is given. Next, grammar usage was also assessed in this study. It was rated on a 3-point rating scale ranging from -2 to 0. However, since grammatical usage lay beyond the scope of instruction, it was rated independently. Thus, the rating system was designed to calculate the total score, whether with or without, scores for grammatical usage.

As for Organisation of Information, this was assessed in terms of the appropriateness of the sequencing of speech acts, manifesting different degrees of politeness or directness (Van Dijk, 1979). It was rated on a 3-point rating scale ranging from 0 to 2. Finally, the Level of Indirectness was assessed, and this was based on the degree of indirectness

expressed by the entire sequence of speech acts. It was rated on a 5-point rating scale ranging from 0 to 4. For more detailed information on the criteria, together with more detailed explanations regarding the scoring, please refer to Appendix O and Appendix P.

The rating criteria of Amount of Information and Expressions and Grammar of Quality of Information were designed to assess the development of learners' (declarative) knowledge, and those for Context of Quality of Information, Organisation of Information and Level of Indirectness were designed to assess the development of processing ability. The processing ability was also assessed by measuring learners' ability to extend knowledge to produce uninstructed complaint and disagreement speech acts, which was in Part II of DCT. The results from Part II were rated by using the same criteria used for Part I of DCT on request and refusal speech acts.

With respect to the handling of item-nonresponse, by which I mean the data that were missing for some items for some respondents, there are mainly two ways to handle this problem. One is list-wise deletion, by which entire cases with missing data are removed. The other is the imputation method which replaces 'the missing values with a plausible estimate to make the data set complete' (De Leeuw et al., 2003, p. 154). Nonresponse may accrue because the respondent did not know the answer or ran short of time. Regardless of either cause, nonresponse is meaningful for this study, as it examines the development of learners' pragmatic ability after instruction. Therefore, the data from WDCT were calculated in both ways: employing the list-wise deletion excluding the data with non-response and imputation way including the data with nonrespondents, which was scored 0. For the current discussion, the data, including nonresponse, is primarily used unless specified.

The DCT was scored by the instructor in collaboration with an English L1 teacher, referring to the score guide created by the researcher, or the data collected from L1 English speakers. Whenever there was a discrepancy or the two people arriving at different scores, the matter was explored further to settle on a mutually endorsed score. Although the English L1 teacher was not a specialist in pragmatics, she had a strong interest in this field and discussed much about this topic with the instructor. Before working on scoring, the two had undergone training that first involved receiving a one-hour explanation of the scoring method and the scoring criteria on which it was based. Then, using some of the data I had collected for my MA study, I was able to check how

the raters failed at scoring. In those cases where they scored differently from the criteria in the table, I gave feedback that would guide them back into line as regards their assessment scores. After that, occasional training was provided again to keep scoring consistently in line with the criteria. Finally, the training was held for a week until there was no discrepancy in the scoring results of the two raters.

After training, interrater reliability and intrarater reliability were assessed by using the responses obtained from 13 participants (equivalent to 10% of all participants, which is a minimal subsample to use for interrater reliability) (see Lombard et al., 2004; O'Connor & Joffe, 2020 for minimal subsample). These participants were excluded from the list for assessment as they did not participate in the entire research period due to reasons such as absence from classes, etc. Interrater reliability was assessed by referring to the intraclass correlation coefficient (ICC) and percent agreement (see Koo & Li, 2016; McHugh, 2012). ICC estimates and their 95% confident intervals were calculated using IBM SPSS Statistics for Windows, Version 28.0. (IBM, 2021) based on a mean-rating ( $k = 2$ ), consistency, two-way mixed-effects model. The results of the ICC for each situation are reported in Table 22.

As the table reports, the results of ICC for the total of all the situations was, ICC = 0.997 with 95% confident interval = 0.991 - 0.999. Similar results for each situation were obtained. The level of reliability was within the range of good to excellent (see Koo & Li, 2016 for a detailed explanation on the result interpretation). However, since ICC cannot measure the degree of agreement for each scoring item (i.e., *Quantity*, *Expression*, *Context*, *Grammar*, *Organisation of Information*, and *Level of Indirectness*), interrater reliability was also measured by percent agreement. Percent agreement was calculated on the basis of how many of the scores the two raters could agree on. This showed 89.07% of total responses proved to be consistent between the scores of the two raters.

Two weeks later, the raters scored the same data again. Based on the scores, intrarater reliability was assessed by ICC and percent agreement. The ICC estimates and their 95% confident intervals were calculated using SPSS based on a single-rating, absolute-agreement, and two-way mixed-effects model. The result of ICC for the total of all the situations was, ICC = 1.00 with 95% confident interval = 0.82 - 1.00. Therefore, the level of reliability was able to be judged as 'excellent'. The results of percent agreement also showed a high agreement of 95.28%.

**Table 22 Results of interrater reliability for scoring DCT [pre-scoring]**

Situation	Intraclass Correlation Coefficient			Percent Agreement		
	Intraclass Correlation	95% Confidence Interval		Agree	Disagree	
		Lower Bound	Upper Bound			
S1	0.995	0.983	0.998	86	11	88.66%
S2A	0.994	0.981	0.998	97	11	89.81%
S2B	0.997	0.991	0.999	89	11	89.00%
S3A	0.994	0.980	0.998	75	9	89.29%
S3B	0.996	0.987	0.999	84	11	88.42%
S4A	0.994	0.979	0.998	115	12	90.55%
S4B	0.989	0.963	0.997	91	9	91.00%
S5A	0.990	0.968	0.997	88	9	90.72%
S5B	0.991	0.969	0.997	92	9	91.09%
S6A	0.987	0.958	0.996	90	10	90.00%
S6B	0.975	0.919	0.992	86	8	91.49%
S7A	0.993	0.977	0.998	94	10	90.38%
S7B	0.996	0.985	0.999	79	8	90.80%
S8A	0.992	0.975	0.998	85	12	87.63%
S8B	0.987	0.959	0.996	81	12	87.10%
S9A	0.981	0.936	0.994	88	9	90.72%
S9B	0.994	0.981	0.998	90	13	87.38%
S10A	0.996	0.988	0.999	89	10	89.90%
S10B	0.991	0.971	0.997	77	12	86.52%
S11(1)	0.957	0.860	0.987	83	12	87.37%
S11(2)	0.991	0.972	0.997	114	11	91.20%
S12(1)	0.985	0.951	0.995	101	10	90.99%
S12(2)	0.925	0.756	0.977	70	9	88.61%
S12(3)	0.957	0.860	0.987	70	12	85.37%
S13(1)	0.927	0.762	0.978	48	11	81.36%
S13(2)	0.957	0.859	0.987	66	10	86.84%
S13(3)	0.976	0.923	0.993	46	8	85.19%
Total	0.997	0.991	0.999	2274	279	89.07%

When scoring the actual data, the raters first scored 12 students randomly selected from all classes. Based on the scores provided, the interrater reliability was assessed, and



**Situation 2B [Refusal]**

I'm sorry. I don't want to show you my notes.

#rg (HA)                      #np (HA)

**Situation 12 [Complaint and Disagreement]**

**Student:** I think that your method is not good.

#sj (HA)                      #dpp (HA)

**Professor:** Why? Tell me your idea why you think so. I cannot agree.

#akp (PHA)                                      #nac (HA)

In Situation 1, 'Hi' for greeting is used to draw the attention of the interlocutor, which is coded as *attention getting* (#ag) and categorised as Alerters (Al). Next, 'Could I ask a big favour of you?', which is coded as *getting a precommitment* (#pc) and 'I have many books in my hands', which is coded as *grounder* (#gr). Both of them are prefatory statements, which are categorised as a part of Pre-Head Act (PHA). The last utterance, 'I was wondering if you could open the door.', which is coded as #wwdi, and categorised as Head Act (HA).

Situation 2B is presented to show an example of coding refusal speech acts. The first two utterances, 'I'm sorry' and 'I don't want to show you my notes.' are both categorised as Head Act and given the codes of *statements of regret* (#rg) and *non-performative* (#np).

Finally, Situation 12 is presented to show an example of coding complaint and disagreement speech acts. The first utterance is where the student is complaining to the professor. It is classified as a Head Act part and coded *disapproval* (#dpp). However, mitigation strategies such as 'I think' is used to mitigate face threatening. Therefore, an additional code, *subjectivizer* (#sj), is given. In the second utterance, the professor expresses his dissatisfaction with the student's complaint, where the utterance, 'Why? Tell me your idea why you think so.' corresponds to the introduction part of disagreement speech acts. Therefore, it is classified as a Pre-Head Act and coded as *asking an explanation* (#akp). The last utterance, 'I cannot agree' is coded as *performative* (#nac),

which is categorised as Head Act.

To validate the code, the percent agreement between the coding of the researcher and that of the instructor was measured. Before the measurement, the training on the coding for the instructor was also conducted for a week in the same procedure as the scoring training explained in the previous section. After the training, the researcher and the instructor coded the data of the 13 participants mentioned in the previous section and the percent agreement between the two was measured. This measurement showed a high agreement of 90.27%. Therefore, the codes were judged as validated. The intrarater reliability was also verified by measuring percent agreement, and doing so showed a high agreement of 95.43%.

In the coding of the actual responses of DCTs, the responses of 12 students randomly selected from all classes were first coded as in the case of scoring. The interrater reliability was measured for the coding and confirmed 95.78% of consistency over the coding of the responses of 12 students. Following this confirmation, the rest of the data were coded.

#### **4.6.2 Analysis for Data from Other Sources**

Results from other instruments, such as roleplay, questionnaires and data from other sources, were analysed as complementary to the findings from DCTs. The transcripts from group discussions and roleplays, along with notes written in students' notebooks, the instructor's journal, and e-mails, all of these were qualitatively analysed using the same method used to analyse results from DCTs. In cases which did not match up with existing codes or where no codes were available from Hudson et al. (1995), new codes were created and assigned. By way of illustration, consider the utterances in the examples below, both of which were found in a group discussion. Despite the fact that no codes from previous studies were available to match these utterances, they clearly illustrate enhancement over pre-instruction states, indicating a likely positive effect of instruction.

#### **Examples**

Student A: You need to add the attention phrase first.

*#st*

Student B: I think we should say politely, just like we learned when constructing request speech act(s).  
*#ap*

For instance, the utterance of Student A indicated student recognition of the appropriate structure of speech acts, and the utterance of Student B indicated student recognition of the required degree of politeness. In such cases, new codes were created and assigned: *#st* (structure) for the utterance of Student A and *#ap* (application) for the utterance of Student B. The code given accorded with what the sentence as a whole implied. The coded information was collected and analysed to find out what pragmatic features the students became aware of.

Regarding the questionnaires, they were analysed in two ways: for responses to the open-ended questions and for those to the closed-ended questions. The responses to the open-ended questions were qualitatively analysed using the same method employed in the analysis of DCT results. The responses to the closed-ended questions were analysed by using descriptive statistical analysis. The method was used to analyse what the participants thought about learning pragmatics and determine the ratio of participants who found it significant. The data were also coded in a data-driven format to conduct content analysis to summarise key features of the data obtained. The questionnaire was designed to find out what strategies participants found difficult to master and why, assuming this may help better understand the results of the DCT. Different data sources were triangulated in order to elucidate the research questions raised in this study.

#### **4.7 Validity and Reliability**

In judging the credibility of the research, and results obtained from the research, sufficient validity and reliability are crucial (Dörnyei, 2007). To that end, this research was carefully designed to ensure full attention to validity and reliability issues in the data collection and analyses, through the thoroughness of the triangulation method, together with a mixed method of qualitative and quantitative approaches.

### **4.7.1 Validity**

Validity has been defined differently by different researchers, and the concept of validity has changed over the last few decades (Dörnyei, 2007). For example, according to Ary et al. (2010), validity has traditionally been defined as ‘the extent to which an instrument measured what it claimed to measure’ (p. 225). In other words, the data obtained from the tasks should make valid inferences about the ability of examinees to perform the tasks and fit the purpose of the measurement. WDCT has been said to be suitable to measure pragmatic knowledge, especially when measuring students with lower speaking proficiency, like the subjects of this research, as discussed in Section 4.5.1. Therefore, it was used for my MA research and has proven to be a suitable instrument for measuring pragmatic knowledge. By the same token, WDCT was adopted for the current study.

### **4.7.2 Reliability**

In order to ensure the reliability of the research, I was concerned about four major items. The first is to do with performing data triangulation, that is, the fact that the use of a variety of methods to collect data on the same topic is important. For this reason, I adopted a mixed method of qualitative and quantitative approaches to collect and analyse the data comprehensively. Quantitative data were obtained from the WDCT, and qualitative data were collected through roleplay activities and other instruments such as questionnaires.

Secondly, to assure the reliability of the quantitative analysis, statistical measures such as mixed model ANOVA and paired samples *t*-tests were utilised. In addition, effect sizes such as Cohen’s *d*, and eta squared were obtained for more objective analyses. In the past, the effect size was not required to be measured, but recently, it has been strongly recommended to include effect size indicators when reporting the findings of the research (Dörnyei, 2007). Furthermore, the Steel-Dwass test was performed to verify the mean difference between the four groups, whereas paired samples *t*-tests ( $\alpha = .05$ ) were performed to measure the mean difference between pre and post-DCT results. Statistical analysis software SPSS (IBM, 2021) and R 4.1.2 for Windows (R Core Team, 2021) and the modified R-Commander 4.1.2 (Tsushima et al., 2021) were used for these analyses.

Thirdly, to enhance the reliability of the coding of request and refusal making of the DCTs, the codes presented in Hudson et al. (1995) were applied. These codes have been used in many studies and have proven reliable. As for the coding for complaint and disagreement, the reliability was confirmed by mutual agreement between myself and the grader (instructor), having reached 95% or more.

Lastly, concerning the equivalence of English proficiency among the participants, the TOEIC score was used and confirmed that there was no significant difference between the TGs (TG1 and TG3) and the CG in terms of English proficiency, whereas the TG2 was slightly lower than the other three groups.

#### **4.8 Summary of the Chapter**

This chapter presented a detailed explanation of the data collection method designed and implemented. First, participants were identified, 120 male and female Japanese undergraduate students of low intermediate-level English who made up four intact classes for this quasi-experiment participated in this study. During the 14 weeks of the research, students in the treatment groups received pragmatic instruction as a part of a regular EFL class.

The basic flow of instruction was formulated by slightly revising Roever's (2009) learning model, which intends to account for the developmental process of the learners' pragmatic knowledge in L2. Instruction was designed to promote learners' acquisition and understanding (intake) of declarative knowledge and output practice, encouraging learners to use declarative knowledge into performance (procedural knowledge), which was planned to accord with DeKeyser's (2015) three stages of skill acquisition theory (declarative, procedural and automatised).

Following this, the research design for qualitative and quantitative analyses, including the data collection method and instruments used, were explained in detail. Speech act production before and after instruction was tested in the pre- and post-DCT. The results of DCTs were compared and analysed statistically in the quantitative analysis. If there was a change between pre- and post-production, the reason why the change took place needs to be investigated, which was done in qualitative analysis. The data from

other sources such as roleplays, questionnaire, and instructor's reflective journal, etc., were used for qualitative analysis supplementary to support the primary data from WDCT. Finally, the validity and reliability of the data and its analysis methods were assured.

## Chapter 5: Results and Analysis

This chapter presents and analyses the results collected from the field research in two parts. The first part encompasses the data analyses from a quantitative perspective. Specifically, it extends a statistical comparison of the results of pre/post-DCT on the types and frequency of politeness strategies used in various situations. The second part analyses the data from a qualitative perspective. It probes for explanations as to how and why the changes observed and evidenced in the results of the post-DCT were brought about. To this end, it makes use of additional insights gleaned from complimentary instruments, such as roleplay, group discussion, and questionnaires.

### 5.1 Preliminary Analysis

#### 5.1.1 Equivalence of English Language Proficiency Among Groups

This study employed a control group in its experimental design and was carried out over a 14-week period. As described in Section 4.1, one reading focused class out of four intact classes was randomly assigned to serve as the control group (CG). Within the institution, the practicalities of established operational procedures meant that there was an important constraint: it was not possible to assign students randomly to different groups. Therefore, as a preliminary step, the equivalence of English-language proficiency among the groups was checked by conducting a multiple comparisons test ( $\alpha = .05$ ) using TOEIC scores. Due to the non-normal distributions of TOEIC scores (see Appendix S), the Steel-Dwass test was used. For these tests, I used the Statistics Analysis Software, R 4.1.2 for Windows (R Core Team, 2021) and the modified R-Commander 4.1.2 (Tsushima et al., 2021).

The result from the Steel-Dwass test is summarised in Table 23. The .05 level of significance was employed for the statistical analysis of this test. The table shows the mean (M) and Standard Deviation (SD) of each class: TG1 ( $M = 442.29$ ,  $SD = 97.55$ ), TG2 ( $M = 367.50$ ,  $SD = 40.27$ ), TG3 ( $M = 499.12$ ,  $SD = 35.53$ ), CG ( $M = 480.43$ ,  $SD = 42.01$ ) There was no statistically significant difference in English proficiency between

TG1-TG3 ( $p = .104$ ), TG1-CG ( $p = .501$ ), TG3-CG ( $p = .100$ ). There was, however, a marginal difference between the TG2 and the other three groups ( $p < .001$ ). The TG2 was slightly lower in English proficiency than the other three groups.

**Table 23 Results of Steel-Dwass test**

Group	<i>M</i>	<i>SD</i>	Comparison	<i>P</i>
TG1 ( <i>N</i> = 24)	442.29	97.55	TG2	0.016 *
			TG3	0.104
			CG	0.501
TG2 ( <i>N</i> = 28)	367.50	40.27	TG3	< .001 **
			CG	< .001 **
TG3 ( <i>N</i> = 33)	499.12	35.53	CG	0.100
CG ( <i>N</i> = 35)	480.43	42.01	-	-

\* $p < .05$ . \*\*  $p < .01$ .

### 5.1.2 Equivalence of English Pragmatics Proficiency Among Groups

As another preliminary step, the equivalence of L2 pragmatic ability was examined for each group by comparing their scores for pre-DCT. A multiple comparison test was conducted on the pre-DCT scores. The results are presented in Table 24. Since the data of each group indicates a normal distribution and equal variance (see Appendix T), first, a one-way ANOVA was conducted at the  $\alpha = .05$  level of significance. The results reported in Table 24, TG1 ( $M = 248.21$ ,  $SD = 41.09$ ), TG2 ( $M = 198.43$ ,  $SD = 42.81$ ), TG3 ( $M = 233.21$ ,  $SD = 43.49$ ), CG ( $M = 227.60$ ,  $SD = 43.94$ ),  $F(3, 116) = 6.29$ ,  $p = .001$ ,  $\eta^2 = 0.14$  revealed that there was a statistically significant difference among the four groups.

**Table 24 Results of One-way ANOVA**

Group	<i>M</i>	<i>SD</i>	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>	$\eta^2$
TG1 ( <i>N</i> = 24)	248.21	41.09					
TG2 ( <i>N</i> = 28)	198.43	42.81	6.29 **	3	116	0.001	0.14
TG3 ( <i>N</i> = 33)	233.21	43.49					
CG ( <i>N</i> = 35)	227.60	43.94					

\*\* $p < .01$ .

Since a statistically significant difference was found, the Tukey HSD post hoc test ( $\alpha = .05$ ) was conducted. The results of the test are presented in Table 25, indicating that there was no statistically significant difference between TG1-TG3 ( $p = .565$ ), TG1-CG ( $p = .275$ ), and TG3-CG ( $p = .950$ ). That means, there was no significant difference in English pragmatic proficiency between TGs (except TG2) and CG, whereas the TG2 was different from the other three groups in terms of English pragmatic proficiency.

**Table 25 Results of Tukey HSD test for L2 pragmatics proficiency**

Group	Comparison	<i>p</i>	
TG1	TG2	< .001	**
	TG3	0.565	
	CG	0.275	
TG2	TG3	0.011	*
	CG	0.042	*
TG3	CG	0.950	

\* $p < .05$ . \*\* $p < .01$ .

The deviation of TG2 from the other three classes in terms of English pragmatics proficiency may be related to the low English proficiency of this group, as shown in the previous section. However, the purpose of this study was not to compare the degree of pragmatic development by group, the deviation of TG was not an issue. Rather, in order to confirm whether the effect of the instruction is accidental or not, I think it is important to obtain the data from multiple classes. For these reasons, TG2 was included in the experiment.

## 5.2 Quantitative Findings

This section presents a quantitative analysis of the results of the pre- and post-DCTs, firstly with regard to request and refusal speech acts in Part I of the DCT, and secondly on the two speech acts for which no specific instruction had been given - complaining and disagreeing in Part II. A comparison of the DCT results after instruction with those before instruction, specifically with regard to changes in the use of politeness strategies, as well as the processing ability to select and perform contextually appropriate speech acts, proved most revealing. The sections that follow report the WDCT results in detail.

## 5.2.1 Comparison of WDCT Results for Each Group

To examine whether there was a difference between the results of DCT by TGs and CG before and after the pragmatic instruction, a two-way mixed-model ANOVA (within-subjects factor: Time; between-subjects factor: Group) was conducted. If there was a significant difference, a Tukey post-hoc test was performed to determine which group showed the difference. In addition, the difference between pre- and post-DCT by situation was compared by paired samples *t*-tests. All the tests were conducted at the  $\alpha = .05$  level of significance.

**Table 26 Descriptive statistics for the results of pre/post-DCT**

Group ( <i>N</i> )	Part I				Part II			
	Pre-DCT		Post-DCT		Pre-DCT		Post-DCT	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
TG1 (24)	186.42	31.80	280.88	25.64	61.79	19.76	106.67	25.58
TG2 (28)	151.82	28.80	242.93	27.10	46.61	25.53	92.07	24.33
TG3 (33)	193.15	28.55	273.27	29.60	40.06	24.65	93.21	20.11
CG (35)	183.89	32.54	163.94	34.78	43.71	25.70	59.26	13.96

**Table 27 Results of two-way mixed-model ANOVA**

Subjects	DCT	Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
Within-Subjects	Part I	Time	221605.99	1	221605.99	469.32 **	< .001	0.80
		Time*Group	145523.91	3	48507.97	102.73 **	< .001	0.73
		Error (Time)	54774.02	116	472.19			
	Part II	Time	92809.91	1	92809.91	227.86 **	< .001	0.66
		Time*Group	13928.47	3	4642.82	11.40 **	< .001	0.23
		Error (Time)	47248.26	116	407.31			
Between-Subjects	Part I	Group	161142.56	3	53714.19	39.67 **	< .001	0.51
		Error (Group)	157086.62	116	1354.20			
	Part II	Group	31315.94	3	10438.65	16.85 **	< .001	0.30
		Error (Group)	71842.79	116	619.33			

Note: *SS* = Sum of Square, *MS* = Mean Square,  $\eta^2$  = Partial Eta Squared

Table 26 indicates the mean of the total scores given to Part I and those given to Part II. Looking at the results of Part I, only the CG reduced the mean score. Regarding Part II, all the groups, including CG, increased their score. However, the increase rate of the

CG looks much smaller than that of the TGs. To find out if the differences in Part I and Part II are statistically significant, 2 (Time) x 4 (Group) mixed-model ANOVAs were conducted. The results are summarised in Table 27.

First, regarding Part I, the results revealed that all effects were statistically significant. The main effect for Time yielded an F ratio of  $F(1,116) = 469.32, p < .001, \eta^2 = 0.80$ . Thus, the mean score was significantly greater for post-DCT compared to pre-DCT. The main effect for Group yielded an F ratio of  $F(3,116) = 39.67, p < .001, \eta^2 = 0.51$ , indicating that there were statistically significant differences among TG1, TG2, TG3 and CG. The interaction between the effects of Time and Group was also statistically significant,  $F(3,116) = 102.73, p < .001, \eta^2 = 0.73$ . A Tukey post-hoc test in Table 28 indicated that there were significant pairwise differences between TGs and CG, between TG1 and TG2, and between TG2 and TG3.

**Table 28 Results of Tukey HSD test for pre/post-DCT comparison**

Group	Comparison	Part I	Part II
		<i>p</i>	<i>p</i>
TG1	TG2	< .001**	0.015*
	TG3	1.000	0.002**
	CG	< .001**	< .001**
TG2	TG3	< .001**	0.933
	CG	0.003**	0.001**
TG3	CG	< .001**	0.003**

\* $p < .05$ . \*\* $p < .01$ .

Similarly, regarding Part II, there was a significant difference between time points,  $F(1,116) = 227.86, p < .001, \eta^2 = 0.66$ , indicating that the mean score was higher in post-DCT than in pre-DCT, and significant differences were observed among TG1, TG2, TG3 and CG,  $F(3,116) = 16.85, p < .001, \eta^2 = 0.30$ . There was also a significant interaction between Time and Group,  $F(3,116) = 11.40, p < .001, \eta^2 = 0.23$ . Following up this interaction, a post-hoc test revealed that there were significant pairwise differences between TGs and CG, between TG1 and TG2, and between TG1 and TG3.

Next, the results of two-tailed paired samples *t*-tests are presented in Table 29. These tests were conducted to see if there was a difference in the scores of pre- and post-DCT for each situation. As you can see in the table, TGs (except Situation 5B of TG2) showed a significant increase in the score for Part I of the post-DCT. Similar results of Part II

were observed. For example, TG1 showed the mean values of Situation 11 ( $M = 22.50$ ,  $SD = 6.16$ ), Situation 12 ( $M = 23.42$ ,  $SD = 9.93$ ) and Situation 13 ( $M = 15.88$ ,  $SD = 10.50$ ) in Part II of the pre-DCT, and the mean values of Situation 11 ( $M = 29.96$ ,  $SD = 6.40$ ), Situation 12 ( $M = 40.46$ ,  $SD = 12.06$ ) and Situation 13 ( $M = 36.25$ ,  $SD = 11.21$ ) in the post-DCT; showing there was a statistically significant difference in scores between the pre- and post-DCT at  $t(23) = 4.39$ ,  $p < .001$ ,  $t(23) = 5.37$ ,  $p < .001$ ,  $t(23) = 6.10$ ,  $p < .001$ .

**Table 29 Two-tailed paired samples  $t$ -tests summary for each situation**

Group	Situation	Pre-DCT		Post-DCT		$T$	$df$	$p$	$d$
		$M$	$SD$	$M$	$SD$				
TG1 ( $N = 24$ )	Part I								
	Requests								
	S1	10.08	2.83	14.50	2.55	6.62 **	23	< .001	1.35
	S2A	9.54	3.18	15.21	1.93	7.47 **	23	< .001	1.53
	S3A	8.83	3.09	15.71	2.71	11.13 **	23	< .001	2.27
	S4A	9.75	3.11	16.13	2.25	7.57 **	23	< .001	1.54
	S5A	9.08	3.01	15.88	2.13	10.52 **	23	< .001	2.15
	S6A	10.54	2.62	15.50	2.60	7.70 **	23	< .001	1.57
	S7A	10.29	4.11	15.46	2.70	5.94 **	23	< .001	1.21
	S8A	10.83	2.81	16.88	2.88	11.26 **	23	< .001	2.30
	S9A	9.71	2.77	15.21	2.02	8.83 **	23	< .001	1.80
	S10A	10.46	2.04	13.83	2.33	7.13 **	23	< .001	1.46
	Refusals								
	S2B	8.04	2.44	13.29	2.96	9.08 **	23	< .001	1.85
	S3B	11.00	2.38	16.13	2.68	7.21 **	23	< .001	1.47
	S4B	9.50	2.36	14.83	1.99	10.47 **	23	< .001	2.14
	S5B	10.96	2.18	14.58	2.24	5.27 **	23	< .001	1.07
	S6B	9.42	2.70	13.63	2.43	6.76 **	23	< .001	1.38
	S7B	9.25	2.56	13.92	2.81	6.89 **	23	< .001	1.41
S8B	9.50	2.40	13.75	2.23	7.88 **	23	< .001	1.61	
S9B	9.75	2.61	13.63	2.68	7.14 **	23	< .001	1.46	
S10B	9.88	2.23	12.83	2.73	4.79 **	23	< .001	0.98	
Part II									
S11 (Rq+Cm)	22.50	6.16	29.96	6.40	4.39 **	23	< .001	0.90	
S12 (Cm+Da)	23.42	9.93	40.46	12.06	5.37 **	23	< .001	1.10	
S13 (Cm+Da)	15.88	10.50	36.25	11.21	6.10 **	23	< .001	1.25	
TG2 ( $N = 28$ )	Part I								
	Requests								
	S1	10.39	2.18	12.43	2.30	3.12 **	27	0.004	0.59
	S2A	8.64	2.90	13.50	2.98	7.67 **	27	< .001	1.45
	S3A	8.50	2.36	13.04	1.90	8.14 **	27	< .001	1.54
	S4A	9.36	2.75	14.61	2.17	10.28 **	27	< .001	1.94
	S5A	7.75	3.48	13.36	3.43	7.45 **	27	< .001	1.41
	S6A	8.61	3.01	13.11	3.19	5.38 **	27	< .001	1.02
	S7A	9.68	3.98	14.75	1.78	6.69 **	27	< .001	1.27
	S8A	7.54	4.21	14.04	2.53	6.72 **	27	< .001	1.27
S9A	4.68	4.55	12.68	2.47	9.26 **	27	< .001	1.75	
S10A	4.57	5.43	13.07	1.70	7.77 **	27	< .001	1.47	

(Continued)

**Table 29** (Continued)

Refusals										
	S2B	8.43	2.52	11.86	2.40	5.05	**	27	< .001	0.95
	S3B	9.96	2.91	13.29	2.48	6.30	**	27	< .001	1.19
	S4B	9.00	2.57	11.89	2.59	4.15	**	27	< .001	0.78
	S5B	11.39	2.48	12.21	2.99	1.20		27	0.239	0.23
	S6B	9.21	2.32	11.64	2.51	4.43	**	27	< .001	0.84
	S7B	9.14	2.77	11.36	2.56	3.96	**	27	< .001	0.75
	S8B	6.39	4.59	12.46	2.62	6.51	**	27	< .001	1.23
	S9B	4.86	4.70	11.82	2.58	7.75	**	27	< .001	1.46
	S10B	3.71	4.84	11.82	2.02	7.97	**	27	< .001	1.51
Part II										
	S11	18.25	9.24	28.21	7.31	4.63	**	27	< .001	0.87
	S12	15.89	10.12	34.04	10.30	7.01	**	27	< .001	1.33
	S13	12.46	10.28	29.82	10.64	8.40	**	27	< .001	1.59
TG3 (N = 33)										
Part I Requests										
	S1	10.33	2.47	13.58	1.60	6.14	**	32	< .001	1.07
	S2A	10.76	2.72	15.52	2.60	7.32	**	32	< .001	1.27
	S3A	8.91	2.32	14.18	2.31	10.70	**	32	< .001	1.86
	S4A	10.91	2.16	15.85	2.55	10.03	**	32	< .001	1.75
	S5A	10.18	2.48	15.91	1.79	15.59	**	32	< .001	2.71
	S6A	10.73	2.11	15.00	2.09	8.99	**	32	< .001	1.56
	S7A	11.55	3.02	15.27	2.76	6.14	**	32	< .001	1.07
	S8A	10.67	2.88	16.33	3.67	7.69	**	32	< .001	1.34
	S9A	10.67	3.15	13.85	3.51	5.08	**	32	< .001	0.88
	S10A	10.00	3.47	13.21	3.22	4.23	**	32	< .001	0.74
Refusals										
	S2B	8.85	2.65	13.48	4.09	7.03	**	32	< .001	1.22
	S3B	11.33	1.95	15.36	2.89	7.24	**	32	< .001	1.26
	S4B	10.15	2.74	14.39	3.03	7.21	**	32	< .001	1.25
	S5B	11.12	2.22	14.52	2.20	7.27	**	32	< .001	1.27
	S6B	9.30	2.24	13.58	2.76	7.71	**	32	< .001	1.34
	S7B	9.30	1.85	13.12	2.09	9.28	**	32	< .001	1.61
	S8B	9.79	2.94	13.12	2.97	4.42	**	32	< .001	0.77
	S9B	8.61	3.09	14.12	3.94	7.68	**	32	< .001	1.34
	S10B	10.00	3.20	12.88	3.42	4.35	**	32	< .001	0.76
Part II										
	S11	18.45	9.44	29.70	6.45	6.71	**	32	< .001	1.17
	S12	13.55	10.16	36.55	9.44	13.11	**	32	< .001	2.28
	S13	8.06	10.25	26.97	11.23	7.11	**	32	< .001	1.24
CG (N = 35)										
Part I Requests										
	S1	10.11	2.59	8.20	2.65	-3.91	**	34	< .001	-0.66
	S2A	10.14	2.83	8.74	3.19	-2.77	*	34	0.009	-0.47
	S3A	8.57	3.34	7.03	2.13	-2.94	*	34	0.006	-0.50
	S4A	10.74	2.88	9.46	2.87	-2.27	*	34	0.030	-0.38
	S5A	9.91	2.80	8.06	2.94	-3.57	**	34	0.001	-0.60
	S6A	10.91	2.03	9.71	2.66	-2.83	*	34	0.008	-0.48
	S7A	10.97	3.50	9.80	3.45	-1.97		34	0.057	-0.33
	S8A	9.77	3.18	9.29	3.46	-0.85		34	0.403	-0.14
	S9A	9.60	3.44	8.57	2.89	-2.03		34	0.051	-0.34
	S10A	9.91	3.29	9.54	2.77	-0.58		34	0.564	-0.10

(Continued)

**Table 29** (Continued)

Refusals									
S2B	8.91	3.10	7.43	2.75	-2.24	*	34	0.032	-0.38
S3B	10.63	2.49	9.31	2.15	-2.38	*	34	0.023	-0.40
S4B	9.09	2.90	8.09	3.04	-1.68		34	0.103	-0.28
S5B	10.66	2.71	9.29	3.32	-2.41	*	34	0.021	-0.41
S6B	9.31	1.92	8.03	2.70	-2.46	*	34	0.019	-0.42
S7B	8.77	2.25	8.40	2.82	-0.66		34	0.513	-0.11
S8B	9.09	2.97	7.89	2.75	-2.05		34	0.048	-0.35
S9B	8.40	3.16	8.09	2.70	-0.55		34	0.583	-0.09
S10B	8.37	3.68	9.03	1.93	0.99		34	0.330	0.17
Part II									
S11	19.60	8.19	20.06	6.49	0.30		34	0.766	0.05
S12	14.37	11.62	21.91	6.06	3.55	**	34	0.001	0.60
S13	9.74	9.88	17.29	5.11	4.06	**	34	< .001	0.69
Part II									
S11 without NR	21.63	5.76	20.53	5.77	1.10		29	0.282	0.20
S12 without NR	22.70	6.77	22.40	5.67	0.23		19	0.818	0.05
S13 without NR	20.31	5.76	17.15	4.45	2.01		12	0.068	0.56

\* $p < .05$ . \*\* $p < .01$ .*Note.* M = Mean. SD = Standard Deviation. NR = Nonresponse

Rq + Cm = Request + Complaint Cm+Da = Complaint + Disagreement

As for the CG, there were two types of differences observed in Part I. The first type was as in Situation 1 where the mean score of post-DCT ( $M = 8.20$ ,  $SD = 2.65$ ) decreased at a statistically significant level from that of pre-DCT ( $M = 10.11$ ,  $SD = 2.59$ ),  $t(34) = -3.91$ ,  $p < .001$ ,  $d = -0.66$ . The second type was as in Situation 7A where there was no significant difference between post-DCT ( $M = 9.80$ ,  $SD = 3.45$ ) and pre-DCT ( $M = 10.97$ ,  $SD = 3.50$ ),  $t(34) = -1.97$ ,  $p = .06$ ,  $d = -0.33$ .

Regarding Part II, the CG showed no significant difference between post-DCT ( $M = 20.06$ ,  $SD = 6.49$ ) and pre-DCT ( $M = 19.60$ ,  $SD = 8.19$ ),  $t(34) = 0.30$ ,  $p = .766$ ,  $d = 0.05$  for Situation 11, while in Situation 12 and Situation 13, there was a statistically significant difference between the score for pre- and post-DCT. As for Situation 12, the mean score of post-DCT ( $M = 21.91$ ,  $SD = 6.06$ ) increased from that of pre-DCT ( $M = 14.37$ ,  $SD = 11.62$ ) despite the fact they did not receive pragmatic instruction,  $t(34) = 3.55$ ,  $p = .001$ ,  $d = 0.60$ . Similarly, with Situation 13, the mean score of post-DCT ( $M = 17.29$ ,  $SD = 5.11$ ) was greater than that of pre-DCT ( $M = 9.74$ ,  $SD = 9.88$ ),  $t(34) = 4.06$ ,  $p < .001$ ,  $d = 0.69$ .

However, a closer look at the results of DCTs without nonresponses, there was no statistically significant difference between the scores of pre- and post-DCT for each

situation in Part II. For example, in Situation 11, the mean score of pre-DCT is 21.63 ( $SD = 5.76$ ), and that of post-DCT is 20.53 ( $SD = 5.77$ ),  $t(29) = 1.10$ ,  $p = .282$ ,  $d = 0.20$ . Therefore, it is not unreasonable to assume the difference arose due to a fair amount of nonresponses for Part II (see Section 4.6.1.1 for the detailed explanation). To avoid the potential problem due to the non-responses, I calculated the results of DCTs in two ways, with and without non-responses. Both results were analysed, but for ease of my explanation, I mainly used the data with nonresponses.

## 5.2.2 Results of WDCT Part I: Request and Refusal Making

Having confirmed that there was a significant difference between the mean scores of pre-DCT and post-DCT for each situation, I looked into the results in more detail to find out where this difference came from. Table 30 shows the average score given to each component of request and refusal making within each group.

**Table 30 Pre/post contrast on total score given to each component by group**

Component	TG1			TG2			TG3			CG		
	Pre	Post	D	Pre	Post	D	Pre	Post	D	Pre	Post	D
<b>Requests</b>												
Amount of Info	29.8	48.5	<b>18.8</b>	25.2	40.0	<b>14.8</b>	32.0	48.2	<b>16.1</b>	29.8	24.6	<b>-5.2</b>
Quality of Info	27.6	51.2	<b>23.5</b>	21.9	43.0	<b>21.1</b>	30.6	47.5	<b>16.9</b>	29.9	25.5	<b>-4.4</b>
Organisation of Info	17.0	19.7	<b>2.7</b>	13.8	18.9	<b>5.0</b>	18.3	19.7	<b>1.4</b>	17.0	15.7	<b>-1.3</b>
Indirectness	24.8	34.9	<b>10.1</b>	19.6	28.1	<b>8.6</b>	23.8	33.4	<b>9.6</b>	24.0	22.6	<b>-1.4</b>
<b>Total</b>	<b>99.1</b>	<b>154.3</b>	<b>55.2</b>	<b>80.5</b>	<b>129.9</b>	<b>49.4</b>	<b>104.7</b>	<b>148.7</b>	<b>44.0</b>	<b>100.7</b>	<b>88.4</b>	<b>-12.3</b>
<b>Refusals</b>												
Amount of Info	27.7	42.1	<b>14.4</b>	23.3	33.2	<b>9.8</b>	27.7	40.1	<b>12.4</b>	26.5	23.2	<b>-3.2</b>
Quality of Info	21.8	37.3	<b>15.5</b>	17.9	30.2	<b>12.3</b>	23.2	38.1	<b>14.8</b>	21.3	18.8	<b>-2.5</b>
Organisation of Info	15.7	17.7	<b>2.0</b>	13.1	16.5	<b>3.4</b>	16.0	17.5	<b>1.5</b>	15.5	14.1	<b>-1.4</b>
Indirectness	22.1	29.5	<b>7.5</b>	18.7	24.8	<b>6.1</b>	21.6	28.9	<b>7.3</b>	19.9	19.3	<b>-0.6</b>
<b>Total</b>	<b>87.3</b>	<b>126.6</b>	<b>39.3</b>	<b>73.0</b>	<b>104.6</b>	<b>31.7</b>	<b>88.5</b>	<b>124.6</b>	<b>36.1</b>	<b>83.3</b>	<b>75.5</b>	<b>-7.7</b>

Note: D = difference between the scores of pre- and post-DCT

The use of the politeness strategies was evaluated by applying the rating system devised for the current study, which was introduced earlier in Section 4.6.1.1. The rating

system consists of four components: *Amount of Information*, *Quality of Information*, *Organisation of Information* and *Level of Indirectness*. The frequency of the strategies used for each element was measured and counted up in the *Quantity* column. As regards the second component - *Quality of Information* - this component is similarly subcategorised into three other items: *Expression*, *Context* and *Grammar*. Rating the quality of information went beyond ranking the quality of particular expressions in themselves, extending to gauging levels of contextual and grammatical appropriateness. When it came to the third component - *Organisation of Information* - the basis for assessing this was the appropriateness of ordering the sequences of speech acts, given particular contexts. Finally, as far as the fourth component - *Level of Indirectness* - was concerned, this was discerned by taking the indirectness expressed by the entire sequence of speech acts into consideration. All in all, the use of politeness strategies that were rated per category was also aggregated to indicate totals. For detailed information on the criteria and an explanation of the scoring method, please refer to Appendix O and Appendix P.

From Table 30, we can read the average score given for each component. We notice that while the post-DCT scores improved significantly in all three groups of the TG, they did not do so in the CG. Moreover, in the TGs, this significant difference is found to be the case for all four components. Improvements were most marked with regard to the Amount of Information and the Quality of Information, less so for the Organisation of Information. The CG, on the other hand, indicated no improvement in any of the four components.

### **5.2.2.1 Results on Amount of Information**

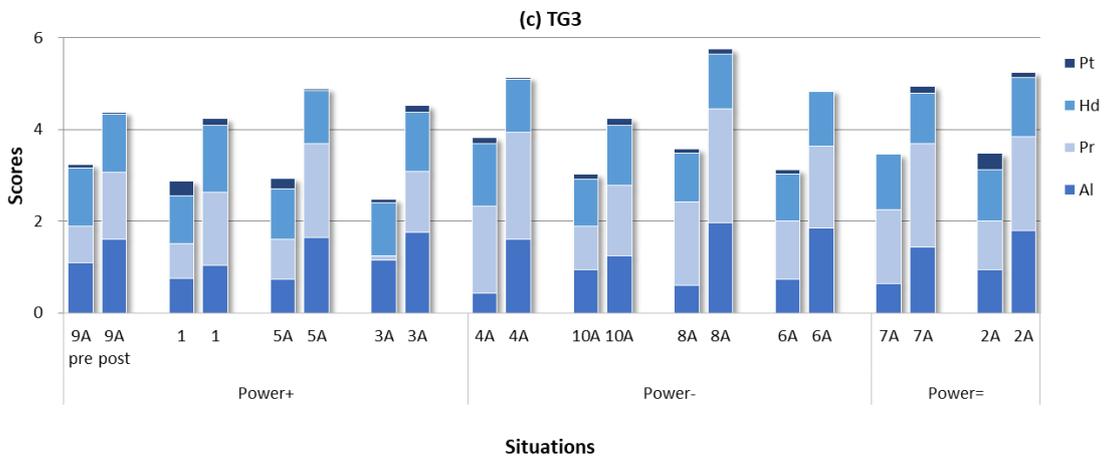
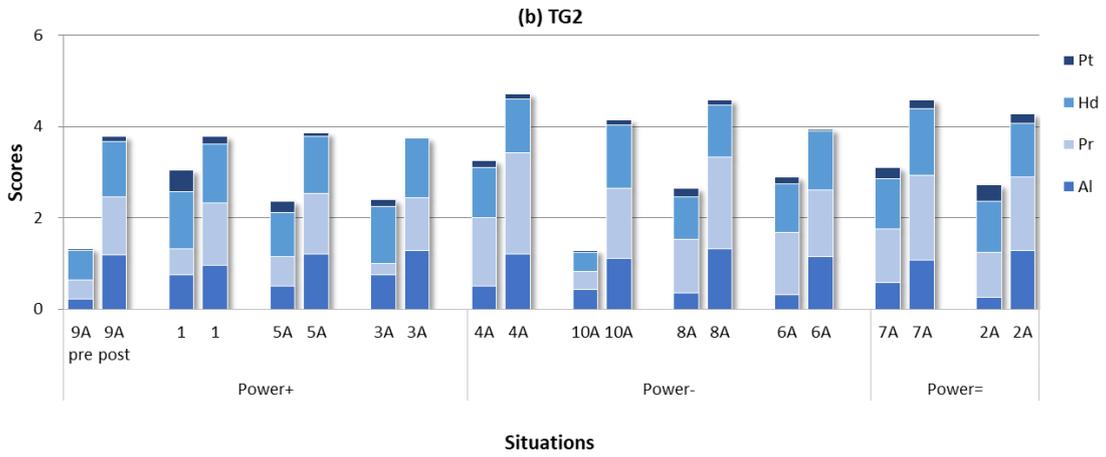
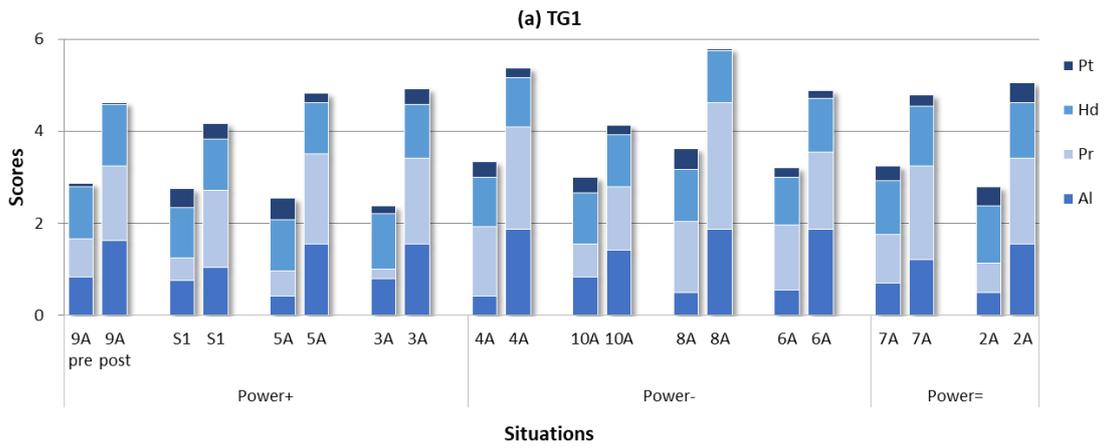
It is worth looking more closely at the improvement in Table 31, the Amount of Information, as measured by the number of strategies brought into play, shows a breakdown of the average number of strategies used for each element, along with the differences between pre- and post-DCT results. Both *Alerters* and *Pre-Head Act* showed marked improvements. When it came to the *Post-Head Act*, improvements occurred more for refusals, but not so much for requests – this latter group actually showed a negative shift. The upcoming discussion section explores possible explanations for this outcome.

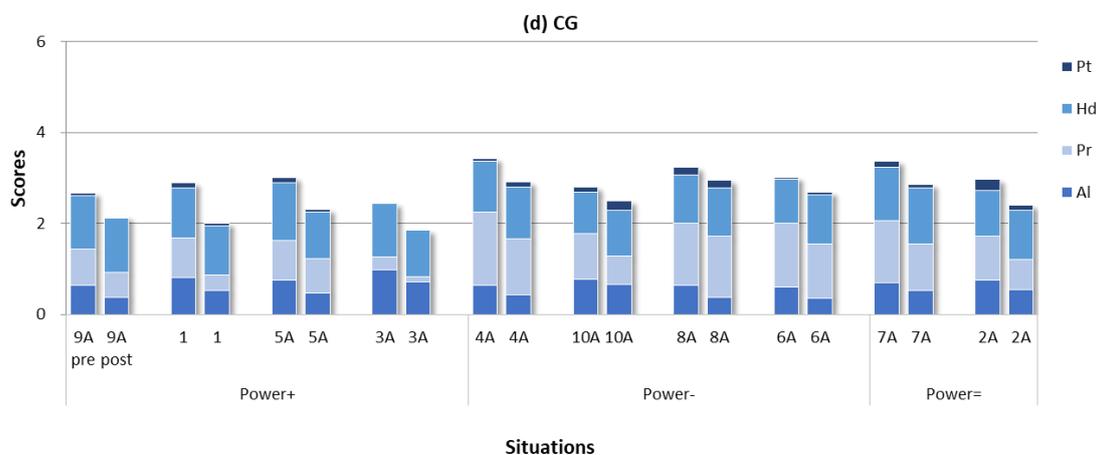
**Table 31 Results of Amount of Information by element**

Element	TG1			TG2			TG3			CG		
	Pre	Post	D									
<b>Requests</b>												
<b>Alerters</b>	6.3	15.5	<b>9.3</b>	4.9	11.4	<b>6.5</b>	8.0	15.9	<b>7.9</b>	7.2	4.9	<b>-2.3</b>
<b>Pre-HA</b>	8.9	19.0	<b>10.1</b>	8.2	15.2	<b>7.0</b>	11.1	18.9	<b>7.8</b>	10.6	7.9	<b>-2.7</b>
<b>Head</b>	11.3	11.8	<b>0.4</b>	10.0	12.3	<b>2.3</b>	11.4	12.3	<b>1.0</b>	10.9	10.9	<b>0.0</b>
<b>Post-HA</b>	3.2	2.2	<b>-1.0</b>	2.1	1.1	<b>-1.1</b>	1.5	1.0	<b>-0.6</b>	1.1	0.9	<b>-0.2</b>
<b>Total</b>	29.8	48.5	<b>18.8</b>	25.2	40.0	<b>14.8</b>	32.0	48.2	<b>16.1</b>	29.8	24.6	<b>-5.2</b>
<b>Refusals</b>												
<b>Alerters</b>	0.5	1.7	<b>1.3</b>	0.2	0.9	<b>0.6</b>	0.8	2.6	<b>1.8</b>	0.5	0.3	<b>-0.2</b>
<b>Pre-HA</b>	9.3	16.2	<b>7.0</b>	7.9	11.3	<b>3.4</b>	8.4	13.4	<b>5.0</b>	10.3	7.3	<b>-3.0</b>
<b>Head</b>	13.3	14.1	<b>0.8</b>	11.3	14.3	<b>2.9</b>	13.6	14.4	<b>0.8</b>	12.1	12.9	<b>0.9</b>
<b>Post-HA</b>	4.7	10.0	<b>5.4</b>	3.8	6.7	<b>2.9</b>	4.8	9.7	<b>4.9</b>	3.6	2.7	<b>-0.9</b>
<b>Total</b>	27.7	42.1	<b>14.4</b>	23.3	33.2	<b>9.8</b>	27.7	40.1	<b>12.4</b>	26.5	23.2	<b>-3.2</b>

*Note:* D = difference between the scores of pre- and post-DCT

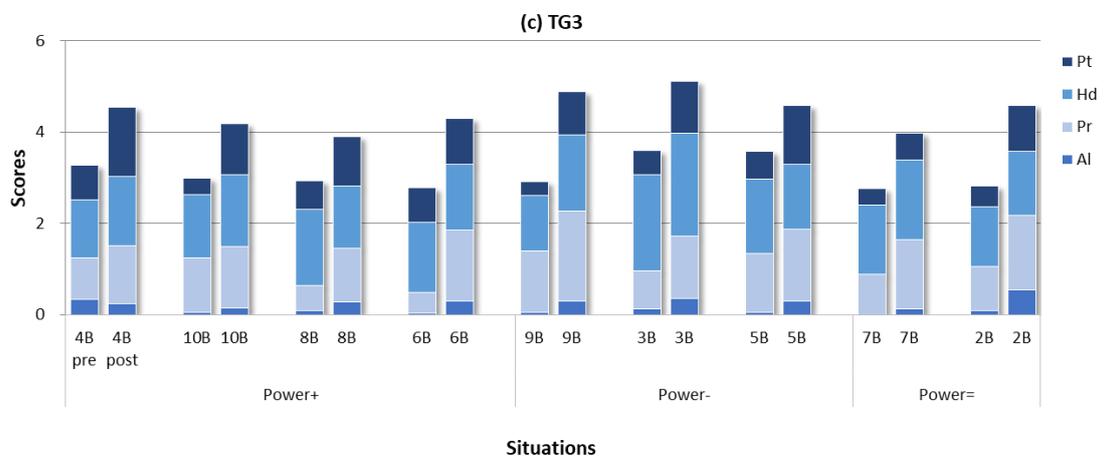
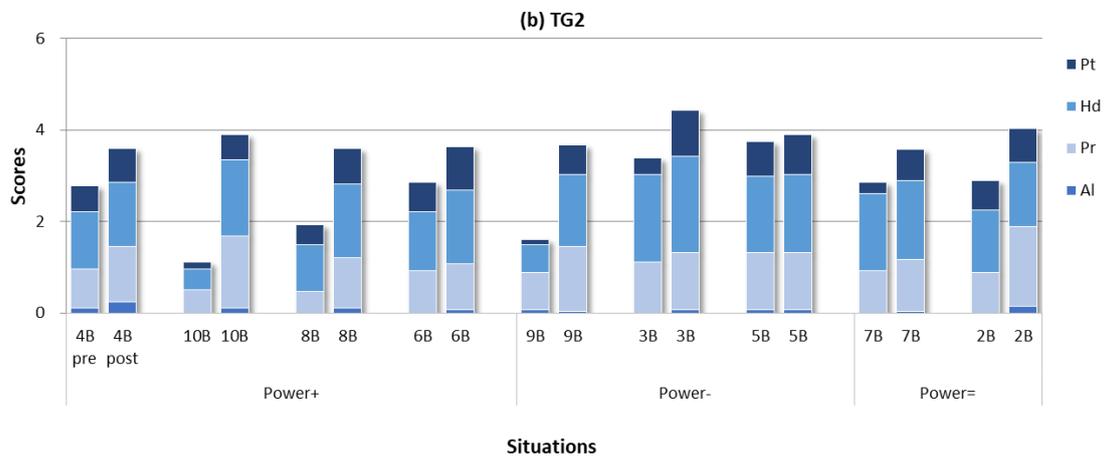
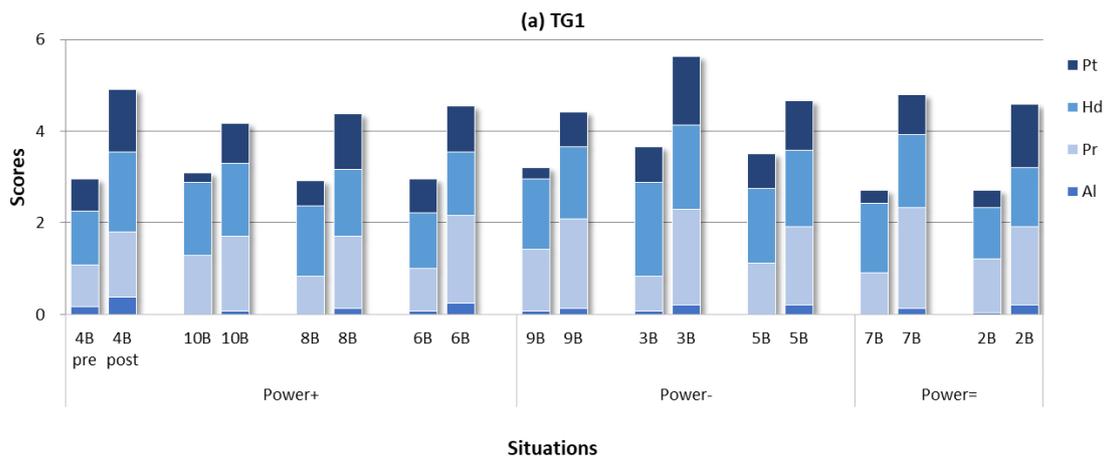
The increase in the use of request strategies for each element in the post-DCT becomes more apparent when you look at the bar graphs in Figure 24, which indicates the average number of strategies used for each element by situation provided by the TGs and CG. As you can see in the graphs, the score for Alerters and Pre-Head Act for TG1 increased significantly in all situations in the post-DCT, indicating the use of strategies increased entirely. As for Pre Head Act, the score for the situation of Power+, where the request was made from an individual of higher social status to a lower social status, was low in the pre-DCT but increased significantly in the post-DCT. The same can be seen with TG2 and TG3. On the other hand, the CG group indicated that there was almost no significant change between pre- and post-DCT in scores in all elements in any situation, or there was a decrease in post-DCT.





**Figure 24 Pre/post comparison of Amount of Information by Situation [Requests]**

Figure 25 indicates the average number of refusal strategies used for each element and situation by each group. The bar graphs help show just how much the use of refusal strategies increased for almost all elements and situations in the post-DCT presented by the TGs. Similar to the request case, the use of refusal strategies for the Pre-Head Act increased in the post-DCT. However, when comparing the improvement rate for Alerters of refusal making with that of request making, the improvement rate was not as high as that of request making. This is partly because, depending on the context, some elements of speech acts are not always necessary. For example, elements such as Alerters are not always necessary in the case of refusals, since they are generally a reply to an interlocutor's previous utterance. Indeed situation 2B posited in the DCT is a good example, where the refusal can be initiated without preparatory phrases. Furthermore, unlike the request case, the difference in score due to the difference in social status was not observed. As for CG, similar to request making, there was no significant change in the score for each element in all situations between pre- and post-DCT.



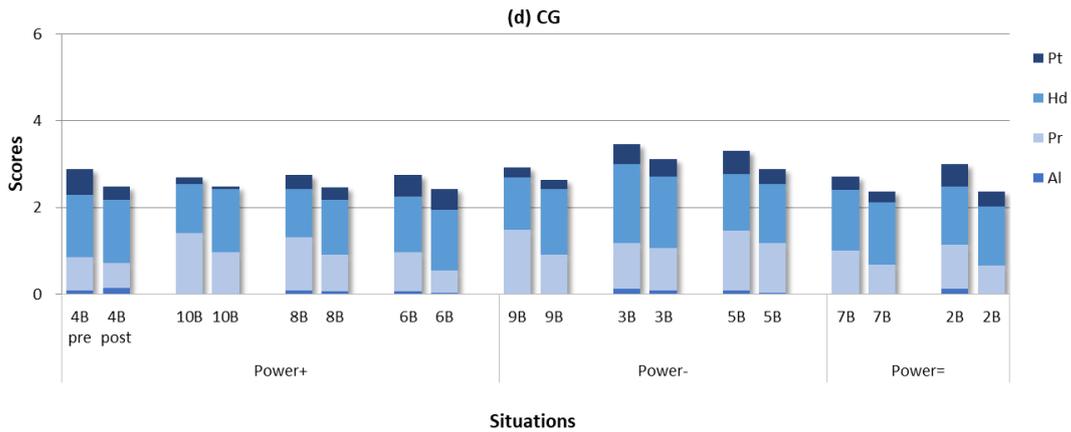


Figure 25 Pre/post comparison of Amount of Information by Situation [Refusals]

### 5.2.2.2 Results on Quality of Information

Having compared the amount of information, it was natural to do likewise for the quality of information (*Expression, Context, and Grammar*) provided by the use of request and refusal strategies in the pre/post-DCT. Table 32 for requests and Table 33 for refusals report the improvement in the quality of expressions used for each element by group. Whereas the participants in TGs showed significant improvement in the quality of expressions they used in the Head Act and Pre-Head Act of request making, they improved the most in the Post-Head Act, followed by Pre-Head Act for refusals. The CG, on the other hand, showed negative improvement in all elements except the Head Act for refusal making.

Table 32 Results of Quality of Information [Requests]

Element	TG1			TG2			TG3			CG		
	Pre	Post	D									
<b>Expression</b>												
Alerters	4.8	9.4	<b>4.7</b>	3.5	8.3	<b>4.8</b>	5.7	9.3	<b>3.6</b>	5.5	3.9	<b>-1.7</b>
Pre-HA	7.7	16.4	<b>8.7</b>	6.7	13.1	<b>6.3</b>	8.9	15.4	<b>6.5</b>	9.0	6.9	<b>-2.1</b>
Head Act	16.5	27.5	<b>11.0</b>	13.4	24.8	<b>11.3</b>	17.4	26.3	<b>8.9</b>	17.4	17.4	<b>0.0</b>
Post-HA	2.8	2.3	<b>-0.5</b>	2.0	1.1	<b>-0.9</b>	1.5	1.1	<b>-0.4</b>	1.1	0.9	<b>-0.2</b>
<b>Total (A)</b>	<b>31.8</b>	<b>55.6</b>	<b>23.8</b>	<b>25.7</b>	<b>47.3</b>	<b>21.6</b>	<b>33.6</b>	<b>52.2</b>	<b>18.6</b>	<b>33.1</b>	<b>29.1</b>	<b>-3.9</b>

(Continued)

Table 32 (Continued)

Context												
Alerters	-0.1	0.0	<b>0.1</b>	-0.1	-0.1	<b>0.0</b>	-0.2	0.0	<b>0.2</b>	-0.2	-0.3	<b>-0.1</b>
Pre-HA	-0.4	-0.2	<b>0.3</b>	-0.2	-0.2	<b>0.0</b>	-0.2	-0.3	<b>-0.1</b>	-0.3	-0.3	<b>0.0</b>
Head Act	-1.0	-0.8	<b>0.3</b>	-0.8	-1.3	<b>-0.5</b>	-0.8	-1.4	<b>-0.6</b>	-1.1	-0.9	<b>0.1</b>
Post-HA	-0.2	0.0	<b>0.1</b>	0.0	0.0	<b>0.0</b>	-0.1	0.0	<b>0.1</b>	0.0	-0.1	<b>-0.1</b>
<b>Total (B)</b>	<b>-1.8</b>	<b>-1.0</b>	<b>0.8</b>	<b>-1.2</b>	<b>-1.6</b>	<b>-0.4</b>	<b>-1.2</b>	<b>-1.7</b>	<b>-0.5</b>	<b>-1.6</b>	<b>-1.6</b>	<b>-0.1</b>
Grammar												
Alerters	-0.1	0.0	<b>0.0</b>	-0.1	-0.1	<b>0.0</b>	-0.1	-0.1	<b>0.0</b>	0.0	-0.2	<b>-0.1</b>
Pre-HA	-0.6	-0.5	<b>0.0</b>	-0.6	-0.7	<b>-0.1</b>	-0.4	-0.4	<b>0.1</b>	-0.5	-0.4	<b>0.1</b>
Head Act	-1.4	-2.6	<b>-1.2</b>	-1.3	-1.8	<b>-0.4</b>	-1.2	-2.5	<b>-1.2</b>	-1.1	-1.5	<b>-0.4</b>
Post-HA	-0.3	-0.3	<b>0.0</b>	-0.6	-0.1	<b>0.4</b>	0.0	-0.1	<b>0.0</b>	-0.1	-0.1	<b>0.0</b>
<b>Total (C)</b>	<b>-2.4</b>	<b>-3.4</b>	<b>-1.0</b>	<b>-2.6</b>	<b>-2.7</b>	<b>-0.1</b>	<b>-1.8</b>	<b>-3.0</b>	<b>-1.2</b>	<b>-1.6</b>	<b>-2.1</b>	<b>-0.4</b>
<b>(A) + (B)</b>	<b>30.0</b>	<b>54.6</b>	<b>24.6</b>	<b>24.5</b>	<b>45.7</b>	<b>21.2</b>	<b>32.4</b>	<b>50.5</b>	<b>18.1</b>	<b>31.5</b>	<b>27.5</b>	<b>-4.0</b>
<b>(A) + (B)+ (C)</b>	<b>27.6</b>	<b>51.2</b>	<b>23.5</b>	<b>21.9</b>	<b>43.0</b>	<b>21.1</b>	<b>30.6</b>	<b>47.5</b>	<b>16.9</b>	<b>29.9</b>	<b>25.5</b>	<b>-4.4</b>

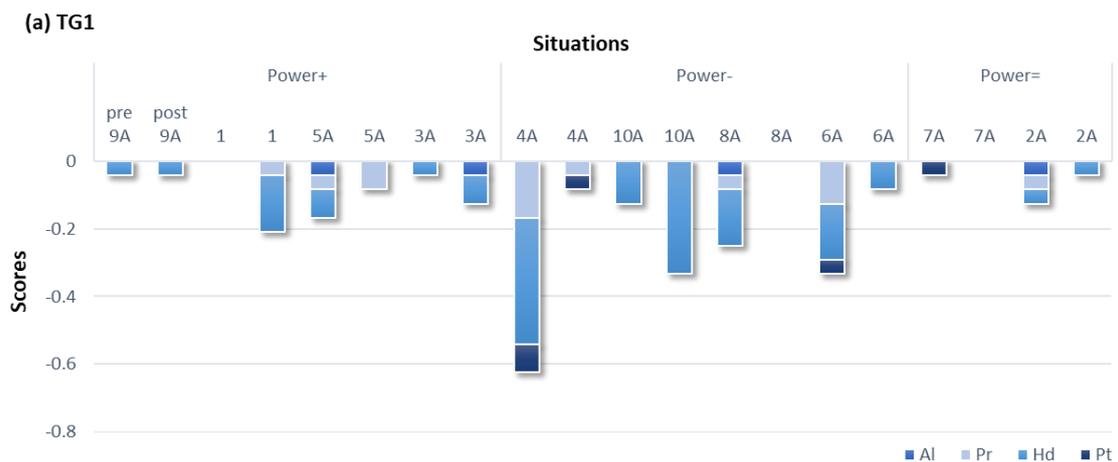
Note: HA = Head Act

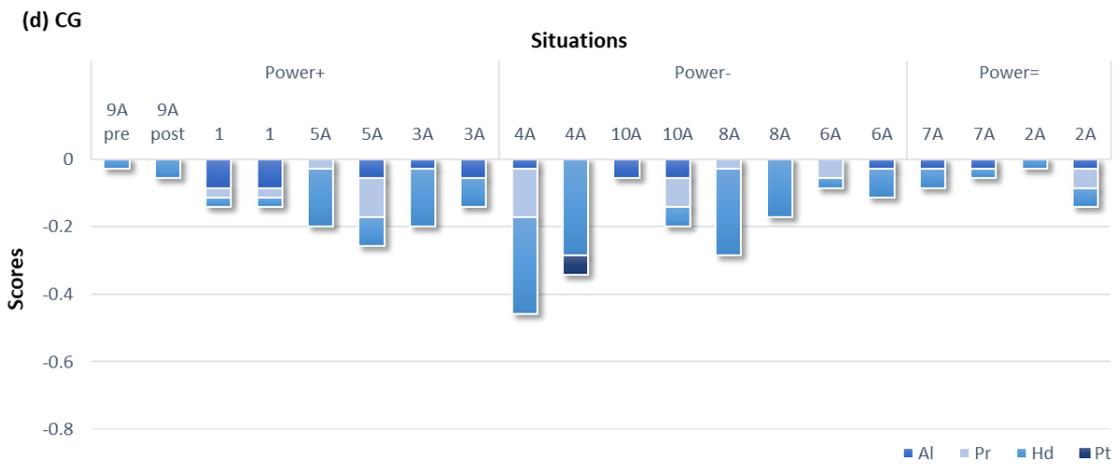
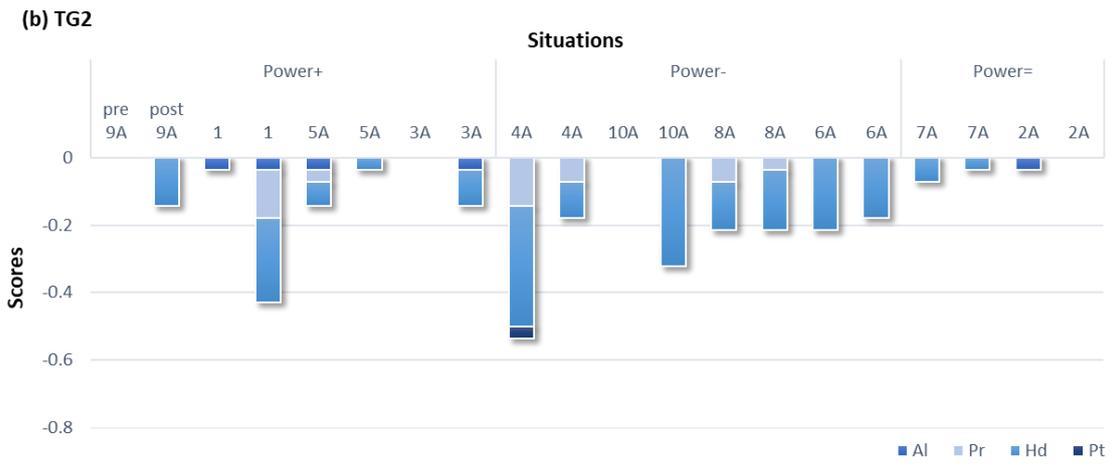
Table 33 Results of Quality of Information [Refusals]

Element	TG1			TG2			TG3			CG		
	Pre	Post	D									
Expression												
Alerters	0.4	1.2	<b>0.8</b>	0.2	0.7	<b>0.5</b>	0.5	1.8	<b>1.2</b>	0.3	0.2	<b>-0.1</b>
Pre-HA	8.1	14.3	<b>6.2</b>	6.4	10.5	<b>4.0</b>	7.4	11.6	<b>4.2</b>	8.7	6.6	<b>-2.1</b>
Head Act	12.3	13.0	<b>0.7</b>	10.7	13.7	<b>3.0</b>	13.0	14.2	<b>1.2</b>	11.1	12.3	<b>1.1</b>
Post-HA	4.6	11.2	<b>6.6</b>	3.7	8.5	<b>4.8</b>	4.8	12.6	<b>7.8</b>	3.8	2.6	<b>-1.3</b>
<b>Total (A)</b>	<b>25.4</b>	<b>39.8</b>	<b>14.3</b>	<b>21.0</b>	<b>33.3</b>	<b>12.3</b>	<b>25.7</b>	<b>40.2</b>	<b>14.5</b>	<b>24.0</b>	<b>21.6</b>	<b>-2.3</b>
Context												
Alerters	0.0	0.0	<b>0.0</b>	0.0	0.0	<b>0.0</b>	-0.1	0.0	<b>0.0</b>	0.0	0.0	<b>0.0</b>
Pre-HA	-0.1	-0.4	<b>-0.3</b>	-0.1	-0.1	<b>0.0</b>	-0.2	0.0	<b>0.1</b>	-0.3	-0.2	<b>0.1</b>
Head Act	-0.7	0.0	<b>0.7</b>	-0.3	-0.1	<b>0.2</b>	-0.6	-0.2	<b>0.4</b>	-1.0	-0.8	<b>0.2</b>
Post-HA	-0.2	-0.1	<b>0.1</b>	-0.1	-0.1	<b>0.0</b>	-0.1	-0.4	<b>-0.3</b>	-0.1	-0.2	<b>-0.1</b>
<b>Total (B)</b>	<b>-1.0</b>	<b>-0.5</b>	<b>0.5</b>	<b>-0.5</b>	<b>-0.3</b>	<b>0.2</b>	<b>-0.9</b>	<b>-0.7</b>	<b>0.2</b>	<b>-1.5</b>	<b>-1.2</b>	<b>0.3</b>
Grammar												
Alerters	0.0	0.0	<b>0.0</b>									
Pre-HA	-0.4	-0.3	<b>0.0</b>	-0.7	-0.4	<b>0.3</b>	-0.2	-0.2	<b>0.0</b>	-0.3	-0.2	<b>0.1</b>
Head Act	-1.3	-0.7	<b>0.6</b>	-1.1	-1.3	<b>-0.2</b>	-0.9	-0.5	<b>0.4</b>	-0.5	-0.9	<b>-0.5</b>
Post-HA	-0.9	-1.0	<b>-0.1</b>	-0.8	-1.2	<b>-0.4</b>	-0.4	-0.7	<b>-0.3</b>	-0.4	-0.5	<b>-0.1</b>
<b>Total (C)</b>	<b>-2.6</b>	<b>-2.0</b>	<b>0.6</b>	<b>-2.6</b>	<b>-2.9</b>	<b>-0.3</b>	<b>-1.6</b>	<b>-1.5</b>	<b>0.1</b>	<b>-1.1</b>	<b>-1.6</b>	<b>-0.5</b>
<b>(A) + (B)</b>	<b>24.4</b>	<b>39.3</b>	<b>14.9</b>	<b>20.5</b>	<b>33.1</b>	<b>12.6</b>	<b>24.8</b>	<b>39.5</b>	<b>14.7</b>	<b>22.5</b>	<b>20.4</b>	<b>-2.1</b>
<b>(A) + (B)+ (C)</b>	<b>21.8</b>	<b>37.3</b>	<b>15.5</b>	<b>17.9</b>	<b>30.2</b>	<b>12.3</b>	<b>23.2</b>	<b>38.1</b>	<b>14.8</b>	<b>21.3</b>	<b>18.8</b>	<b>-2.5</b>

For the next assessment, I looked at contextual appropriateness when performing either request or refusal speech acts. This is also reported element by element. The tables reveal some variation among the groups. For example, with regard to request making, TG2 showed negative improvement in the Head Act, as did TG3 in both the Pre-Head Act and the Head Act. When it came to refusals, all the TGs showed a slight improvement as regards contextual appropriateness.

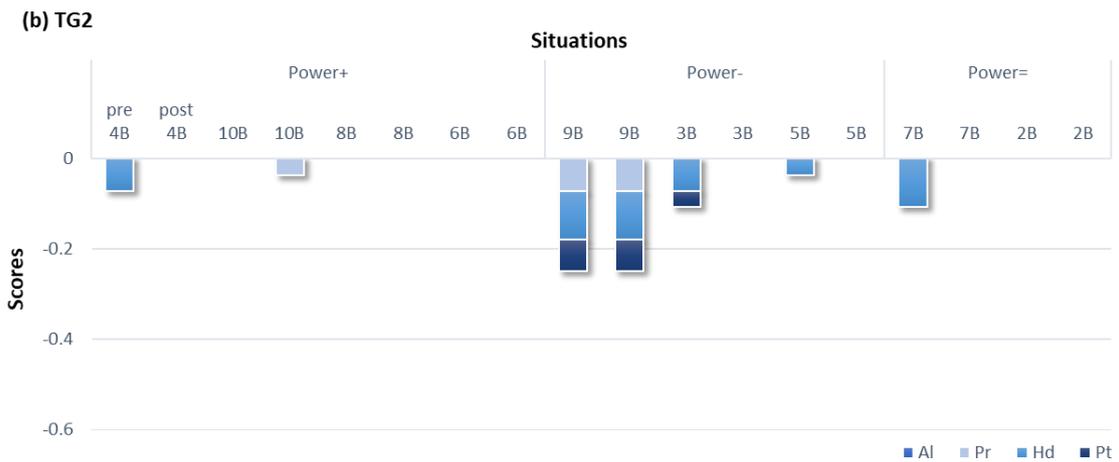
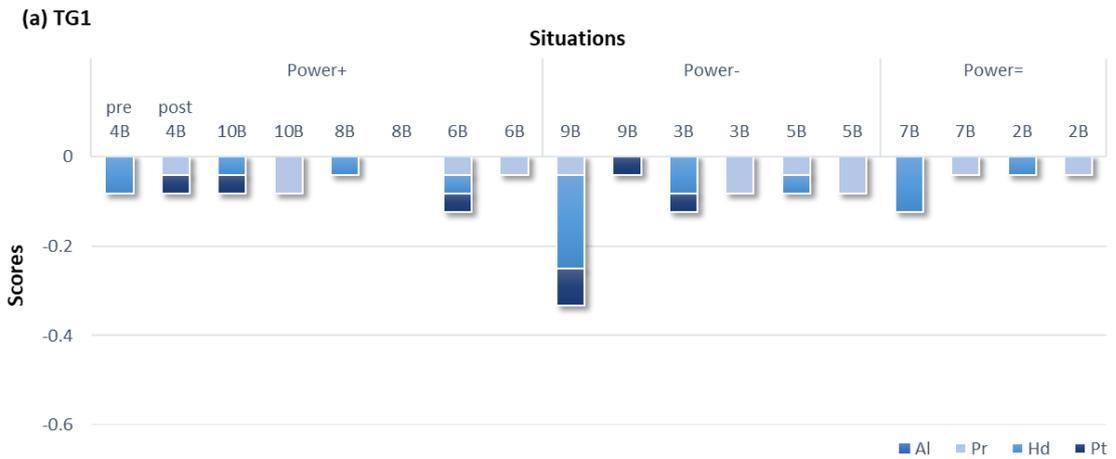
To find out what this variation implied, the data on contextual situations pertaining first to request making was examined in detail. Looking through Figure 26 reveals that all three TGs produced negative improvement in Situation 1, 3A and 10A in the post-DCT. These were where a simple request, such as asking to open a door (Situation 1), to make a copy (Situation 3A), or to borrow a pen (Situation 10A), was made, but the responses to these requests were often overly polite. This may account for the lower scores in the post-DCT; something to which we will return in the next section for a more detailed analysis. It is worth noting that the improvement in the contextual appropriateness for Situation 4A in the post-DCT is significant, which was observed all through TGs. The reason for this improvement will be explained in Section 5.3.

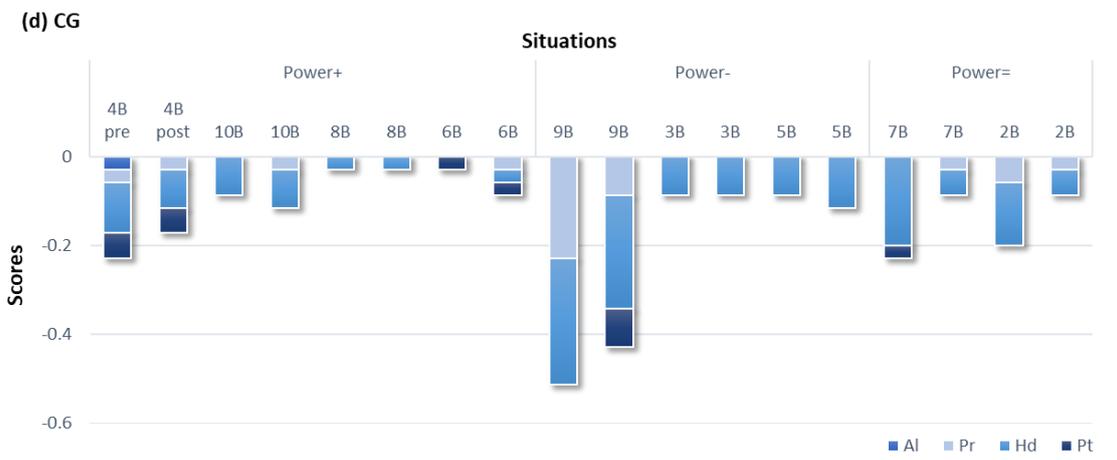
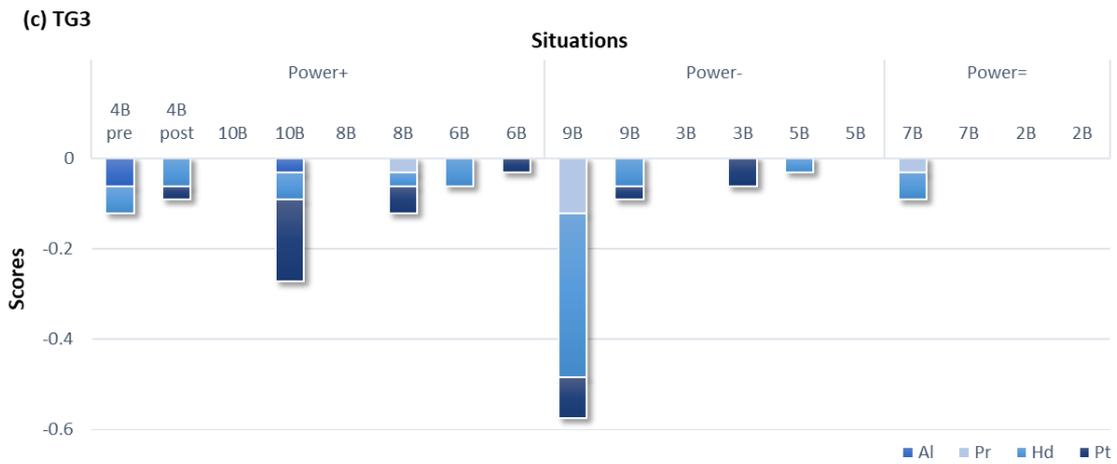




**Figure 26 Pre/post comparison of Context by Situation [Requests]**

Turning to refusals, as Figure 27 indicates, only minimal improvement was observed in each situation. The exception was in Situation 9B, where a student declined the invitation to join the project made by a professor. TG1 and TG2 made a substantial improvement in the post-DCT.





**Figure 27 Pre/post comparison of Context by Situation [Refusals]**

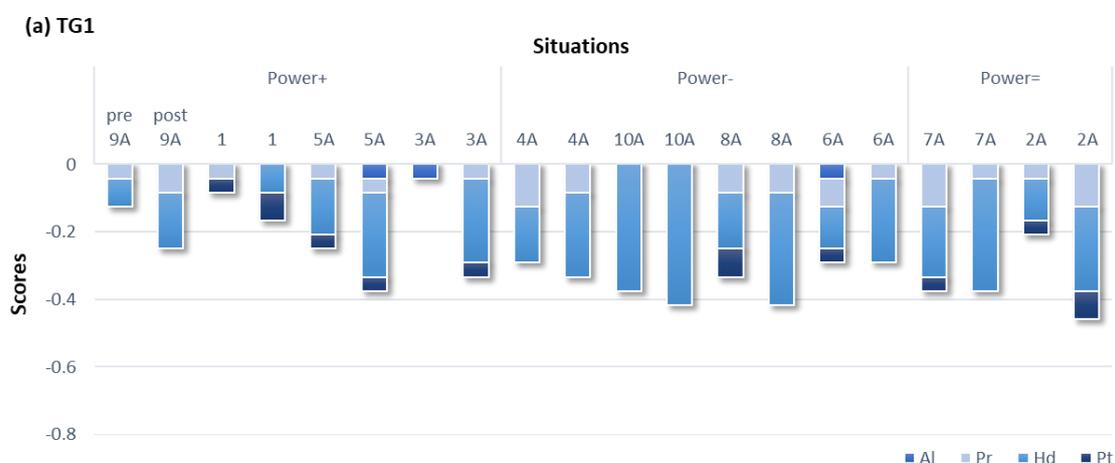
Next are the results for expressions used when gauged as an amalgam with regard to both their quality within themselves, and their quality in terms of contextual appropriateness, which is represented as (A) + (B) in Table 32 and Table 33. This is to examine cases where the quality of expressions used is high but does not meet the context where these expressions were uttered. For instance, in everyday conversation, a mother says either of the following to her son:

- A: I was wondering if you could pass me the salt, please.
- B: Could you pass me the salt?

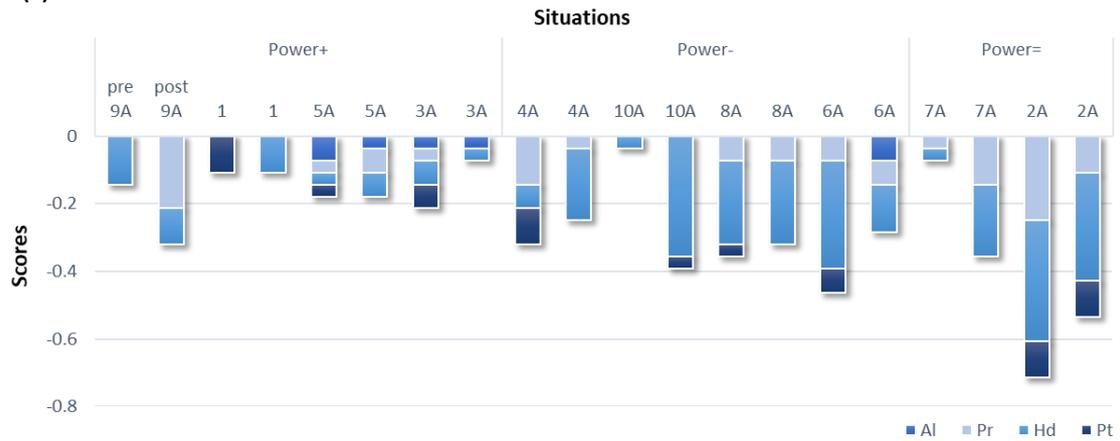
The utterance in A sounds odd; being overly polite for simply asking someone so familiar to do something as inconsequential as passing the salt. Such politeness implies that there must be some specific reason for a mother to talk to her son in this manner, instead of saying the more straightforward as in B. Therefore, while the quality of expression in A is quite high, its over-politeness was judged incongruous in this particular context.

The next assessment is regarding grammatical appropriateness. As previously mentioned, for this study, assessments of grammar usage were made independently, and remained separate to the extent that the rating system was designed to calculate the total score without distortion, whether with or without scores for grammatical usage. Minor grammatical mistakes were not counted as such, provided that the mistake did not undermine the intended meaning. The change in grammatical usage was shown earlier in Table 32 for requests and Table 33 for refusals. As expected, observations showed no systematic improvement of grammatical use in any of the situations observed in the post-DCT.

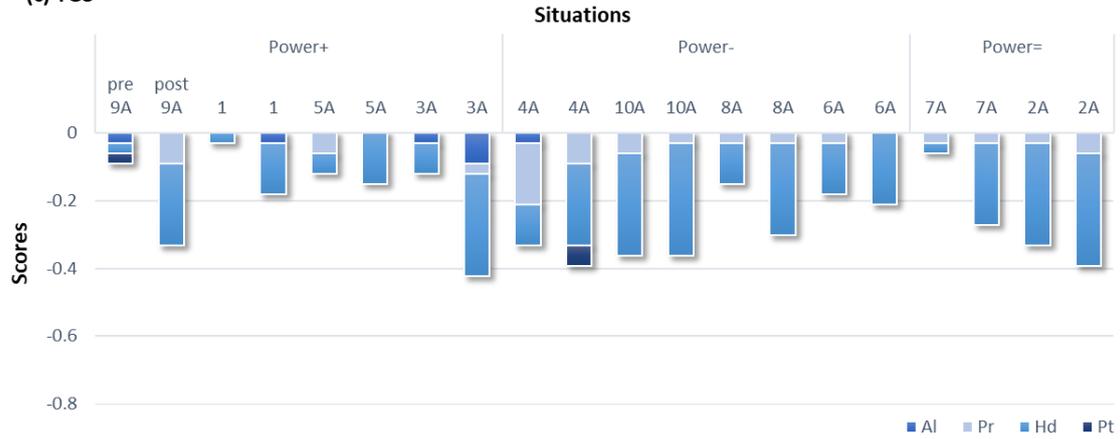
The data in Figure 28 and Figure 29 indicate that in some situations, scores actually increased negatively in the post-DCT. This observation will be returned to in Section 5.3.1.4 for discussion about possible explanations. In addition, it shows no systematic differences between pre- and post-DCT, or between request making and refusal making, or the difference due to the social power difference.



(b) TG2



(c) TG3



(d) CG

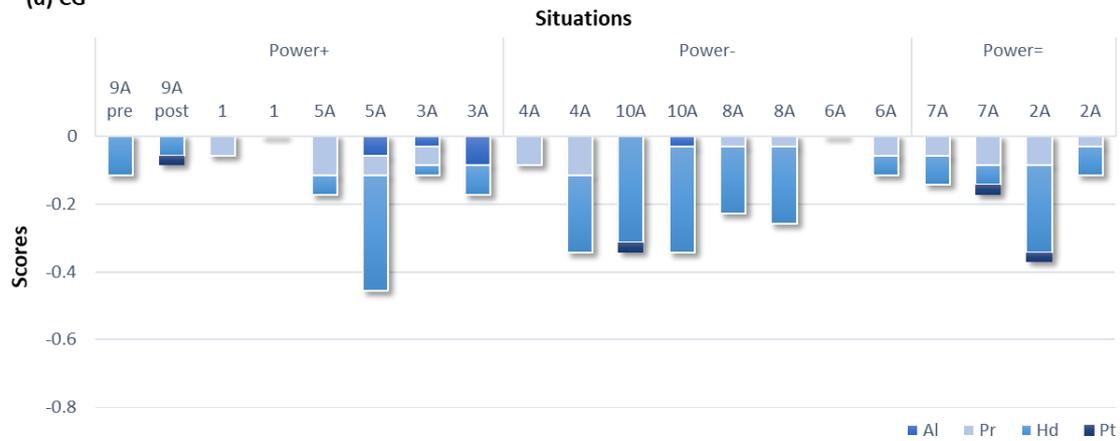
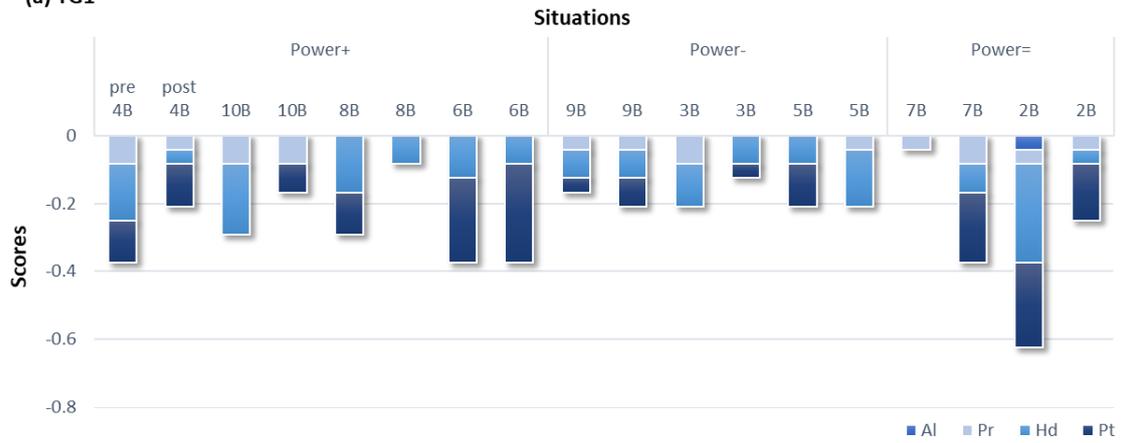
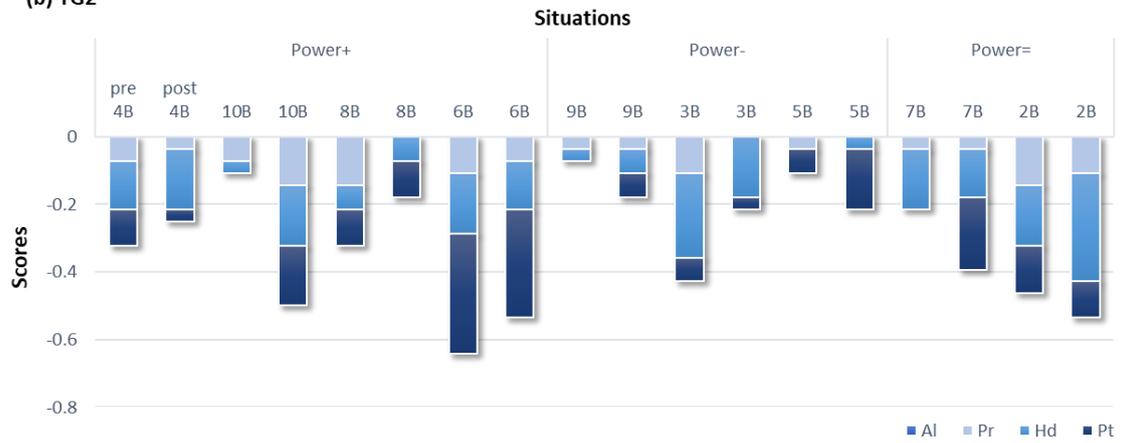


Figure 28 Pre/post comparison of Grammar by Situation [Requests]

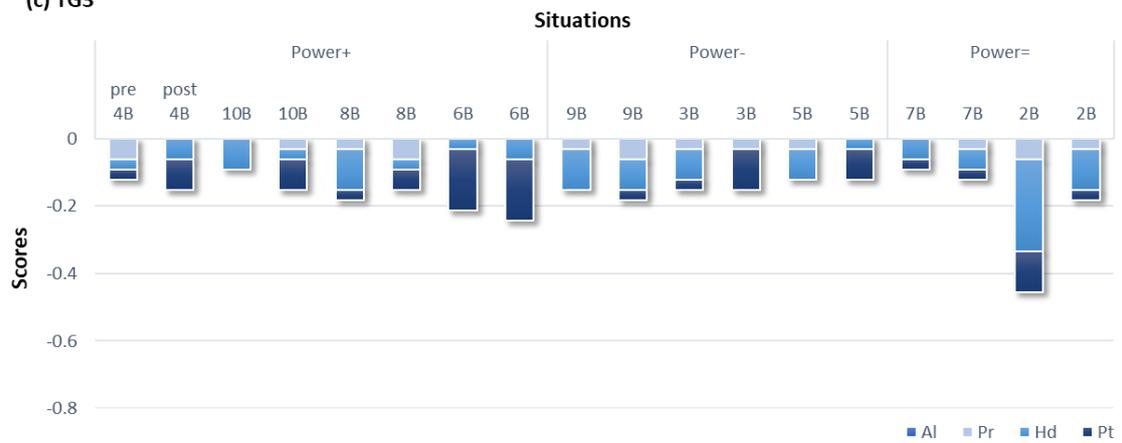
(a) TG1

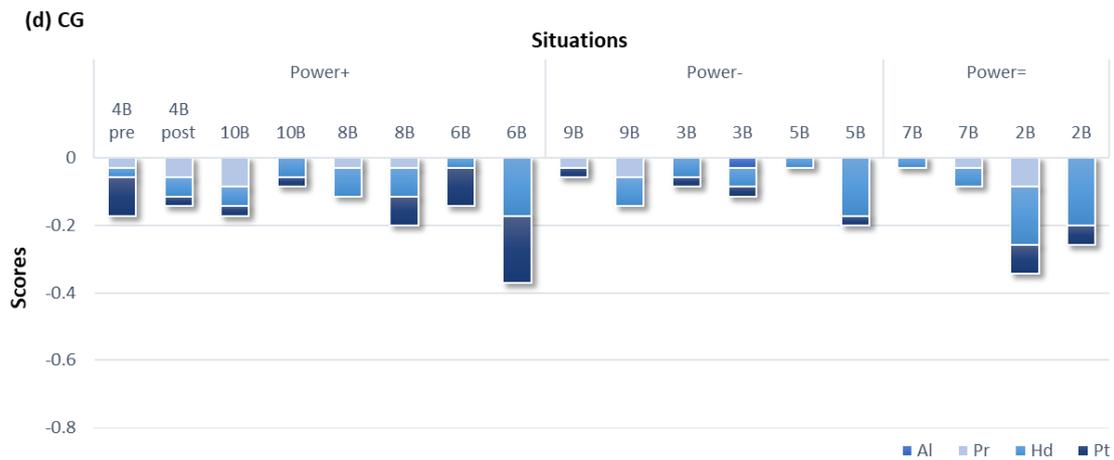


(b) TG2



(c) TG3





**Figure 29 Pre/post comparison of Grammar by Situation [Refusals]**

In summary, although there are some differences in scores depending on whether or not Grammar scores are taken into account, as can be seen from Table 32 and Table 33, all TGs increased the score for Quality of Information in the post-DCT, while CG tended to decrease slightly.

### 5.2.2.3 Results on Organisation of Information and Indirectness

In assessing the development of processing abilities, learners' ability to perform speech acts appropriately in a given context was explored, first before and then after instruction. In addition to evaluating contextual appropriateness, as already mentioned, the ability of participants to sequence request speech acts in accordance with a given context was evaluated. Unlike Amount of Information and Quality of Information, the difference in scores given to Organisation of Information in the pre- and post-DCTs looks not so distinctive. This is because the maximum score given to this component is 2 points for each situation. However, the improvement with TGs but not with the CG is obvious, when comparing the scores of TGs and the CG in the post DCT.

Regarding the Indirectness, as Table 30 indicates, participants in the TG generated considerably higher scores for indirectness in the post-DCT. This trend was observed

equally all through the TGs. The CG, on the other hand, showed no distinctive changes. For example, in request making, TG1 improved by 10.1, TG2 by 8.6 and TG 3 by 9.6, while CG gained negatively by 1.4. Similarly, in refusal making, TG1 improved by 7.5, and both TG2 and TG3 improved by 6.1, whereas CG gained negatively by 0.6.

#### **5.2.2.4 Summary of Results on Request and Refusal Making**

In short, results overall show that scores in the post-DCT on request and refusal making by the TGs improved significantly for each of the components. First, with the Amount of Information, in request making, the scores for the Alerters and the Pre-Head Act increased strikingly. In refusal making, the score for the Alerters increased slightly, whereas they did so significantly for the Pre-Head Act and the Post-Head Act. Scores for the Head Act increased slightly both in requests and refusals.

As for the Quality of Information, with Expression in request making, scores given to all the elements except the Post-Head Act increased drastically in the post-DCT. With the Context and the Grammar, different improvements were yielded by element. There were even some elements that yielded negative improvement. In refusal making, on the other hand, the scores given to all the elements for Expression increased and for Context and Grammar, more positive improvements than negative improvements were yielded.

There was a substantial improvement in the Level of Indirectness for both requests and refusals, though only scant improvement could be discerned in the Organisation of Information.

These results summarised above broadly correspond to the findings of previous research, including those obtained during my own MA research (Oyama, 2017). The current study, however, does not stop here. It also reports the results of the new trials, assessing the learners' ability to produce uninstructed speech acts by applying their learned knowledge of request and refusal making to investigate how the improvement was brought about. That is the main purpose of the next section.

### 5.2.3 Results of WDCT Part II: Complaint and Disagreement Making

This study investigated how Japanese EFL learners extended their learned knowledge to produce speech acts adapted to suit a new situation. It took as its particular focus how and to what extent strategies learned as part of making requests or refusals were brought into play to perform complaint or disagreement speech acts when instruction in neither of the latter two had been given. This was done to answer the research sub-question b:

SQb: Do learners improve their production of uninstructed speech acts, such as complaining and disagreeing, as a result of learning request and refusal speech acts? What improvements can be traced?

The remit of this investigation extended to an assessment of processing ability development since this is an aspect of pragmatic competence, as described in Section 3.3.4. In this study, processing ability was not assessed merely in terms of learners' ability to execute the existing production rules but in terms of their ability to create new production rules to execute the targeted action when encountering a novel (for them) situation. In the ACT-R model, new production rules are created through the process of knowledge extension or production compilation, as shown in Sections 3.1.3 and 3.1.4. In this study, processing ability is assessed in terms of learners' ability to extend the learnt knowledge to produce new speech acts. The knowledge extension was assessed by measuring what request and refusal strategies were utilised to perform the targeted complaint or disagreement speech acts. The improvement was traced as the tailored transfer was successfully realised in complaint or disagreement-speech acts.

The first data from Part II of DCT contrast distributions of pre and post for complaint and disagreement strategies. Table 34 shows the average score given to each component in each situation (S11-13), and confirms that TGs improved for all components and in each situation in the post-DCT. This improvement is especially marked when set alongside results from the CG with regard to both the amount and the quality of information. When it came to degrees of indirectness, the TGs also showed moderate improvement. However, as far as their organisation of information was concerned, only a slight improvement was discernible.

In this regard, Table 34 would appear to show the CG improving in the post-DCT; however, if we exclude nonresponses, as has been done in Table 35, we get a more accurate picture in which CG actually showed negative improvement in almost all components and situations. It seems reasonable to put this difference down to the relatively large number of unanswered responses in the pre-DCT. Though data was initially collected so as to make sure all nonresponses could be either included or excluded; however, once its relevance to this study became clear, it was included in nearly all subsequent data analyses and discussions. Those instances where data that excludes nonresponses are presented are only a few, being limited to those justified on the basis of relevance.

**Table 34 Results of pre/post-DCT by component**

Component	TG1			TG2			TG3			CG		
	Pre	Post	D									
<b>S11</b>												
Amount of Info.	8.0	9.4	<b>1.4</b>	6.7	10.4	<b>3.7</b>	6.8	10.9	<b>4.1</b>	7.3	7.0	<b>-0.3</b>
Quality of Info.	6.8	10.2	<b>3.4</b>	5.8	9.1	<b>3.4</b>	5.6	9.5	<b>3.8</b>	5.9	6.1	<b>0.2</b>
Organisation of Info.	3.0	3.5	<b>0.5</b>	2.2	3.3	<b>1.1</b>	2.2	3.3	<b>1.1</b>	2.3	2.5	<b>0.2</b>
Indirectness	4.7	6.9	<b>2.2</b>	3.7	5.7	<b>2.0</b>	3.8	6.0	<b>2.2</b>	4.1	4.5	<b>0.4</b>
<b>Total</b>	<b>22.5</b>	<b>30.0</b>	<b>7.5</b>	<b>18.4</b>	<b>28.5</b>	<b>10.1</b>	<b>18.5</b>	<b>29.7</b>	<b>11.2</b>	<b>19.6</b>	<b>20.1</b>	<b>0.5</b>
<b>S12</b>												
Amount of Info.	9.2	12.5	<b>3.4</b>	7.1	12.5	<b>5.4</b>	6.1	12.9	<b>6.8</b>	6.0	8.8	<b>2.8</b>
Quality of Info.	5.4	13.6	<b>8.2</b>	3.2	9.8	<b>6.6</b>	2.9	11.0	<b>8.1</b>	3.0	5.2	<b>2.2</b>
Organisation of Info.	3.9	5.1	<b>1.2</b>	2.4	4.4	<b>2.0</b>	1.9	4.7	<b>2.8</b>	2.0	2.9	<b>0.8</b>
Indirectness	4.9	9.2	<b>4.3</b>	3.5	7.4	<b>3.9</b>	2.7	8.0	<b>5.3</b>	3.3	5.0	<b>1.7</b>
<b>Total</b>	<b>23.4</b>	<b>40.5</b>	<b>17.0</b>	<b>16.1</b>	<b>34.1</b>	<b>18.0</b>	<b>13.5</b>	<b>36.5</b>	<b>23.0</b>	<b>14.4</b>	<b>21.9</b>	<b>7.5</b>
<b>S13</b>												
Amount of Info.	4.8	10.0	<b>5.3</b>	4.1	9.3	<b>5.2</b>	2.8	8.4	<b>5.6</b>	3.4	5.7	<b>2.3</b>
Quality of Info.	4.0	12.3	<b>8.2</b>	3.4	8.8	<b>5.3</b>	2.0	8.5	<b>6.5</b>	2.5	4.0	<b>1.5</b>
Organisation of Info.	2.7	4.8	<b>2.0</b>	1.8	3.8	<b>1.9</b>	1.2	3.3	<b>2.1</b>	1.5	2.8	<b>1.3</b>
Indirectness	4.4	9.3	<b>4.9</b>	3.4	6.9	<b>3.6</b>	2.1	6.8	<b>4.8</b>	2.4	4.8	<b>2.4</b>
<b>Total</b>	<b>15.9</b>	<b>36.3</b>	<b>20.4</b>	<b>12.8</b>	<b>28.8</b>	<b>16.0</b>	<b>8.1</b>	<b>27.0</b>	<b>18.9</b>	<b>9.7</b>	<b>17.3</b>	<b>7.5</b>

**Table 35 Results of pre/post-DCT by component (nonresponse excluded)**

Component	TG1			TG2			TG3			CG		
	Pre	Post	D									
<b>S11</b>												
Amount of Info.	8.0	9.4	<b>1.4</b>	7.9	10.4	<b>2.6</b>	7.9	11.1	<b>3.2</b>	8.7	7.0	<b>-1.8</b>
Quality of Info.	6.8	10.2	<b>3.4</b>	6.7	9.1	<b>2.3</b>	7.0	9.7	<b>2.7</b>	6.6	6.0	<b>-0.6</b>
Organisation of Info.	3.0	3.5	<b>0.5</b>	2.6	3.2	<b>0.7</b>	2.5	3.3	<b>0.7</b>	2.8	2.3	<b>-0.5</b>
Indirectness	4.7	6.9	<b>2.2</b>	4.3	5.7	<b>1.3</b>	4.7	6.3	<b>1.6</b>	4.7	4.5	<b>-0.2</b>
<b>Total</b>	<b>22.5</b>	<b>30.0</b>	<b>7.5</b>	<b>21.5</b>	<b>28.4</b>	<b>6.9</b>	<b>22.2</b>	<b>30.4</b>	<b>8.2</b>	<b>22.7</b>	<b>19.7</b>	<b>-3.1</b>
<b>S12</b>												
Amount of Info.	9.2	12.5	<b>3.4</b>	8.9	12.7	<b>3.8</b>	9.2	13.5	<b>4.3</b>	9.2	8.5	<b>-0.7</b>
Quality of Info.	5.4	13.6	<b>8.2</b>	4.0	10.0	<b>6.0</b>	4.4	12.0	<b>7.6</b>	4.8	5.1	<b>0.3</b>
Organisation of Info.	3.9	5.1	<b>1.2</b>	3.0	4.5	<b>1.5</b>	2.9	5.0	<b>2.1</b>	3.1	2.8	<b>-0.3</b>
Indirectness	4.9	9.2	<b>4.3</b>	4.4	7.6	<b>3.2</b>	4.1	8.8	<b>4.7</b>	5.1	4.8	<b>-0.4</b>
<b>Total</b>	<b>23.4</b>	<b>40.5</b>	<b>17.0</b>	<b>20.3</b>	<b>34.9</b>	<b>14.5</b>	<b>20.7</b>	<b>39.3</b>	<b>18.6</b>	<b>22.2</b>	<b>21.1</b>	<b>-1.1</b>
<b>S13</b>												
Amount of Info.	4.8	10.0	<b>5.3</b>	5.2	9.7	<b>4.4</b>	4.9	8.1	<b>3.2</b>	6.0	5.9	<b>-0.1</b>
Quality of Info.	4.0	12.3	<b>8.2</b>	4.3	9.0	<b>4.6</b>	3.4	9.0	<b>5.6</b>	4.3	3.7	<b>-0.6</b>
Organisation of Info.	2.7	4.8	<b>2.0</b>	2.3	3.9	<b>1.6</b>	2.1	3.4	<b>1.3</b>	2.6	2.9	<b>0.3</b>
Indirectness	4.4	9.3	<b>4.9</b>	4.3	7.0	<b>2.8</b>	3.6	6.9	<b>3.3</b>	4.2	4.7	<b>0.5</b>
<b>Total</b>	<b>15.9</b>	<b>36.3</b>	<b>20.4</b>	<b>16.1</b>	<b>29.5</b>	<b>13.4</b>	<b>14.0</b>	<b>27.4</b>	<b>13.4</b>	<b>17.1</b>	<b>17.1</b>	<b>0.1</b>

### 5.2.3.1 Results on Amount of Information

Having seen the difference between the mean scores of pre-DCT and post-DCT for each component by group. I will now look into the results in more detail. Table 36 reports the contrast between the pre- and post-DCT results with regard to the amount of information. It reveals that the TGs increased their use of strategies for almost all elements and situations. The increase is the most prominent in Pre-Head Act, followed by Head Act. When looking at the increase by situation, all three TGs increased the use of strategies most significantly in Situation 13, whereas no such systematic change was observed with the CG.

**Table 36 Results of Amount of Information by element**

Element	TG1			TG2			TG3			CG		
	Pre	Post	D	Pre	Post	D	Pre	Post	D	Pre	Post	D
<b>S11</b>												
Alerters	0.7	1.1	<b>0.4</b>	0.3	1.0	<b>0.8</b>	0.5	1.2	<b>0.8</b>	0.5	0.4	<b>-0.1</b>
Pre-HA	1.8	3.0	<b>1.3</b>	1.6	3.0	<b>1.4</b>	1.7	2.6	<b>0.9</b>	1.9	1.5	<b>-0.3</b>
Head Act	3.0	2.8	<b>-0.3</b>	2.7	3.1	<b>0.4</b>	2.6	3.2	<b>0.6</b>	2.9	2.8	<b>-0.1</b>
Post-HA	2.5	2.4	<b>0.0</b>	2.2	3.1	<b>0.9</b>	2.1	3.7	<b>1.7</b>	2.0	2.0	<b>0.0</b>
<b>Total</b>	<b>8.0</b>	<b>9.3</b>	<b>1.3</b>	<b>6.7</b>	<b>10.3</b>	<b>3.6</b>	<b>6.8</b>	<b>10.8</b>	<b>4.0</b>	<b>7.3</b>	<b>6.7</b>	<b>-0.5</b>
<b>S12</b>												
Alerters	0.8	1.3	<b>0.5</b>	0.3	1.1	<b>0.9</b>	0.4	1.6	<b>1.3</b>	0.4	0.5	<b>0.1</b>
Pre-HA	1.9	4.6	<b>2.7</b>	1.2	4.0	<b>2.8</b>	1.2	4.2	<b>3.0</b>	1.1	1.7	<b>0.6</b>
Head Act	4.9	4.9	<b>0.0</b>	3.5	4.5	<b>1.0</b>	3.0	4.6	<b>1.6</b>	3.0	4.2	<b>1.2</b>
Post-HA	1.6	1.6	<b>0.0</b>	2.1	2.8	<b>0.6</b>	1.5	2.2	<b>0.7</b>	1.5	2.3	<b>0.8</b>
<b>Total</b>	<b>9.2</b>	<b>12.4</b>	<b>3.2</b>	<b>7.1</b>	<b>12.4</b>	<b>5.3</b>	<b>6.1</b>	<b>12.7</b>	<b>6.6</b>	<b>6.0</b>	<b>8.6</b>	<b>2.6</b>
<b>S13</b>												
Alerters	0.0	0.6	<b>0.5</b>	0.0	0.3	<b>0.2</b>	0.0	0.4	<b>0.4</b>	0.0	0.1	<b>0.0</b>
Pre-HA	1.0	3.6	<b>2.7</b>	1.1	3.5	<b>2.4</b>	0.6	2.7	<b>2.1</b>	0.8	1.1	<b>0.3</b>
Head Act	2.6	4.1	<b>1.5</b>	2.3	3.7	<b>1.4</b>	1.7	4.0	<b>2.3</b>	2.0	3.5	<b>1.5</b>
Post-HA	1.1	1.7	<b>0.5</b>	0.7	1.7	<b>1.0</b>	0.5	1.2	<b>0.7</b>	0.6	1.1	<b>0.5</b>
<b>Total</b>	<b>4.8</b>	<b>10.0</b>	<b>5.2</b>	<b>4.1</b>	<b>9.2</b>	<b>5.1</b>	<b>2.8</b>	<b>8.3</b>	<b>5.5</b>	<b>3.4</b>	<b>5.7</b>	<b>2.3</b>

**5.2.3.2 Results on Quality of Information**

Let’s make a comparison across all elements in the pre/post-DCT of the TGs. We find that, in terms of the quality of expressions, the Pre-Head Act showed the most substantial improvement and only slight improvement was observed in the Head Act and Post-Head Act elements, as indicated in Table 37.

**Table 37 Results of Quality of Information: Expression by element**

Element	TG1			TG2			TG3			CG		
	Pre	Post	D	Pre	Post	D	Pre	Post	D	Pre	Post	D
<b>S11</b>												
Alerters	0.5	0.6	<b>0.1</b>	0.2	0.7	<b>0.5</b>	0.4	0.7	<b>0.4</b>	0.3	0.3	<b>-0.1</b>
Pre-HA	1.5	2.8	<b>1.3</b>	1.1	2.4	<b>1.3</b>	1.2	2.2	<b>0.9</b>	1.5	1.3	<b>-0.1</b>
Head Act	3.1	4.0	<b>0.9</b>	2.6	3.0	<b>0.4</b>	2.3	3.0	<b>0.7</b>	2.6	2.9	<b>0.3</b>
Post-HA	2.6	3.5	<b>0.9</b>	2.3	3.4	<b>1.1</b>	2.2	4.0	<b>1.8</b>	2.1	2.2	<b>0.0</b>
<b>Total</b>	<b>7.8</b>	<b>10.8</b>	<b>3.1</b>	<b>6.2</b>	<b>9.4</b>	<b>3.2</b>	<b>6.1</b>	<b>9.9</b>	<b>3.8</b>	<b>6.5</b>	<b>6.7</b>	<b>0.2</b>

*(Continued)*

**Table 37 (Continued)**

<b>S12</b>												
<b>Alerters</b>	0.6	0.8	<b>0.3</b>	0.3	0.8	<b>0.5</b>	0.2	0.9	<b>0.7</b>	0.3	0.4	<b>0.1</b>
<b>Pre-HA</b>	2.1	5.4	<b>3.3</b>	1.0	3.4	<b>2.4</b>	1.1	4.0	<b>3.0</b>	1.0	1.3	<b>0.3</b>
<b>Head Act</b>	5.0	6.4	<b>1.4</b>	2.6	4.2	<b>1.7</b>	2.3	4.8	<b>2.5</b>	2.2	3.7	<b>1.5</b>
<b>Post-HA</b>	1.8	2.5	<b>0.8</b>	2.2	3.2	<b>1.0</b>	1.5	2.7	<b>1.2</b>	1.5	2.3	<b>0.9</b>
<b>Total</b>	9.5	15.1	<b>5.6</b>	6.1	11.7	<b>5.6</b>	5.0	12.4	<b>7.4</b>	5.0	7.9	<b>2.8</b>
<b>S13</b>												
<b>Alerters</b>	0.0	0.5	<b>0.4</b>	0.0	0.3	<b>0.2</b>	0.0	0.3	<b>0.3</b>	0.0	0.1	<b>0.0</b>
<b>Pre-HA</b>	1.0	4.3	<b>3.3</b>	1.1	3.3	<b>2.2</b>	0.6	2.6	<b>2.0</b>	0.8	1.0	<b>0.2</b>
<b>Head Act</b>	3.3	6.2	<b>2.9</b>	2.4	4.5	<b>2.0</b>	1.7	5.2	<b>3.5</b>	2.0	3.5	<b>1.5</b>
<b>Post-HA</b>	1.4	2.3	<b>0.9</b>	0.7	2.0	<b>1.2</b>	0.6	1.3	<b>0.6</b>	0.6	1.3	<b>0.7</b>
<b>Total</b>	5.7	13.3	<b>7.6</b>	4.3	10.1	<b>5.8</b>	2.9	9.4	<b>6.4</b>	3.5	5.9	<b>2.4</b>

Next are the results of the pre- and post-DCTs with regard to expressing disagreement, or making complaints, in terms of appropriateness to a given context. Table 38 indicates the difference in the scores in the pre/post-DCT is scant across all elements, and in all situations. There was even some negative improvement indicated, such as the -0.1 score by TG1 and TG3 for the Pre-Head Act in Situation 11 and the -0.1 score by TG3 for the Pre-Head Act in Situation 13. More negative scores are observed with the CG displayed in Table 38.

**Table 38 Results of Quality of Information: Context by element**

Element	TG1			TG2			TG3			CG		
	Pre	Post	D									
<b>S11</b>												
<b>Alerters</b>	0.0	0.0	<b>0.0</b>									
<b>Pre-HA</b>	0.0	-0.1	<b>-0.1</b>	0.0	0.0	<b>0.0</b>	0.0	-0.1	<b>-0.1</b>	0.0	0.0	<b>0.0</b>
<b>Head Act</b>	-0.4	-0.1	<b>0.3</b>	-0.2	0.0	<b>0.2</b>	-0.2	0.0	<b>0.2</b>	-0.4	-0.2	<b>0.1</b>
<b>Post-HA</b>	-0.4	0.0	<b>0.4</b>	-0.1	0.0	<b>0.0</b>	-0.1	0.0	<b>0.1</b>	-0.2	-0.2	<b>0.0</b>
<b>Total</b>	-0.8	-0.3	<b>0.6</b>	-0.3	0.0	<b>0.3</b>	-0.3	-0.1	<b>0.2</b>	-0.5	-0.4	<b>0.1</b>
<b>S12</b>												
<b>Alerters</b>	0.0	0.0	<b>0.0</b>									
<b>Pre-HA</b>	-0.5	0.0	<b>0.5</b>	-0.1	0.0	<b>0.1</b>	-0.1	-0.1	<b>0.0</b>	-0.2	-0.1	<b>0.1</b>
<b>Head Act</b>	-2.3	-0.6	<b>1.7</b>	-1.5	-1.0	<b>0.5</b>	-1.3	-0.9	<b>0.4</b>	-1.2	-1.7	<b>-0.5</b>
<b>Post-HA</b>	-0.6	-0.1	<b>0.5</b>	-1.0	0.0	<b>0.9</b>	-0.6	0.0	<b>0.6</b>	-0.4	-0.5	<b>-0.1</b>
<b>Total</b>	-3.5	-0.8	<b>2.7</b>	-2.6	-1.1	<b>1.5</b>	-2.0	-1.0	<b>1.0</b>	-1.8	-2.3	<b>-0.5</b>
<b>S13</b>												
<b>Alerters</b>	0.0	0.0	<b>0.0</b>									
<b>Pre-HA</b>	0.0	0.0	<b>0.0</b>	0.0	-0.1	<b>-0.1</b>	0.0	-0.1	<b>-0.1</b>	0.0	0.0	<b>0.0</b>
<b>Head Act</b>	-1.2	-0.5	<b>0.7</b>	-0.5	-0.5	<b>0.0</b>	-0.6	-0.5	<b>0.2</b>	-0.8	-1.7	<b>-0.8</b>
<b>Post-HA</b>	-0.1	0.0	<b>0.1</b>	0.0	0.0	<b>0.0</b>	-0.1	0.0	<b>0.1</b>	-0.1	0.0	<b>0.1</b>
<b>Total</b>	-1.3	-0.5	<b>0.8</b>	-0.6	-0.6	<b>0.0</b>	-0.8	-0.5	<b>0.2</b>	-0.9	-1.7	<b>-0.8</b>

Concerning the appropriateness of grammar usage, as previously mentioned, grammatical usage was not part of the instruction provided to students participating in this study. As such, errors in grammar per se were not within the scope of this research. Notwithstanding that limitation, it has to be acknowledged that grammar errors can preclude understanding or appropriate interpretation of an utterance.

Such occurrences are what account for negative scores in this element. In this research, grammatical errors would not earn a negative score on their own account; they would warrant a negative score only if they undermined the speaker's intended message, making it incomprehensible or ambiguous to the hearer. There were, in fact, some cases where grammatical mistakes significantly affected the interpretation of complaint and disagreement speech acts. The scores for the DCT with regard to grammar, for both *element* and *situation*, can be seen in Table 39. I will discuss possible reasons for this later in Section 5.3.1.4

**Table 39 Results of Quality of Information: Grammar by element**

Element	TG1			TG2			TG3			CG		
	Pre	Post	D									
<b>S11</b>												
Alerters	0.0	0.0	<b>0.0</b>									
Pre-HA	0.0	-0.1	<b>-0.1</b>	0.0	0.0	<b>0.0</b>	-0.1	-0.1	<b>0.0</b>	0.0	-0.1	<b>-0.1</b>
Head	0.0	-0.2	<b>-0.2</b>	-0.1	-0.1	<b>0.0</b>	0.0	-0.1	<b>-0.1</b>	0.0	-0.1	<b>-0.1</b>
Post-HA	-0.1	-0.1	<b>0.0</b>	0.0	-0.2	<b>-0.1</b>	-0.1	-0.2	<b>-0.1</b>	-0.1	-0.1	<b>0.0</b>
Total	-0.1	-0.4	<b>-0.3</b>	-0.1	-0.2	<b>-0.1</b>	-0.1	-0.4	<b>-0.2</b>	-0.1	-0.2	<b>-0.1</b>
<b>S12</b>												
Alerters	0.0	0.0	<b>0.0</b>									
Pre-HA	-0.3	-0.2	<b>0.1</b>	-0.1	-0.2	<b>-0.1</b>	0.0	-0.1	<b>-0.1</b>	0.0	0.0	<b>0.0</b>
Head	-0.2	-0.5	<b>-0.3</b>	-0.1	-0.3	<b>-0.2</b>	-0.1	-0.2	<b>-0.1</b>	-0.2	-0.2	<b>0.0</b>
Post-HA	-0.1	0.0	<b>0.0</b>	-0.2	-0.2	<b>0.0</b>	0.0	-0.1	<b>-0.1</b>	0.0	-0.1	<b>-0.1</b>
Total	-0.6	-0.7	<b>-0.1</b>	-0.4	-0.8	<b>-0.4</b>	-0.1	-0.4	<b>-0.3</b>	-0.2	-0.3	<b>-0.1</b>
<b>S13</b>												
Alerters	0.0	0.0	<b>0.0</b>									
Pre-HA	0.0	-0.2	<b>-0.2</b>	-0.1	-0.2	<b>-0.1</b>	0.0	0.0	<b>0.0</b>	0.0	0.0	<b>0.0</b>
Head	-0.2	-0.2	<b>0.0</b>	-0.2	-0.3	<b>-0.1</b>	-0.1	-0.3	<b>-0.2</b>	-0.1	-0.1	<b>-0.1</b>
Post-HA	-0.1	-0.1	<b>0.0</b>	0.0	-0.2	<b>-0.2</b>	-0.1	-0.1	<b>0.0</b>	0.0	-0.1	<b>-0.1</b>
Total	-0.3	-0.5	<b>-0.2</b>	-0.3	-0.7	<b>-0.4</b>	-0.2	-0.4	<b>-0.2</b>	-0.1	-0.3	<b>-0.1</b>

### **5.2.3.3 Results on Organisation of Information and Indirectness**

As shown in Table 34 and Table 35, in line with other increases in the use of strategies for particular components; the scores for the Organisation of Information increased in all situations in the post-DCT for the TGs. However, the scale of improvement was only slight, whereas the CG indicated little increase in the post DCT.

As for the Indirectness, Table 34 and Table 35 indicate the degree of indirectness increased significantly in all three situations in the post-DCT for the TGs. Specifically, the increase in indirectness is noticeable for Situation 12 and Situation 13.

### **5.2.3.4 Summary of Results on Complaint and Disagreement Making**

As seen above, overall descriptive statistic results of the pre/post-DCT on the use of complaint and disagreement strategies revealed that similar to the results of request and refusal making, the TGs improved the overall use of complaint and disagreement strategy in the post-DCT, but the CG did not. Furthermore, a closer look at the improvement by TGs revealed that strategy use in Pre-Head Act improved the most while that in Head Act improved only slightly. In addition, the amount and quality of expressions used in complaint and disagreement making improved significantly, whereas the contextually appropriate use of the strategies improved only slightly. Regarding the Indirectness expressed by an entire sequence of complaint and disagreement speech acts, the results showed that TGs made a noticeable improvement, but the CG did not. As for the Organisation of Information, TGs showed relatively a slight improvement, while the CG showed little improvement.

## **5.3 Qualitative Findings**

The previous section reported descriptive/inferential statistical results that contrasted pre- and post-DCT quantitative findings by group. It showed that participants in the target groups significantly improved their use of strategies when making requests and giving

refusals, as well as when complaining and disagreeing and did so for each of the four components. This section now turns to the qualitative analysis to help explain how those improvements in the post-DCT came about. To some extent, the content analysis previously described in Section 4.6.1.2, covered some of the same ground. Comparing codes assigned to the strategies used in the pre- and post-DCT would help determine in what ways the use of politeness strategies improved. In addition, data obtained from the miscellaneous instruments mentioned in Section 4.6.2, which included recorded group discussion on roleplay and roleplay performance, instructor's journal, students' notebook, e-mails and PRT – all these, in addition to the results from the DCTs, contributed to further content analysis.

### **5.3.1 Analysis on Data from Main Instrument: DCTs**

In order to examine in what ways, the use of politeness strategies improved, it was necessary to bring greater precision to identifying the type and frequency of such strategies used; first, when constructing either request or refusal speech acts (as indicated in the pre- and post-DCT); and second, when expressing disagreement or making complaints.

To this end, a content analysis was conducted in which the data obtained from pre/post-DCT were first codified. For example, #*ag* was used to represent *attention getting* of Alerters (e.g. 'Hello.') and #*pptr* to represent any *preparator* (e.g., 'Do you have time?') supporting a request strategy. For the entire list of codes used, please refer to Appendix R.

#### **5.3.1.1 Types and Frequency of Request and Refusal Strategies Used**

The data on types and frequency of request and refusal strategies used in situations 1-10 were subjected to content analysis. They were coded and listed in Table 40 through Table 43 for requests and in Table 44 through Table 47 for refusals (see Appendix U and Appendix X for detail).

**Table 40 Pre/post difference in strategy use by TG1 [Requests]**

Strategy (TG1)		Pre-DCT										Post-DCT										T1	T2	D
Category	Type	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	T1	T2	D
Alerter	ag	17	7	6	8	2	6	13	5	11	18	24	23	22	23	22	24	25	23	24	25	93	235	142
	si				2			4		5			1		19		6	8	8	15	6	11	63	52
	tr	1					4		5	2	3	1		1	2	2	10		8		3	15	27	12
	sn			6		3	2		3	1				6	1	5	6		6			15	24	9
	fn		5	7		5	1		1				13	8		7						19	28	9
Supportive Move	gr	21	25	4	36	18	26	33	42	25	22	31	41	30	47	30	30	39	48	25	28	252	349	97
	pc		2	2		1						6	10	7	2	10	5	5	7	4	5	5	61	56
	pptr			1				4		1		5	4	15	2	7	2	11	4	7	1	6	58	52
	apol		2		7	1	1				2			2	4	1						13	7	-6
	des		3	1	4	2			2	4	4	1	4								2	21	6	-15
	akp								4	1											1	5	1	-4
	sr						9		3								3		3			12	6	-6
Head Act	wwip											2	6	6	17	9	10	8	15	4	8	0	85	85
	wwdi											8	5	12	5	10	8	11	5	9	8	0	81	81
	psb													1		1	2		1			0	5	5
	wld	2	1	2	2	1	4		1	1	2	2	1	1			1	1		2		16	8	-8
	may		1		1		2	1	3		2						1				1	10	2	-8
	want		1	3		3		3		7	1			1							2	18	3	-15
	cny	7	3	8	1	6	2	2	1	1	2	1	1							1	1	33	4	-29
	plmd	8	3	4	4	7	6	2	4	3	3	1	1								1	1	44	4
cld	7	10	6	11	7	9	7	9	4	12	6	6	3	1	2	1	1	3	4	2	82	29	-53	
Modification	dt	1			2	1	1	1				1	2	3	2	3	4	3	3	6	2	6	29	23
	sj		1							1				2	1	1		1		2		2	7	5
	it						3							1	1	1	1	2		1		3	7	4

**Table 41 Pre/post difference in strategy use by TG2 [Requests]**

Strategy (TG2)		Pre-DCT										Post-DCT										T1	T2	D
Category	Type	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10			
Alerter	ag	19	7	10	9	8	5	12	3	3	9	26	25	23	20	25	21	26	24	23	27	85	240	155
	si				4			4	1	3	2				13		3	4	6	8	3	14	37	23
	sn			3		3	6		6			1		7	1	5	6		5		1	18	26	8
	fn	1	4	9		3					1		11	6		4	1					18	22	4
Supportive Move	gr	28	31	7	35	23	27	38	36	13	11	36	42	11	46	27	29	45	50	28	44	249	358	109
	pptr			1		1		3				5	3	16	2	6	4	11	5	6	1	5	59	54
	pc			1								1	2	5	3	3	1	1	1		1	1	18	17
	apol		1	1	8	1	11		3			1			8	1	6		2			25	18	-7
	des		4	1	7	2	4		3		1		1		2		1	2	1	2		22	9	-13
	sb												1		2	1						0	4	4
Head Act	wwdi											1	7	5	4	4	4	4	4	3	3	0	39	39
	wwip												1	1	10	2	4	2	8	1	3	0	32	32
	cld	9	8	7	7	4	4	7	6	4	6	16	6	8	6	8	10	6	9	9	10	62	88	26
	awdi											1	2	3	1	1	3		2	1	2	0	16	16
	glif											2		1		4		5		3	1	0	16	16
	apif											1	3		2	2	1	1	1	3	1	0	15	15
	wmn		1				1					2	2	2		1	2	2	1	2		2	14	12
	psb												2		1		1	2	1	1	1	0	9	9
	wil	1	1	1	1	1					1											6	0	-6
	md	2	1	3	1	2	1	1	1						1	1		1				12	3	-9
	wld	6	3	2	8	2	3	3	1	1	1	3		3	1	1	1	3	1	3	3	30	19	-11
	cny	2	4	1	2	5	2	3	3		1	1	2	4							1	23	8	-15
	want	1	1	6		5	2	4	2	6						2		1				27	3	-24
	plmd	10	6	8	3	3	9	10	7	6	2	1		1				3		1	1	64	7	-57
Modification	dt			1				1				7	5	9	4	6	9	8	2	6	10	2	66	64
	cc												1		1	1			1			0	4	4
	pm	3	1	1	3	2	1	1	1			1					1		2		2	13	6	-7

**Table 42 Pre/post difference in strategy use by TG3 [Requests]**

Strategy (TG3)		Pre-DCT										Post-DCT										T1	T2	D
Category	Type	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10			
Alerter	ag	25	16	15	11	10	11	17	9	15	25	32	31	29	24	27	25	30	27	29	28	154	282	128
	si				3		3	3	3	19	2		1		24	1	9	17	11	22	10	33	95	62
	sn			9	1	5	7		5			1		18	2	14	14		18	1		27	68	41
	tr	1		1			3	1	2	1	2	1			3		15	1	9		2	11	31	20
	fn		15	13		9	1		1				27	12		13							39	52
Supportive Move	gr	34	42	3	48	29	31	44	61	30	33	48	58	28	65	44	38	66	65	41	47	355	500	145
	pptr	1	1	1				5				8	3	14		11	2	8	5	6		8	57	49
	pc			1								1	6	5	1	6	2	3	8	3	4	1	39	38
	des		2		11	4	4	1	2	2	2	1	2		1		1			1		28	6	-22
	apol	1	5		15	4	12	1	4				1		7	2	8		1			42	19	-23
	sb												1		1		3		1		1	0	7	7
Head Act	wwdi											5	8	6	7	5	8	8	5	6	4	0	62	62
	wwip												3	3	13	5	3	3	10	2	4	0	46	46
	apif						1						1	5	2	6	6	5	4	4	1	1	34	33
	wmn		2									4	3	5	2	1	4	2	2	5	3	2	31	29
	wmi											1	1	1		4	3	4	2	2		0	18	18
	psb											2	2	2			1	1		2		0	10	10
	awdi											1	2		1	1	1	2			1	0	9	9
	dmi											1	1	1						1	2	0	6	6
	dmi												1		1	1			1		1	0	5	5
	glif		1		1										1	2	1		2		1	2	7	5
	md	1		2		1					1											5	0	-5
	wil		1	2					1	1	2											7	0	-7
	wld	5	3	1	6	6	6	5	4	3	3	7	1	5	1	3		2	1	2	4	42	26	-16
	want	1		9	1	6	1	4	1	15	1			2		1		1		5		39	9	-30
	cld	9	6	3	11	5	11	11	13	6	19	11	5	5	1	2	3	2	5	2	10	94	46	-48
	plmd	7	6	7	3	5	7	7	8	6	3		1					1		1		59	3	-56
cny	10	12	12	3	10	2	4	2	4	5	1										64	1	-63	
Modification	dt		1	2	4	1		6		2	13	7	6	3	5	6	6	8	6	11	16	71	55	
	sj				2		1			1				3	2	2		5		1	4	13	9	
	pm			1	2	2	1	1	1		2	1	3				1				10	5	-5	

**Table 43 Pre/post difference in strategy use by CG [Requests]**

Strategy (CG)		Pre-DCT										Post-DCT										T1	T2	D
Category	Type	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	T1	T2	D
Alerter	sn			8		2	5		6					6		5	5		3			21	19	-2
	fn		9	10		11	1						9	8		2	1					31	20	-11
	si				10		1	3	1	11	1				5			1	1	2		27	9	-18
	ag	27	16	16	13	15	15	21	13	11	26	18	10	12	10	8	7	17	7	10	22	173	121	-52
Supportive	apol		1		9	1	4					1	4		11	4	14		2		4	15	40	25
Move	des		3	2	3		2	1	2	6	1		1	1	2	1	4	1	1	5		20	16	-4
	gr	33	38	6	45	32	37	52	53	27	36	13	23		33	22	27	40	50	16	23	359	247	-112
	sr				3	1	5		1						2		1		1			10	4	-6
Head Act	plmd	7	3	6	2	2	4	7	6	4	2	14	9	14		4	5	5	5	8	3	43	67	24
	cld	6	9	5	15	5	16	6	12	4	9	8	10	6	13	9	14	13	15	6	16	87	110	23
	may	1	1		2	1	1	1		1	3		3	1	2	2	3			1	3	11	15	4
	perf			4																		4	0	-4
	cny	10	9	9	2	7	1	3	1	1	4	7	4	7	1	8	1	5	2	5	2	47	42	-5
	wld	4	7	3	9	6	10	10	9	8	10	5	5	1	14	5	10	7	8	6	7	76	68	-8
	want		3	1	1	12		3	3	12			3	1	1	2		2		10		35	19	-16
Modification	dt			4	1	2		4		3	2		1		1	1		6		2		16	11	-5
	pm	5	2	5	1	4	1	3	2	2	3	2		1	2		1		3	1	2	28	12	-16

The first column on the left of the table indicates four main categories of request strategies (Alerters, Supportive Moves, Head Act and Modifications). The second column presents the types of a strategy used, which were coded and ordered vertically in decreasing order. For example, the sequence runs down from the top *#ag* to *#fn* for Alerters, and *#gr* to *#sr* for Supportive Moves. On the top column, the sequence running across the horizontal line represents each situation. T1 represents the total scores of pre-DCT, while likewise, T2, the total scores of post-DCT. The D stands for the difference between T1 and T2.

As the tables indicate, the use of certain types of strategies increased dramatically in the post DCT. For example, TG1 increased request strategies such as *#ag* from 93 to 235 and *#gr* (*grounder*, e.g., phrases of giving reasons or explanation) from 252 to 349 in the post-DCT. Other types such as *#pc* (*getting a precommitment*, e.g., ‘Would you do me a favour?’), *#pptr*, *#wwdi* (*I was wondering if...*) and *#wwip* (*I was wondering if it were possible...*) were increased significantly by this group in the post-DCT. Some of these strategies, for example, *#wwdi* and *#wwip* appeared for the first time in the post-DCT. The direct expressions such as *#plmd* (Please + V) and *#want* (*I want you to V*) that appeared in the pre-DCT of request making were replaced by more indirect expressions, such as *#wwdi*, *#wwip* and *#psb* (Is it possible to + V? / Is it all right to + V?) in the post-DCT. Examples from Situation 2A and Situation 4A below illustrate such changes in the strategy employed by participants in TG1.

- (1) a: I want you to lend me your notebook. (Pre-DCT)  
 b: I was wondering if you could lend me your notebook. (Post-DCT)
- (2) a: I’m sorry, I cannot be in time there. But I want to receive the interview, please change the schedule. (Pre-DCT)  
 b: Hello, I’m Kayoko Nagatomi. I have an interview but I’ll be late for the interview. I’m so sorry, I was wondering if it were possible for you to reschedule the appointment. (Post-DCT)

Improvement was observed in both the amount and the quality of expressions used. Example (3b) shows more lexical and syntactical complexity, even bringing in such

sophisticated expressions as *I was wondering if you could...* in the post-DCT.

- (3) a: Can you work this weekend? (Pre-DCT)  
b: I was wondering if you could work this weekend because I am late for making a report. (Post-DCT)

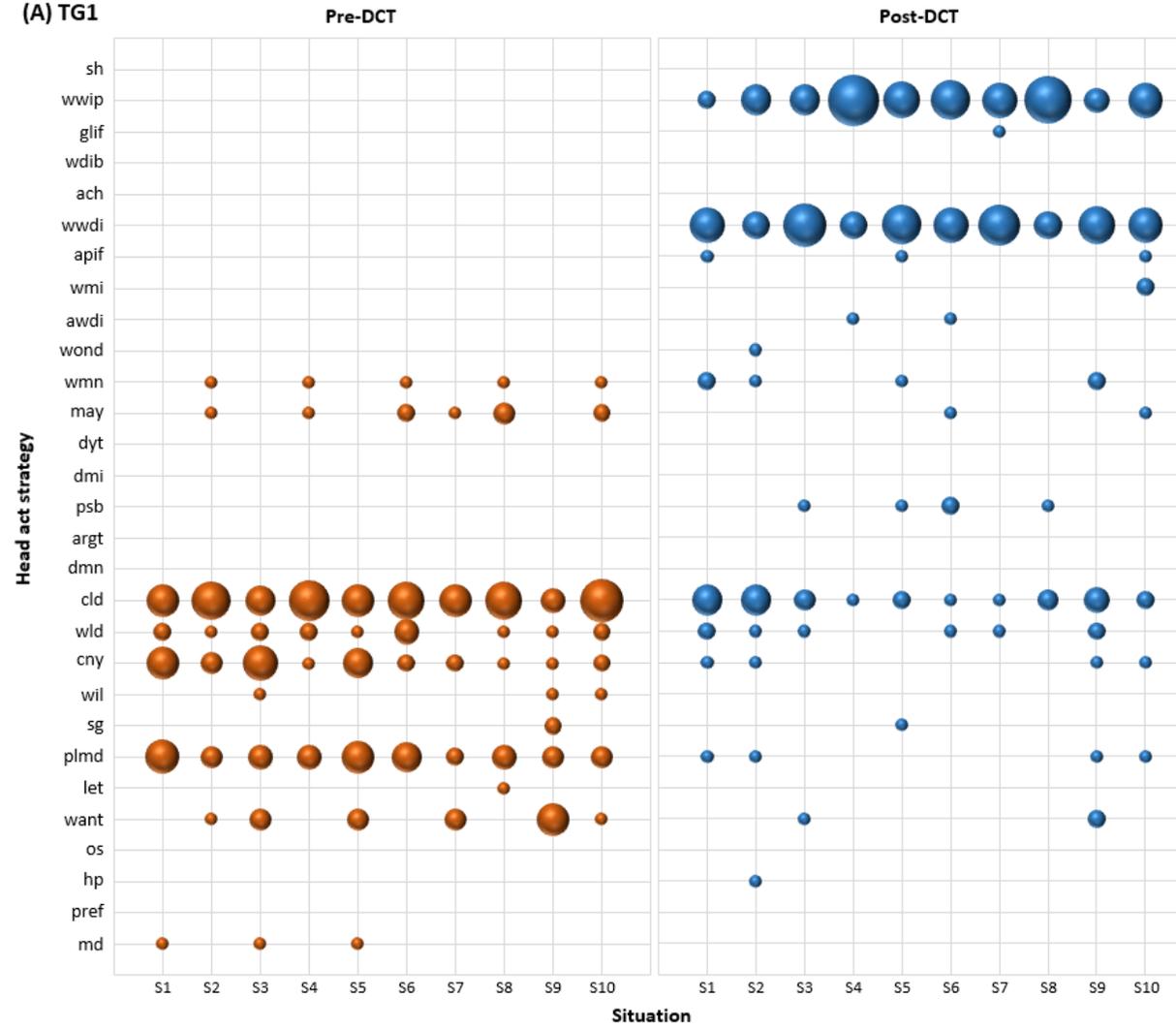
The same or equivalent increases in the use of such mitigation devices were observed with both the TG2 and TG3 but not with the CG. The CG did not show any such systematic change in the use of request strategies, as shown in Table 43. As for the use of direct and indirect expressions in the Head Act for the TG1; a similar tendency is observed with the TG2 and TG3, but again, not with the CG. Unlike the TG1, TG2, and TG3, the CG increased the use of direct expressions such as *#plmd*, and showed no use of indirect expressions such as *#wwdi* and *#wwip* in the Head Act was reported.

The transition in the use of the expression for Head Act from pre-DCT to the post-DCT by TGs is summarised in the bubble charts in Figure 30. The horizontal axis represents each situation, and the vertical axis shows the expressions used for the Head Act arranged vertically according to the degree of politeness (see Section 5.3.2.4).

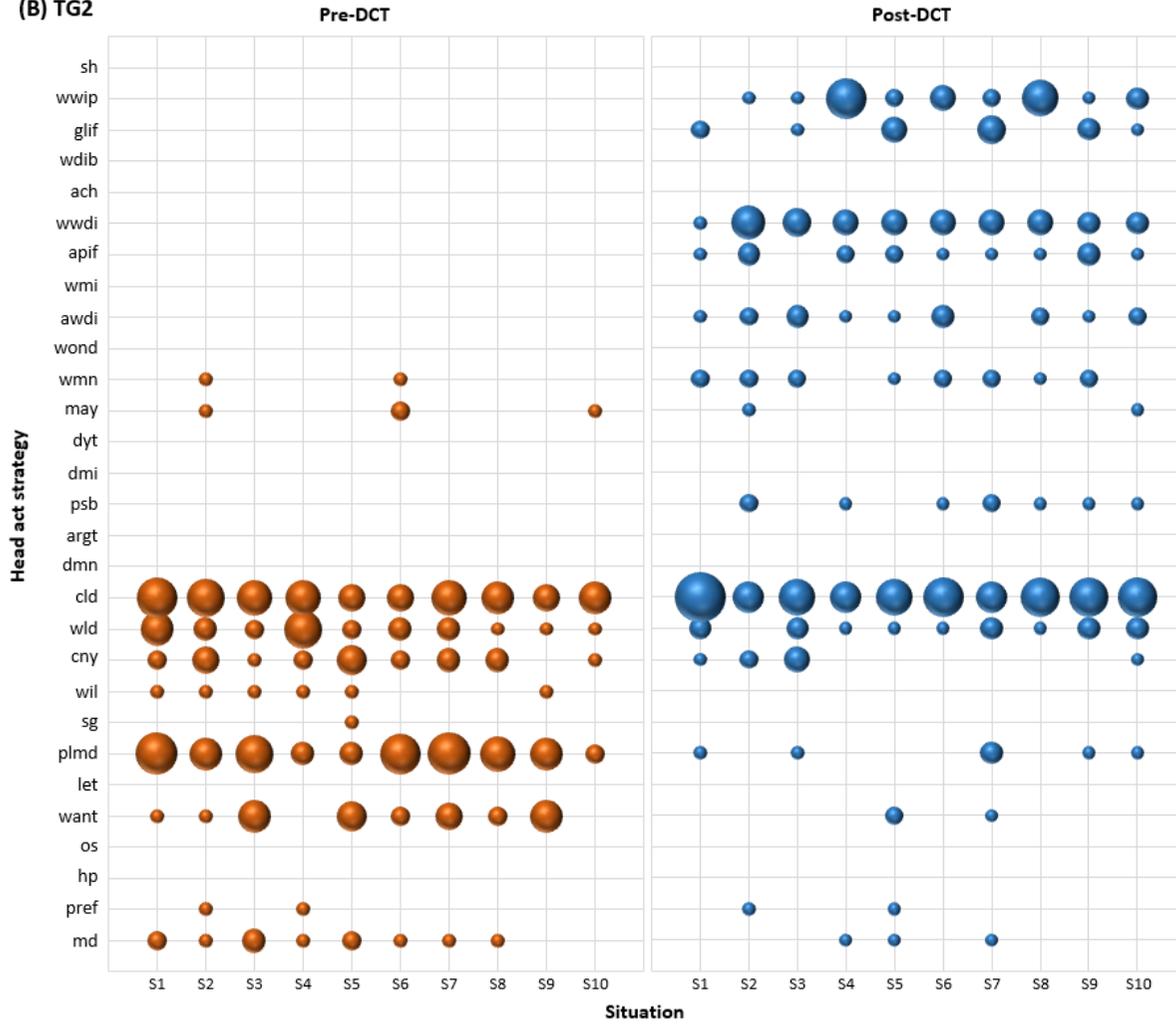
The frequency of the use of direct strategies such as *#md* through *#plmd* in the ranking order decreased significantly in the post-DCT, whereas the use of highly indirect expressions such as *#wwdi* and *#wwip*, which was rarely used in the pre-DCT, has increased significantly in the post-DCT.

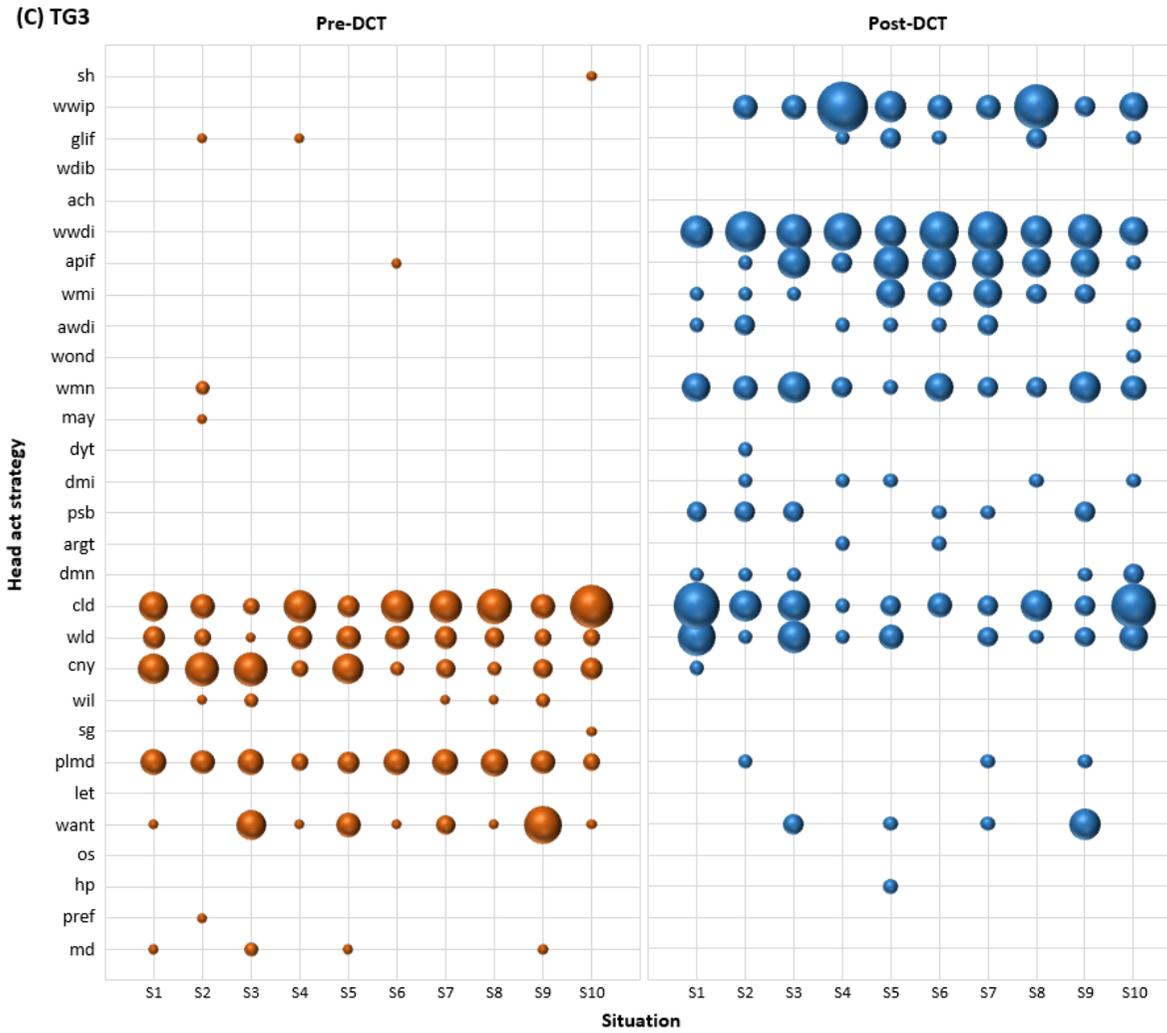
Figure 31 summarises the results provided by the CG. Unlike TGs, the use of expressions for Head Act by the CG has not changed much in the post-DCT. Direct expressions such as *#want* and *#plmd* were used frequently in both pre- and post-DCT, and limited types of indirect expressions such as *Could you / I...?*, *Would you...?* were used. Similarly, the CG scarcely used indirect strategies such as *#wwdi* and *#wwip* that were not used in pre-DCT.

(A) TG1



**(B) TG2**





**Figure 30** Frequency of request Head Act strategies used by TGs

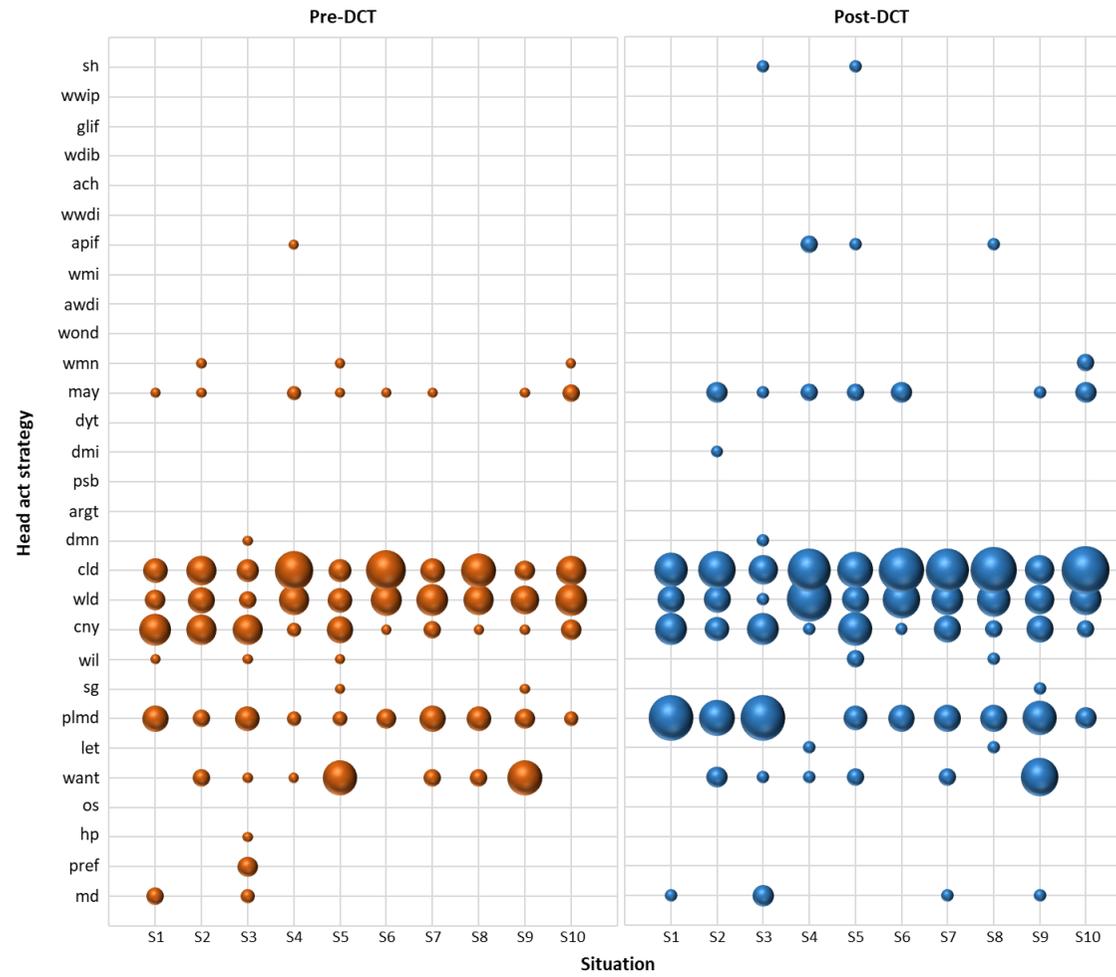


Figure 31 Frequency of request Head Act strategies used by CG

The types and frequency of refusal strategies used in each situation by group are presented in Table 44 through Table 47. As the tables indicate, similar to the use of request strategies, the use of indirect strategies has increased significantly across the TG groups but not by the CG. For example, the TGs increased the use of mitigation devices such as *#gr*, and *#al* (*alternative*) noticeably. Strategies such as *#sj* (*subjectivizer*, e.g., I think/wonder/believe), and *#it* (*intensifier*, e.g., terribly) were seldom used in the pre-DCT, but were remarkably used in the post-DCT.

The TGs increased considerably in the use of devices to soften the impact of rejection. These include proposing alternative options, as in example (4b).

- (4) a: No, I can't. (Pre-DCT)  
 b: I am sorry, but I have to leave the office now. If it is OK, I can copy it when I get back. (Post-DCT)

The use of expressions such as *#ws* (*wish*, e.g., I wish I could help) also increased in the post-DCT. The CG, by contrast, achieved no such systematic improvement. Unlike TGs, the CG decreased the use of mitigation devices such as *#rg* (*statement of regret*, e.g., I'm sorry) and *#ws* in the post-DCT.

Although the data presented in Table 40 through Table 42, Table 44 through Table 46 and Figure 30 are only a small part of the total data through situations 1 to 10, they turn out to be representative. Similar tendencies emerged in the other situations and were found virtually replicated in the other TGs. By way of contrast, the CG showed no systematic improvement in the use of refusal strategies in the post-DCT. In addition, the types of request and refusal strategies they used were drawn from a narrower range. Given the design of the experiment, it seems reasonable to conjecture that this was most likely because this group had no opportunities to get instruction about the production of speech acts.

**Table 44 Pre/post difference in strategy use by TG1 [Refusals]**

Strategy (TG1)		Pre-DCT									Post-DCT									T1	T2	D	
Category	Type	S2	S3	S4	S5	S6	S7	S8	S9	S10	S2	S3	S4	S5	S6	S7	S8	S9	S10	T1	T2	D	
Alerter	ag		1	2							1	2	3	3	3	2	2	2	2	3	20	17	
	fn	3		1		3					4		2	1	6		1			7	14	7	
	sn		6	3	2	2			1			2	2	1	1		2			14	8	-6	
Supportive Move	pf			1		1		2		1	7	6	5	5	3	6	6	3	7	5	48	43	
	ga			1					1		2	3	6	4	2	9	2	11	1	2	40	38	
	ps							2	2	1			1			6		10		5	17	12	
	ep	1		2	1				13		2		3		2	1	11		3	19	22	3	
	des					2					1	5	4	4	9	7	2	2	1	5	3	39	36
	apol			1	2	2					3		1	3	5	4	1	3	5	8	22	14	
Head Act	gr	23	37	16	27	24	24	22	26	25	26	45	25	25	26	35	30	31	25	224	268	44	
	al	2	4	6	9	13	1	16		4	15	16	21	17	20	8	22	5	13	55	137	82	
	ws	1		2	5		3			1	8	11	10	11	8	8	4	5	9	12	74	62	
	fa			1			1									5		6		2	11	9	
	np	19	12	18	13	12	17	7	18	15	19	9	17	17	13	18	8	17	16	131	134	3	
	rg	15	20	14	19	12	18	3	23	20	12	13	8	7	7	6	7	4	12	144	76	-68	
Modification	sj	1	1				1	1		1	2	3	2	2	1	4	2	3	2	5	21	16	
	dt			1	1						1	7	3	2	3	1	1			2	18	16	
	it										1	5								0	6	6	
	em											1	1		2		2			0	6	6	

Table 45 Pre/post difference in strategy use by TG2 [Refusals]

Strategy (TG2)		Pre-DCT										Post-DCT										T1	T2	D
Category	Type	S2	S3	S4	S5	S6	S7	S8	S9	S10	S2	S3	S4	S5	S6	S7	S8	S9	S10	T1	T2	D		
Alerter	ag			2							1	2	4	2	1		2	1	2	2	15	13		
	fn	2		2							3		2	1	4		2			4	12	8		
	sn		4	2	3	1			1			3	2	1	1		2	3		11	12	1		
Supportive	pf	1	1			2	1				11	4	1	3	6	4	3	2	5	5	39	34		
Move	ep			3	2	1		15			5		8	5	2	2	20	1	2	21	45	24		
	ps						1			1					3		8	2	1	14	13			
	ga			1									1		2	1	4		1	8	7			
	apol	1	3	1	9	4	4		1	1	2	3	3	3	5	4		3	3	24	26	2		
Head Act	al	4	5	5	6	16	3	11	1	1	11	14	12	14	18	9	21	6	14	52	119	67		
	gr	32	50	23	32	24	25	13	16	12	30	52	20	31	29	31	27	28	30	227	278	51		
	ws		1		12		2			1	4	9	5	15	5	7	3	2	8	16	58	42		
	rg	15	19	14	14	14	19	2	14	8	14	15	13	9	13	13	5	18	22	119	122	3		
	np	23	10	25	21	15	18	11	9	8	23	11	21	14	9	15	8	17	17	140	135	-5		
Modification	sj		1		2	1		1			6	5	4	5	4	6	3	7	2	5	42	37		
	dt		1								1	2	2	2	1		1			1	9	8		
	it				2						1	1	1			2			1	2	6	4		

**Table 46 Pre/post difference in strategy use by TG3 [Refusals]**

Strategy (TG3)		Pre-DCT										Post-DCT										T1	T2	D
Category	Type	S2	S3	S4	S5	S6	S7	S8	S9	S10	S2	S3	S4	S5	S6	S7	S8	S9	S10	T1	T2	D		
Alerter	ag	2	1	4	1			1			6	5	4	3	6	4	4	5	3	9	40	31		
	sn		5	5	3				1			10	5	9	2			9	1	14	36	22		
	fn	3	1	4	1	5		2			11		3	2	5		8	1		16	30	14		
	si												1					2	3	0	6	6		
Supportive	ep	2		1	1	1		19			6	2	11	2	3		27	3	2	24	56	32		
Move	pf	2	1			1	1	2		2	9	6	3	2	9	1	3	1	7	9	41	32		
	ga								2		2	1	7	1	1	6	1	12		2	31	29		
	ps								1		1					13		6	2	1	22	21		
	des	1	1	1	9	1	1	1	1	4	4	3	4	8	3	3		3	3	20	31	11		
	apol	1	5	3	3	2	3			4	6	2	5	2	2	4	4		7	2	27	28	1	
Head Act	al	6	8	14	14	25	1	26	1	7	18	25	24	30	27	9	33	11	26	102	203	101		
	ws		1		11					1	4	9	5	16	9	9	1	6	16	13	75	62		
	gr	32	61	30	35	32	36	34	34	30	33	63	32	39	33	42	33	37	33	324	345	21		
	fa											1	1			2		2		0	6	6		
	np	25	11	29	23	8	23	7	26	22	28	10	23	15	14	18	6	23	15	174	152	-22		
	rg	15	25	16	14	15	22	2	23	23	12	15	10	9	12	9	2	14	14	155	97	-58		
	sg												2				1		1	0	4	4		
Modification	dt	1			1	1				1	5	5	6	5	7	3	6	4	5	4	46	42		
	sj	2					1	3	1	1	8	4	4	3	4	6	1	9	3	8	42	34		
	it											1		3	1	2		5	2	0	14	14		

**Table 47 Pre/post difference in strategy use by CG [Refusals]**

Strategy (CG)		Pre-DCT										Post-DCT										T1	T2	D
Category	Type	S2	S3	S4	S5	S6	S7	S8	S9	S10	S2	S3	S4	S5	S6	S7	S8	S9	S10	T1	T2	D		
Alerter	tr		1							1		2		2				2		2	6	4		
	sn		4	3	2	1				3		5	3					2		13	10	-3		
	fn	7		2		1		2			2		1		2		1			12	6	-6		
Supportive	ep	2		4	2	1		18	1	1			3	3		1	15		29	22	-7			
Move	des	2	1	1	5	1	1		1	1			8		2				13	10	-3			
Head Act	ws				10	2	2						6		4				14	10	-4			
	np	26	12	29	24	18	22	11	24	23	26	13	31	25	18	18	14	19	21	189	185	-4		
	rg	22	34	23	19	21	25	3	30	30	21	30	19	17	21	23	1	31	30	207	193	-14		
	al	6	10	7	11	14	3	16	2	4	3	5	4	5	9	1	15	1	1	73	44	-29		
	gr	34	53	28	39	35	37	38	36	31	27	51	21	32	32	32	30	34	33	331	292	-39		

### 5.3.1.2 Types and Frequency of Complaint and Disagreement Strategies Used

Significant improvement in the use of speech act strategies in the post-DCT was also confirmed with each TG in each of Situations 11 through 13. Table 48 through Table 50 summarise the use of strategies for each situation that increased/decreased the most in the post-DCT or the strategies used frequently both in the pre- and post-DCT.

Situation 11 describes the scene where a person complains to his/her friend who bought salt instead of sugar. Looking at Table 48, we find such strategies as using *#ag*, *#gr*, *#ga* (*gratitude*), and *#pf* (*pause fillers*) increased, while the use of *#plmd* and *#want*, direct expressions for request making, used as directive act strategies for complaints speech acts decreased significantly by all TGs in the post-DCT.

On the other hand, the use of some strategies has not observed much improvement. For example, *#any* (*annoyance*) was used frequently both in pre- and post-DCT. As for CG, the overall use of strategies decreased in the post-DCT, while the use of *#ga* and *#cld* increased only slightly.

Table 49 contrasts the results of the pre- and post-DCT in Situation 12. For this situation, participants were asked to describe the situation where students asked their professor to change the research method as they thought the method did not work satisfactorily. It shows that TGs increased the use of certain strategies significantly in the post-DCT, but the CG did not. For example, *#ag* and *#tr* (*title or role*, e.g., Professor) of Alerters increased almost four times in TG3, and *#prb* (*statement of problem*, or pointing out of facts) of complaint supportive moves increased from 8 to 22 in TG3. The use of *#ps* (*statement of positive*, e.g., ‘Thank you for your suggestion.’) and *#ta* (*taken agreement*, e.g., ‘OK, I understood your idea.’) also increased significantly in all TGs. Some strategies appeared for the first time in the post-DCT, such as *#ga* and *#sd* (*self defence*, e.g., ‘If I was wrong, please correct me.’), and *#wwdi* (e.g., *I was wondering if you could...*). From the above, it can be said that more diversity of strategy types was employed by the TGs, adding new types of strategies in the post-DCT but not by the CG.

**Table 48 Types and frequency of request/complaint strategies used in Situation 11**

Strategy		TG1							TG2						
		S11 (Pre)		S11 (Post)		T1	T2	D	S11 (Pre)		S11 (Post)		T1	T2	D
Category	Type	(1)	(2,3)	(1)	(2,3)				(1)	(2,3)	(1)	(2,3)			
Alerter	ag	4	1	12	1	5	13	8	3	1	11	1	4	12	8
	fn	16	9	18	5	25	23	-2	13	11	17	12	24	29	5
Supportive Move	(Request) apol	1	3	1	7	4	8	4	2	3	2	4	5	6	1
	pptr			2		0	2	2			6		0	6	6
	gr	24	14	22	8	38	30	-8	21	12	31	21	33	52	19
	(Refusal) pf	1		1	7	1	8	7		7	1	11	7	12	5
	ga		6		1	6	10	4		6	1	16	6	17	11
Head Act	(Request) cld	6		11		6	11	5	5		11		5	11	6
	wmn			4		0	4	4	1		3		1	3	2
	plmd	4				4	0	-4	3				3	0	-3
	cny	5		1		5	1	-4	6		4		6	4	-2
	(Refusal) rg		1		5	1	5	4		2	1	3	2	4	2
	(Complaint) hin				4	0	4	4				1	0	1	1
	any		15		13	15	13	-2		20		21	20	21	1
	(Complaint Directive Act) rre(wmn)		1		3	1	3	2				4	0	4	4
	rre(cld)		3		4	3	4	1		7		8	7	8	1
	rre(cny)		6		1	6	1	-5		4		1	4	1	-3
rre(plmd)		5			5	0	-5		7		3	7	3	-4	
Modification	dt			2	2	0	4	4			8	4	0	12	12
	sj				3	0	3	3		1		8	1	8	7
	ca		2	1	2	2	3	1			1	3	0	4	4
	hg					0	0	0				5	0	5	5
	it		2	1		2	1	-1			1	5	0	6	6
	em	6	13	10	8	19	18	-1	7	4	4	7	11	11	0
	rp		3			3	0	-3		5			5	0	-5

Table 48 (Continued)

Strategy		TG3							CG						
		S11 (Pre)		S11 (Post)		T1	T2	D	S11 (Pre)		S11 (Post)		T1	T2	D
Category	Type	(1)	(2,3)	(1)	(2,3)	T1	T2	D	(1)	(2,3)	(1)	(2,3)	T1	T2	D
Alerter	fn	22	13	29	18	35	47	12	22	13	17	11	35	28	-7
	ag	5	1	17		6	17	11	10	1	7	2	11	9	-2
Supportive Move	(Request) gr	27	12	36	25	39	61	22	32	15	21	16	47	37	-10
	pc			4		0	4	4					0	0	0
	apol	4	3	3	5	7	8	1	1	7	4	6	8	10	2
	(Refusal) ga		4		18	4	18	14		7		13	7	13	6
	pf	2	11	4	15	13	19	6		5		7	5	7	2
	(Complaint) cftr		6		16	6	16	10		5		2	5	2	-3
Head Act	(Request) cld	4		15		4	15	11	5	1	8	1	6	9	3
	wdib			3	1	0	4	4					0	0	0
	want	4	1	1		5	1	-4	2	1	1		3	1	-2
	plmd	6	2	2		8	2	-6	8	0	7	2	8	9	1
	cny	12		2		12	2	-10	10	1	12		11	12	1
	(Complaint) any		21		26	21	26	5		27		29	27	29	2
	(Complaint Directive Act) rre(wmn)				4	0	4	4		1			1	0	-1
	rre(cld)		7		10	7	10	3		2		9	2	9	7
	rre(cny)		5		1	5	1	-4		6		6	6	6	0
	rre(plmd)		3		1	3	1	-2		8		10	8	10	2
Modification	dt		1	9	10	1	19	18					0	0	0
	ca			5	5	0	10	10					0	0	0
	em	5	3	6	6	8	12	4	8	14	4	12	22	16	-6

**Table 49 Types and frequency of complaint/disagreement strategies used in Situation 12**

Strategy		TG1									TG2									
		S12 (Pre)			S12 (Post)			T1	T2	D	S12 (Pre)			S12 (Post)			T1	T2	D	
Category	Type	(1)	(2)	(3)	(1)	(2)	(3)				(1)	(2)	(3)	(1)	(2)	(3)				
Alerter	ag	9			16			9	16	7	4			16	2		4	18	14	
	tr	9			12		2	9	14	5	4			13			4	13	9	
Supportive Move	(Request)	pptr	1			9			1	9	8	1	2	10			3	10	7	
	(Refusal)	ga				9			0	9	9		1	1		2	2	2	0	
		pf		4		8	4		4	12	8		1	1		9	4	2	13	11
		ps		3		2	6	3	3	11	8		1	1	7	6	5	2	18	16
	(Complaint)	evd			1	2		3	1	5	4			2		3	2	3	1	
		opn	5		10	8		10	15	18	3	3	2	10	8	2	12	15	22	7
		slt	1		1	2		3	2	5	3			2	6	2	2	2	8	6
		prb	2		12	11		5	14	16	2	2	1	7	4	3	9	10	16	6
		st	3			5			3	5	2				3		1	0	4	4
		js	2	3	7	2	5	6	12	13	1	2	7	6		7	9	15	16	1
		scn		9		0	8	2	9	10	1				7		5	7	5	-2
	(Disagreement)	akp	1	4	2	3	1	1	7	5	-2			6		4	1	6	5	-1
		ta		1			4	4	1	8	7			2		6	11	2	17	15
Head Act	(Request)	wwdi				5			0	5	5					2	0	2	2	
	(Refusal)	gr	1	2	4	1	2	1	7	4	-3						0	0	0	
	(Complaint)	dpp	14		1	6			15	6	-9	17		16		1	17	17	0	
	(Complaint Directive Act)	rre(wwdi)				3		1	0	4	4			2			0	2	2	
		rre(des)	4						4	0	-4	1					1	0	-1	
	(Disagreement)	clm		4			7	1	4	8	4		3	3		9	1	6	10	4
	nep		7			4		7	4	-3				6		4	1	6	5	-1
	nac		10			6		10	6	-4	1	10			7	1	11	8	-3	
Modification	sj	22	3	7	22	8	11	32	41	9	19	4	5	27	7	8	28	42	14	
	sd				5		1	0	6	6							0	0	0	
	dt					1	1	0	2	2				7		4	0	11	11	
	pm						1	0	1	1				1		3	0	4	4	
	us			1	2			1	2	1				4			0	4	4	
	it	2	1	4	1		1		7	2	-5			1			0	1	1	

(Continued)

Table 49 (Continued)

Strategy		TG3									CG									
		S12 (Pre)			S12 (Post)			T1	T2	D	S12 (Pre)			S12 (Post)			T1	T2	D	
Category	Type	(1)	(2)	(3)	(1)	(2)	(3)	T1	T2	D	(1)	(2)	(3)	(1)	(2)	(3)	T1	T2	D	
Alerter	tr	5		1	27		1	6	28	22	6			9		1	6	10	4	
	ag	6			25			6	25	19	8			9			8	9	1	
Supportive Move	(Request)	pptr	1			17		1	18	17							0	0	0	
		des	1		1			1	2	1	-1	1	1	1	5		4	3	9	6
	(Refusal)	ga				1	11	3	0	15	15					1	0	1	1	
		ps		1		3	5	3	1	11	10	1			1	1	1	1	2	1
		pf		2	1		4	4	3	8	5	1		1		4	2	2	6	4
	(Complaint)	opn	4	1	4	13	4	15	9	32	23	4	3	8	5	1	6	15	12	-3
		prb	1	1	6	12	3	7	8	22	14	2		10		2	10	12	12	0
		js	10	22	18	10	32	20	50	62	12	1	5	7	2	10	9	13	21	8
		akp	2	1	1	4	4	4	4	12	8	2	4			5	1	6	6	0
		st				5			0	5	5	2		1	3		1	3	4	1
		slt	5		3	3		8	8	11	3	1		4	4		8	5	12	7
		sld	4		2	2			6	2	-4	3		1	1	1		4	2	-2
	(Disagreement)	scn		8			4		8	4	-4		5	1	2	10	1	6	13	7
		ta		1	5		9	7	6	16	10		3	2		3	6	5	9	4
Head Act	(Complaint)	dpp	17			12		17	12	-5	18		1	28		1	19	29	10	
	(Complaint Directive Act)	rre(wmn)				3		0	7	7				1			0	1	1	
		rre(wdib)				3		0	5	5							0	0	0	
		rre(wwdi)				4		0	4	4							0	0	0	
		rre(wwip)				4		0	4	4							0	0	0	
		rre(cld)	1		1	1		2	2	0	4			8		2	4	10	6	
	(Disagreement)	clm		1			7	1	7	6		1		2			1	2	1	
		nac		11		1	11	11	12	1		10		1	6		10	7	-3	
		nep		6			7	6	7	1		9		12			9	12	3	
		qu					1	0	1	1		1		5			1	5	4	
		ne	1					1	0	-1		2		4	2		2	6	4	
		cs		4				4	0	-4		2		4			2	4	2	
Modification		sj	21	4	4	33	12	1	29	55	26	26	5	10	30	7	13	41	50	9
		dt				6	2	2	0	10	10					1	0	1	1	
		us				1	2	1	0	4	4						0	0	0	
		pm	1			1			1	1	0				2	2		0	4	4

**Table 50 Types and frequency of complaint/disagreement strategies used in Situation 13**

Strategy		TG1									TG2									
		S13 (Pre)			S13 (Post)			T1	T2	D	S13 (Pre)			S13 (Post)			T1	T2	D	
Category	Type	(1)	(2)	(3)	(1)	(2)	(3)	T1	T2	D	(1)	(2)	(3)	(1)	(2)	(3)	T1	T2	D	
Alerter	ag	1			11			1	11	10	1			7			1	7	6	
	si				4			0	4	4							0	0	0	
Supportive Move	(Request)	gr	4	5	2	13	11	4	11	28	17				6	2		0	8	8
		pptr				1			0	1	1				3		1	0	4	4
	(Refusal)	des	9		1	1		1	10	2	-8	15	4		11	1	3	19	15	-4
		ga				8	3	1	0	12	12				6	3	1	0	10	10
	(Complaint)	ps	3			4	5	1	3	10	7				2		1	0	3	3
		pf		1	2		4	5	3	9	6		3		1	5	5	3	11	8
		js		7			14	1	7	15	8		14	1	1	23	8	15	32	17
		opn			1	2		2	1	4	3			2	2	4	3	2	9	7
	(Disagreement)	akp	1			1		3	1	4	3	4	1	1	1		1	6	2	-4
		ta			1		1	2	1	3	2			2		6	2	2	8	6
Head Act	(Request)	wwdi				6			0	6	6						2	0	2	2
		wwip				5			0	5	5				3		1	0	4	4
	(Refusal)	cld	4			1		2	4	3	-1	2			6	2		2	8	6
		ws		1		1	5		1	6	5					3		0	3	3
	(Disagreement)	rg		10		1	9	1	10	11	1		8	1		12	2	9	14	5
		np		4			5		4	5	1		2			5	1	2	6	4
		nac		7			10		7	10	3		11	1		9	1	12	10	-2
		als		1	9		1	8	10	9	-1			10		2	17	10	19	9
nep		2					2	0	-2		1			4	1	1	5	4		
Modification	sj	1	1		2	3	2	2	7	5				5	2	1	0	8	8	
	em					4	1	0	5	5					4	1	0	5	5	
	it	2			3	3		2	6	4				2	6	1	0	9	9	
	dt				1	2		0	3	3				9	1	3	0	13	13	
	pm							0	0	0				1	2	1	0	4	4	

(Continued)

**Table 50** (Continued)

Strategy		TG3									CG									
		S13 (Pre)			S13 (Post)			T1	T2	D	S13 (Pre)			S13 (Post)			T1	T2	D	
Category	Type	(1)	(2)	(3)	(1)	(2)	(3)				(1)	(2)	(3)	(1)	(2)	(3)				
Alerter	ag				5	1		0	6	6	1			1	1		1	2	1	
	sn				3	2	1	0	6	6							0	0	0	
Supportive Move	(Request)	gr	1			7	3		1	10	9	4	9	1	1	14	2	14	17	3
	(Refusal)	pc				5			0	5	5						0	0	0	
		des	7		2	4	1	1	9	6	-3	11		1	13		5	12	18	6
		ga				5	6	1	0	12	12						0	0	0	
		pf			2	1	4	6	2	11	9		1	1		6	2	6	4	
		ps				3	2		0	5	5			1			1	0	-1	
	(Complaint)	js	2	24	2	4	46	8	28	58	30		8	1		18	1	9	19	10
		opn			1	3		4	1	7	6			2	1		2	2	3	1
		slt		1			2	3	1	5	4			2	1		3	2	4	2
		if			2	1	1	4	2	6	4			2	1		1	2	2	0
		akp	2		2	1		6	4	7	3	3		1	3		5	4	8	4
	(Disagreement)	ta					3	1	0	4	4		2		1	1	2	2	0	
		lm						4	0	4	4			1		1	1	1	0	
Head Act	(Request)	cld				6			0	6	6	3			1		3	1	-2	
		wmn				4			0	4	4						0	0	0	
		wwip				3		1	0	4	4						0	0	0	
		cny	2						2	0	-2				5		0	5	5	
		want	6			1			6	1	-5	4	1		4		5	4	-1	
	(Refusal)	rg		7		1	12	2	7	15	8		5	1		9	2	6	11	5
	(Disagreement)	als			9		3	17	9	20	11		1	12		1	23	13	24	11
		nac		8			14	1	8	15	7		12			17	2	12	19	7
		nep		5			6		5	6	1		4			15	2	4	17	13
Modification		sj	1		1	5	7	4	2	16	14	1	1	1			3	0	-3	
		dt				6		1	0	7	7				1		0	1	1	
		it			2	4	4		2	8	6						0	0	0	
		ca				2	1	1	0	4	4				1		0	1	1	

The increased use of strategies and types of expressions was complemented by an expanded range of strategies, as shown in (5) provided by a participant. The pre-DCT utterance in (5a) includes direct negative expressions such as ‘I don’t think [...] good’. No device to mitigate the negation was brought into play, other than basic attention getting. On the other hand, when it came to the post-DCT in (5b), tactical devices were observed being employed such that attention getting, self-introduction, and initiators, acted in concert with more indirect expressions. For example, the overt, ‘Do you have any time?’ became couched by adding, ‘I was wondering if...’ in the post-DCT.

(5) a: (Student:) Hi, Professor. I don't think your experimental method is good. My idea is more effective and better than yours. (Pre-DCT)

b: (Student:) Excuse me, professor. I'm Taro Yamamoto. Do you have time? If you have time, I was wondering if you [could] listen [to] my idea. (Post-DCT)

Similarly, in (6a), the direct expression, ‘not good’, or ‘would like you to change’ was used, and only one mitigation device, ‘I think’ (#sj) appeared. However, in the post-DCT (6b), more mitigation devices are at play, such as ‘Do you have time now?’ (#pptr), ‘If I’m wrong, please correct me.’ (#sd), #sj, and ‘I was wondering if you could...’ (#wwdi).

(6) a: (Student:) Excuse me. I think that your method is not good, so I would like you to change your method. (Pre-DCT)

b: (Student:) Excuse me. Do you have time now? If I'm wrong, please correct me. I think that the experiment can't do by this method, so I was wondering if you could change the method. (Post-DCT)

The data above show that Japanese EFL learners in the TGs learned various types of mitigation devices, such as indirect Head Act strategies, supportive moves and modifications, and they proactively used these strategies in the post-DCT.

Situation 13 describes the scene where a person complains about the price of the product. For this situation, the use of #js (*justification*), #als (*alternative suggestions*), in

addition to #ag, #gr, #ga, #ps, #sj, increased (for the entire list, please refer to Appendix U - Appendix X).

### 5.3.1.3 Borrowing from Request and Refusal Strategies to Make Complaints and Disagreements

The primary objective when designing the questions in part II of the DCT (Situation 11 - 13) was to gain insight into how learners apply the learned request and refusal strategies to produce compliant and disagreement speech acts. For ease of explanation in this matter, it will help if I again use the data in Table 48 through Table 50.

Table 49 indicates that in Situation 12 (1) of the post-DCT, the use of strategies, such as #prb (statement of the problem or pointing out the facts) by the TGs, increased significantly. While #prb is categorised as a complaint strategy by DeCapua (1989, 1998), it also corresponds to the #gr of request and refusal strategies. Hence, it is plausible to assume that the increased use of #prb in complaint making is attributable to learning about the use of #gr in the making of requests and refusals. The use of #pptr (e.g., ‘Do you have time?’) strategy by the TGs also increased significantly in the post-DCT. The #pptr was used as a preparatory statement to initiate complaint making. Although the #pptr is categorised as a request supportive move in Blum-Kula et al. (1989), as pointed out by (Trosborg, 1994), it is also used as a mitigation device in other speech acts such as complaints. Thus, it is reasonable to assume the increased use of #pptr in making a complaint in the post-DCT resulted from the student borrowing from learned knowledge of how to politely start making a request.

Next is the examples suggesting the application of request and refusal strategies to produce disagreement speech acts. Table 49 illustrates the use of disagreement strategies in Situation 12 (2), where a professor was expressing his disagreement with a student who asked him to change his research method. Results from the content analysis suggest that students in TGs seemed to have learned how to initiate expressing disagreement in some way. For example, they learned to say something positive, such as #ga (gratitude) and #ps (positive statement), to initiate a conversation. These strategies were originally categorised as supportive moves for refusal making (see Beebe et al., 1990), as listed in

Table 49 but were used for disagreement making. In the sense of saying something positive, *#ta* (taken agreement) plays a similar role. Therefore, the increase in the use of this strategy can be related to the increase in the use of *#ga* and *#ps* in the post-DCT. The example in (7) from a participant exemplifies one such case.

- (7) a: I think your method will not work. I believe it will success [succeed] in this method. (Pre-DCT)
- b: Thank you for your idea. I understand your method. However, I think my method is greater than you [yours]. (Post-DCT)

In (7a), a direct negative expression, ‘your method will not work’ is used and no preparatory expressions are used, while in (7b), *#ga* and *#ps* are used before expressing disagreement. This likewise can be attributed to their learning of how to use indirect Head Act strategies to mitigate the face-threatening of the addressee when making requests and giving refusals. The CG, on the other hand, did not show such a systematic improvement in the use of disagreement strategies in the post DCT as in Table 49.

Table 51 through Table 53 indicate the strategies used in Situation 12, categorised by the types of speech acts. The data in these tables provide supporting evidence to what I have discussed on the TGs so far. For example, in addition to the increase of Alerters in the post-DCT, supportive moves for request and refusal making, as well as complaint and disagreement making, have increased. Furthermore, the use of indirect Head Act strategies for request and refusal making, as well as complaint and disagreement making, have increased. Regarding Situations 11 and 13, much the same trend in the use of strategies in the pre- and post-DCT was observed across the other TGs (For more detailed information on the data from Situation 11 and Situation 13, see Appendix Y).

**Table 51 Distribution of strategies used in Situation 12 (1)**

S12 (1) Strategy	TG1									TG2												
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
<b>Alerters</b>	18				30				18	30	12	8				28	1			8	29	21
<b>Request SM</b>		2	2			15	1		4	16	12		1	1	2		10	1	1	4	12	8
<b>Request HA (D)</b>									0	0	0				1					1	0	-1
<b>Request HA (I)</b>			1			1	7		1	8	7						3			0	3	3
<b>Refusal SM</b>						2			0	2	2					6	1			0	7	7
<b>Refusal HA (I)</b>									0	0	0	2								2	0	-2
<b>Complaint SM</b>		4	8	4		13	14	7	16	34	18	2	1	5		4	8	11		8	23	15
<b>Complaint HA (D)</b>			15				6		15	6	-9			17			16			17	16	-1
<b>Complaint HA (I)</b>									0	0	0						1			0	1	1
<b>Complaint DA (D)</b>				2					2	0	-2			6						6	0	-6
<b>Complaint DA (I)</b>				9				7	9	7	-2			8				17		8	17	9
<b>Disagree HA (D)</b>									0	0	0		2							2	0	-2
<b>Modification</b>			23	1		8	15	3	24	26	2		19	1		6	26	10		20	42	22
<b>Non categorised</b>		1		1		5	1		2	6	4			1						1	0	-1
<b>Total</b>	18	7	49	17	30	44	44	17	91	135	44	8	5	41	23	28	27	56	39	77	150	73

*(Continued)*

**Table 51** Continued

S12 (1) Strategy	TG3									CG												
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
<b>Alerters</b>	11	2			54	1			13	55	42	13	1			16	1		1	14	18	4
<b>Request SM</b>		1		2		18	2		3	20	17			1	1			1	5	2	6	4
<b>Request HA (D)</b>			1	3			1		4	1	-3			1						1	0	-1
<b>Request HA (I)</b>			1	1			4		2	4	2			1		1	1	1		1	3	2
<b>Refusal SM</b>	1					4			1	4	3	1	1							2	0	-2
<b>Refusal HA (I)</b>									0	0	0									0	0	0
<b>Complaint SM</b>		3	11	14		16	23	10	28	49	21		4	3	9		4	8	7	16	19	3
<b>Complaint HA (D)</b>			17				12		17	12	-5			18			28			18	28	10
<b>Complaint HA (I)</b>									0	0	0			1						1	0	-1
<b>Complaint DA (D)</b>				3					3	0	-3							4		0	4	4
<b>Complaint DA (I)</b>				3			1	17	3	18	15				11			1	14	11	15	4
<b>Disagree HA (D)</b>							1		0	1	1						1			0	1	1
<b>Modification</b>			19	4		8	27	7	23	42	19		24	3		1	26	6	27	33	6	
<b>Non categorised</b>						1	2		0	3	3							1		0	1	1
<b>Total</b>	11	7	49	30	54	48	73	34	97	209	112	14	6	49	24	16	7	66	39	93	128	35

Note: Al = Alerter, Pr = Pre-Head Act, Hd = Head Act, Pt = Post-Head Act, SM = Supportive Moves, HA = Head Act, DA = Directive Act, (D) = Direct strategy, (I) = Indirect strategy

**Table 52 Distribution of strategies used in Situation 12 (2)**

S12 (2) Strategy	TG1									TG2												
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
<b>Alerters</b>									0	0	0					3				0	3	3
<b>Request SM</b>	1	1				1	1		2	2	0						1		1	0	2	2
<b>Request HA (D)</b>	1	1					1	1	2	2	0			1						1	0	-1
<b>Refusal SM</b>	6		1		18	5			7	23	16		3				17			3	17	14
<b>Refusal HA (D)</b>		2				3			2	3	1		1					3		1	3	2
<b>Refusal HA (I)</b>					1				0	1	1						1	3	1	0	5	5
<b>Complaint SM</b>								1	0	1	1									0	0	0
<b>Disagree SM</b>	5	4	9		8	3	7		18	18	0	0	3	1	22	0	13	4	17	26	34	8
<b>Disagree HA (D)</b>			18				11		18	11	-7			19				12		19	12	-7
<b>Disagree HA (I)</b>		4				7			4	7	3		4					9		4	9	5
<b>Modification</b>	2	4	1		5	8	2		7	15	8			4			3	6	3	4	12	8
<b>Non categorised</b>	1	1				1			2	1	-1									0	0	0
<b>Total</b>	0	16	35	11	0	32	40	12	62	84	22	0	6	25	27	3	35	37	22	58	97	39

Table 52 Continued

S12 (2) Strategy	TG3									CG													
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D	
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				
Alerters									0	0	0									0	0	0	
Request SM					1				0	1	1	1	1	1				1	3	1	-2		
Request HA (D)								2	0	2	2			2					2	0	-2		
Refusal SM		3			19	1			3	20	17				6				0	6	6		
Refusal HA (D)			3				2	1	3	3	0								0	0	0		
Refusal HA (I)					1				0	1	1	1							1	0	-1		
Complaint SM									0	0	0								0	0	0		
Disagree SM	0	8	8	19	0	15	13	30	35	58	23	2	2	17	4	6	23				21	33	12
Disagree HA (D)			21				18		21	18	-3		24			26					24	26	2
Disagree HA (I)			2				9		2	9	7		2			8					2	8	6
Modification		2	1	2			8	8	5	16	11	1	1	4	1	3	4				6	8	2
Non categorised							1		0	1	1					1					0	1	1
<b>Total</b>	<b>0</b>	<b>13</b>	<b>35</b>	<b>21</b>	<b>0</b>	<b>36</b>	<b>52</b>	<b>41</b>	<b>69</b>	<b>129</b>	<b>60</b>	<b>0</b>	<b>5</b>	<b>30</b>	<b>24</b>	<b>0</b>	<b>11</b>	<b>44</b>	<b>28</b>	<b>59</b>	<b>83</b>	<b>24</b>	

**Table 53 Distribution of strategies used in Situation 12 (3)**

S12 (3) Strategy	TG1											TG2										
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
<b>Alerters</b>					2				0	2	2									0	0	0
<b>Request SM</b>	2	3	1		1			1	6	2	-4	2	1			2	1			3	3	0
<b>Request HA (D)</b>			3				1		3	1	-2		2	1						3	0	-3
<b>Request HA (I)</b>							2		0	2	2		1	1			7	2		2	9	7
<b>Refusal SM</b>					5	2			0	7	7		1	2		9				3	9	6
<b>Refusal HA (I)</b>					1				0	1	1									0	0	0
<b>Complaint SM</b>	17	11	6		14	17	5		34	36	2	16	15	2		21	16	9		33	46	13
<b>Complaint HA (D)</b>			3						3	0	-3		1				1			1	1	0
<b>Complaint DA (D)</b>			1						1	0	-1		1	1			1			2	1	-1
<b>Complaint DA (I)</b>			2	1			5	1	3	6	3		1				2	1		1	3	2
<b>Disagree SM</b>	1	4			4	1	1		5	6	1	1		1		11				2	11	9
<b>Disagree HA (D)</b>									0	0	0					1	1			0	2	2
<b>Disagree HA (I)</b>					1				0	1	1		4				2			4	2	-2
<b>Modification</b>	4	7	2		4	10	2		13	16	3	4	2			5	6	5		6	16	10
<b>Non categorised</b>	1				2				1	2	1		1			1				1	1	0
<b>Total</b>	0	25	34	10	0	34	38	10	69	82	13	0	23	30	8	0	50	37	17	61	104	43

(Continued)

**Table 53** Continued

S12 (3) Strategy	TG3									CG												
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
<b>Alerters</b>	1				1				1	1	0				1				0	1	1	
<b>Request SM</b>		1			2				1	2	1	1		1		2	3		2	5	3	
<b>Request HA (D)</b>					1				0	1	1	1	2			2	1		3	3	0	
<b>Request HA (I)</b>							1		0	1	1					2			0	2	2	
<b>Refusal SM</b>	1				10				1	10	9	1			2	2			1	4	3	
<b>Refusal HA (I)</b>									0	0	0								0	0	0	
<b>Complaint SM</b>	17	14	9		32	27	5		40	64	24	19	16	1	19	22	9		36	50	14	
<b>Complaint HA (D)</b>			2						2	0	-2		2	1		3			3	3	0	
<b>Complaint DA (D)</b>			2						2	0	-2						1		0	1	1	
<b>Complaint DA (I)</b>			3				9	1	3	10	7		2			4	1		2	5	3	
<b>Disagree SM</b>	5				7				5	7	2	2			6				2	6	4	
<b>Disagree HA (D)</b>							2		0	2	2				1	1			0	2	2	
<b>Disagree HA (I)</b>									0	0	0					1			0	1	1	
<b>Modification</b>	3	1			7	6	2		4	15	11	4	5	1	11	4	1		10	16	6	
<b>Non categorised</b>				1	1	2			1	3	2	1					1		1	1	0	
<b>Total</b>	1	27	22	10	0	61	47	8	60	116	56	0	29	27	4	1	41	44	14	60	100	40

What is common to Table 48 to Table 50 is the use of *#ag* (attention getting) of Alerters significantly increased in the TGs, but not in the CG. Since Alerters can be used in numerous types of speech acts, it seems reasonable to conjecture to put this learning of Alerters down to crossover from their learning of strategies for making requests. Similarly, the use of modifications such as *#dt* (downtoner), *#sj* (subjectivizer), and *#ca* (cajoler) by the TGs also increased, but such significant change was not observed with CG. The data speaks convincingly of the potential to reapply knowledge learned regarding making requests and refusals, using it to help tailor adaptations to make complaints and disagreements. The crossover or reapplication of learned knowledge by the TGs becomes starkly apparent when results are set beside those of the CG. Such learners' ability of knowledge extension is considered one of the major sources of developing learners' pragmatic knowledge.

#### 5.3.1.4 Analysis on Grammatical Usage

Although the remit for this study stops short of any particular focus on learner developmental grammar, the content analysis did throw up some data worth noting in this regards. First, in terms of grammar usage, several scores in the post DCT actually showed negative growth. Bearing in mind that no specific instruction in grammar was given to the participants during the research, had this been the focus, I would have hypothesised no significant difference in grammatical usage. What then, could account for this unexpected outcome? By carrying out an error-analysis, it was noticed that grammatical errors increased relative to the increased use of formulaic expressions of higher quality. In other words, the more strategies the participants used, the higher quality of expressions they used; and the higher quality of expressions used, the more prone they became to making grammatical mistakes. To look at some examples, consider the greater frequency of grammatical errors found in response (a) than in response (b):

- (8) a1. 'I was wondering if you copy this.', meaning 'I was wondering if you could copy this.'  
a2. 'I'd appreciate if you copy this.', meaning 'I'd appreciate it if you could copy this.'

a3. 'Would you mind copy this?', meaning 'would you mind copying this?'

b1. Please copy this.

b2. Can you copy this?

On reflection, since the participants in this research were at an intermediate level of English proficiency, the grammatical errors ought not to have surprised observers so much. At this level, after all, learners' grammar has been shown to be still largely unconsolidated.

Another interesting point came to light regarding the incorrect use of *could*:

(9) a. Could you come to work this weekend?

b. Oh, sorry I could not come Saturday. I could help you on Sunday.

With some learners, this incorrect usage was consistently found. Some students seemed to incorrectly understand the use of the past tense, mistaking *could* as predominantly a politeness marker, and thinking they could always express politeness by using the past tense. No definitive explanation was explored, though I conjecture that this could be a case of learning a formulaic expression by rote without fully understanding the grammatical function.

This type of grammatical error does importantly imply something contrary to skill acquisition theory's basic premise that learners' progress is in one direction only - from the declarative to the procedural knowledge stage. It supports DeKeyser's claims that the development of knowledge may also occur in parallel, not necessarily in one direction from declarative, and gives as evidence of this, the case where learners achieved fluency in uttering formulaic expressions while remembering grammar rules (see also Lyster & Sato, 2013). On further examination, it turns out that the data presented above did not in fact preclude this possibility. While students seemed to have achieved fluency in uttering formulaic expressions such as *Could you ...?* or *I was wondering if you could...*, they were still trying to remember grammar rules, though sometimes incorrectly. They uttered these phrases fluently but with some grammatical mistakes, as shown earlier in (8a) 1 - 3.

It is not clear whether they made grammatical mistakes because they learned formulaic expressions without fully understanding the grammatical functions, or simply

because they forgot the grammatical rules, or some other reasons. The important point is that these data suggest that the development of procedural knowledge may indeed occur in parallel with the development of declarative knowledge in L2 learning. In other words, it is necessary to confirm learners' understanding of grammatical rules where it is appropriate, even if the focus of instruction is on the development of communicative ability.

### **5.3.2 Analysis on Data from Sub Instruments**

In the previous sections, quantitative and qualitative analyses on the results of the pre- and post-DCT were reported. This section presents a qualitative analysis of the data from instruments such as ODCT, roleplay, questionnaire on pragmatic instruction and other sources (the notebooks students filled in during class, instructor's reflective journal and e-mails) to support the findings from the DCTs and also explores possible explanations for the results obtained in the quantitative analysis.

#### **5.3.2.1 Analysis on Data from ODCT**

The ODCT was conducted in order to obtain more authentic or naturalistic conversational data. It was conducted before and after pragmatic instructional intervention as a part of the semester final term on oral performance in L2 by TG1 participants. After the explanation on a given context by instructor, the conversation between the instructor and participants were held for a minute. Each student's oral interaction with the instructor was recorded to allow for careful evaluation. The recorded utterances were transcribed and analysed using similar criteria used for WDCT.

In assessing recorded data from the pre- and post-ODCT, I found several notable differences between their performance in the pre- and post-ODCTs. For example, for many students, it took a little while to initiate his/her conversation in responding to the instructor's questions in the pre-ODCT. They often stammered and hesitated to speak out about their thoughts. However, when it came to the post ODCT, it was noticeable that,

overall, they initiated their replies with much more confidence, and did so far more fluently – the hesitations and stammering being largely absent.

In addition, in the pre-DCT, even in mid-utterance, students would frequently pause, or repeat the same or similar words several times; searching and trying to retrieve English words to express their thoughts. By the time the post-DCT took place, they were able to paper over retrieval delays by smoothly resorting to using formulaic expressions to sustain the conversation.

In the pre-ODCT they had tended to use limited types of request or refusal strategies, such as ‘Please + V’... or ‘Can you + V...?’ or direct negations such as ‘I can’t’ or ‘I don’t want to’. In the post-ODCT, the students employed more mitigation devices, for instance, by starting with an apology, explaining their situation, giving reasons and making alternative offers.

With regard to offering up information, students in the pre-DCT could be characterised as reticent. They tended to provide limited information, restricted themselves to only a few turns, and with a limited range of gestures and expressions. Post-DCT students proffered adequate or even ample information, extended comfortably through several turns, and used more complex and sophisticated expressions - such as, ‘It would be much appreciated if...’ or ‘Would it be possible if you could...?’

In the post-ODCT, students appeared able to find and retrieve the relevant information they needed that much more quickly; so much so, that sustained fluency was attained, at least in chunks, and this, in turn, meant they had room to consider adding additional information.

As can be gauged from the above, most of the findings are similar to those from WDCTs. Nevertheless, it is worth mentioning a few points specific to the ODCT results. One of them is that students made many more grammatical mistakes in the ODCT than in the WDCT. For example, they frequently used the present tense form of a verb, regardless of the tense of the event they were describing. They also made a lot of mistakes in the use of functional words such as prepositions. This could be down to students being, in some cases, nervous about speaking face to face. It is possible that their working memory was fully occupied with finding words they wanted to say, and thinking about how to speak and respond quickly. If so, that would proscribe the use of working memory for doing other things, such as checking grammatical rules, or considering different types

of strategies with more complex and sophisticated expressions.

In the post ODCT the use of formulaic expressions increased, and it was by this means that participants could more comfortably initiate a conversation and then sustain it with contributions of richer information. They could even utter complex phrases such as, ‘I was wondering if it were possible...’ or ‘Please correct me if I am wrong’, smoothly and with (relatively) less effort, helping reduce the demands on working memory such that it could be freed up sufficiently to do other things, such as planning what to say next.

These findings from ODCT results support complementary findings from WDCT regarding the development of learners’ processing ability. More comfortable and confident conversational performance was made more sustainable by richer information, itself made possible by less effort being necessary to make requests or refusals; these observations in the post-ODCT serve as evidence of the development of the learner’s processing ability.

### **5.3.2.2 Analysis on Data from Roleplay**

The data from roleplay activities were collected and analysed to obtain additional authentic or naturalistic conversational data. Roleplaying activities were conducted after giving participants in the TGs basic instruction on pragmatics for a practical exercise. Participants of each TG were divided into several groups to do tasks and activities related to the roleplay in a group. Through the activities, three types of data were collected: a draft of the scenario prepared by each group before the actual roleplay was performed, a recording of the discussion that took place when the scenario was created, and a recording of the actual roleplay.

Table 54 reports the types and frequency of the strategies commonly used for request and refusal making by each group when drafting their respective scenarios. As the table indicates, in the request making, *attention getting* (#ag), *grounder* (#gr), *preparator* (#pptr) such as ‘Do you have a time?’ were most often used, especially by the TG1. The #wwdi (*I was wondering if you could...*) was also used frequently by the TG1 followed by the TG3. The TG1 used #wwdi in four situations and the TG3 in two out of eight situations.

**Table 54 Types and frequency of request/refusal strategies used by group**

Speech act	Strategy		TG1	TG2	TG3	Total
<b>Request</b>	Alerter	ag	7	4	2	<b>13</b>
		si	3	0	1	<b>4</b>
	Supportive Move	gr	7	5	2	<b>14</b>
		pptr	6	3	2	<b>11</b>
	Head Act	wwdi	4	0	2	<b>6</b>
		cld	0	4	0	<b>5</b>
	Modification	dt	1	4	0	<b>5</b>
<b>Refusal</b>	Supportive Move	ps	2	2	0	<b>4</b>
		ga	0	0	2	<b>2</b>
	Head Act	gr	6	8	6	<b>20</b>
		np	5	3	5	<b>13</b>
		rg	1	6	2	<b>9</b>
		ws	4	1	1	<b>6</b>
		al	2	1	3	<b>6</b>
	cld	1	3	0	<b>4</b>	
	Modification	dt	2	2	1	<b>5</b>

The examples were given below, excerpted from the drafts written by one group in the TG1 for Situation 2, 6, and 8. It should be noted that some excerpts containing grammatical mistakes and/or spelling mistakes are quoted here as they occurred without making corrections. Some cases featured information by which an individual could be identified, such as an individual's name being included, in which case it was replaced either with a pseudonym or tagged as anonymous. The same was applied to all the excerpts quoted below.

**(1) Situation 2 from TG1**

Excuse me. Do you have a time? I'm Taro Yamada. I take English class on

(#ag)

(#pptr)

(#si)

Monday. This class is grammar-focused. But I'm not good at communicating.

So, I want to practice communication in class. I was wondering if you could

(#wwdi)

change the class is communication focused.

### (2) Situation 6 from TG1

Excuse me, Professor. Do you have a time? I'm taking your English lesson on Monday. The homework you giving me was a report about octopus, but I wrote about squid. I know that was my fault, but I did my best to this report. I was wondering if you could check my homework.

When the request was declined...

I know it's my fault. However, I used many reference material and time so please may I have a chance? / I will do the report of octopus by next week. So, if you don't mind, please read this squid report too.

### (3) Situation 8 from TG1

Hi, Mr Tanaka. Do you have any time now? I was wondering if you could overtime work to make up handouts today. That's because I'm going to join the big important competition next week, but the handouts used in the competition doesn't complete.

When the request was declined...

This competition is [an] important competition that took on the company. If you don't mind, do you think you could overtime work please?

The expression, 'Could you possibly...?' was also used quite frequently, being found in seven situations and mostly by the TG2. The TG2 used limited types of strategies repeatedly, whereas the TG1 and TG3 used a variety of request strategies for Head Act other than *#cld*. For example, the TG1 used *#wwdi* in four out of eight situations as mentioned above, and the TG3 used expressions more sophisticated than *#cld* such as *#glif* (I'd be grateful if you could V) or *#wwip* (I was wondering if it were possible for you to +V). The use of limited types of politeness strategies by the TG2 may correlate with their lower proficiency in English than the other two TGs, as shown in Section 5.1.1. They have limited declarative knowledge they can utilise when producing speech acts.

Next, regarding the use of refusal strategies. *#gr* was the most frequently used by all three TGs. *#ws* was also used frequently by the TG1, in four out of eight situations. At

the same time, however, the direct strategies such as *#np* were also frequently used. This is consistent with the results of post-DCT, indicating the frequent use of *#np*. The followings are the scenarios prepared for making a refusal by a group of the TG1 and TG2.

**(4) Situation 2 from TG1**

That's a good idea. Of course, I know, communication is so important. But the Ministry of Education, (Culture, Sports, Science and Technology) offers us to teach grammar mainly. So I couldn't change my course. If you want, I will teach you separately after school or during break time.

**(5) Situation 8 from TG1**

If I was free today, I wish I'd work overtime. But, I have very important appointment. So, I'm sorry, I couldn't do. I can make handouts tomorrow. If you don't mind, I do by tomorrow evening.

**(6) Situation 9 from TG2**

Thank you for your invitation. I'd love to go, but I have my valued sister's wedding party. So I couldn't to go.

Another noticeable observation is the use of the past tense 'could' in the place where the present tense 'can' should be used, as shown in (4) through (6). The inappropriate use of the past tense was observed in four situations of roleplay scenario, which provides additional support to my discussion on the grammatical mistakes observed in the responses of DCT described in Section 5.3.1.4.

There were cases where serious face-threatening expressions were used, for example, the draft in (7) prepared by a group of TG3 for Situation 1, where a student was making a request to a professor who misunderstood the test date for a week. It contains phrases such as 'You are liar, shit.', 'You said so', or 'you have a big responsibility for this'. The draft in (8) prepared by a group to play the role of a professor in response to the student in (7), also indicates the use of strong expressions such as 'If you don't have, you can't get grade (author's note: 'If you do not take the test, you can not get a credit') and 'Study

hard’.

**(7) Situation 1 (Request) from TG3**

I heard the test is the week after next and you said so. You are liar, shit. I would appreciate it if you could do the test on the week after next. You said so, and then I have a plan on next week. You have a big responsibility for this.

**(8) Situation 1 (Refusal) from TG3**

Next week, we will have an important test. We have the test on that day every year. So, I’m sorry, but I can’t reschedule. If you don’t have, you can’t get a grade. Study hard.

Fairly offensive expressions were used in the drafts for other situations. For example, in response to the student who wrote a report on the wrong topic in Situation 6, a professor’s utterances, such as, ‘It’s your mistake not to check your deadline’, or ‘You are wrong’ were used in the draft.

As such, the tendency and features in regards to the use of request and refusal strategies and expressions observed in the drafts prepared for the roleplays were parallel in many parts to those observed in the responses of DCTs discussed in Section 5.3.1, giving supportive evidence to my discussion on the DCT results.

So far, I have shown the data from the drafts of the roleplay scenario. The data from the drafts alone, however, do not show how each group discussed and determined what strategies or expressions to be used or whether they were actually used in the roleplay. Therefore, in what follows, I will present the transcription from the recorded group discussions and roleplays to fill this gap.

Table 55 summarises the strategies discussed in the group. The table shows that in producing request speech acts, all TGs have discussed the use of *#ag*, *#pptr*, and *#gr* strategies for nearly half or more than half of the situations. The use of *#si* was discussed for a total of 6 situations. Furthermore, the use of formulaic expressions such as ‘I was wondering’ was discussed for nine situations. The most frequently discussed topic was how the participants could determine the contextually appropriate use of strategies. They were saying that they now learned about the politeness strategies and expressions they

could use but still were not so sure when to use them and in what context. They said they were not sure how far they should express politeness for each of the nine situations. Some others discussed this further, paying attention to the relationship between interlocutors.

**Table 55 Types and frequency of request/refusal strategies used during roleplay activities**

Speech Act	Strategy	TG1	TG2	TG3	Total
<b>Request</b>	Attention getting	5	5	3	<b>13</b>
	Self-introduction	3	2	1	<b>6</b>
	Preparator	6	3	4	<b>13</b>
	Grounder	6	3	5	<b>14</b>
	Relationship	1	3	2	<b>6</b>
	Formulaic expressions	3	4	2	<b>9</b>
	Politeness	2	3	4	<b>9</b>
<b>Refusal</b>	Attention getting	3	2	0	<b>5</b>
	Grounder	8	2	4	<b>14</b>
	Preparatory statements	5	2	1	<b>8</b>
	Alternative	3	2	4	<b>9</b>
	Relationship	4	1	2	<b>7</b>
	Politeness	4	2	4	<b>10</b>

Similarly, regarding the discussion on refusal making, the degree of politeness and the social relationship between the interlocutors were the key to discuss. For example, the TG1 discussed these matters in four situations. In addition, the use of *#gr*, preface (e.g., *#ps*, *#ga*), and *#al* was discussed for various situations. The actual discussions held by a group of TG2 are given in (9) (the parts in parentheses were added by the author to supplement the missing information).

**(9) Situation 3 (Refusal) from TG2**

Student #1 (S1): 「(という理由で) 変更できません」ということを Sorry から…

S2: それを丁寧に言う？

S1: うん。そう丁寧に言う感じ。でもこっち先生 (の役) だから、

S3: そんなに丁寧に言う (必要もないんじゃない) ……？

S1: そう、あんま丁寧に、下手に出過ぎなくてもいいかもしれない

(略)

S3: afraid は使わなくていい？'I'm afraid that…' 「残念ながらできません」とか。

まいつか、'Sorry'にする？

(略)

S3: 'I'm afraid...' そうだ、そうしよう。'I'm afraid I can't change schedule'

S1: 「あなたの予定をなんとか合わせることはできないの？」みたいな？

S3: I hope to... だけ？ 'I hope that I changed schedule...'

S2: で 'Could you change ...'

S3: 'Please change...'

S2: 'Please'でいくの？

S3: え？ 'Please' で 「～して下さい」でしょ？あ、いらんか

S2: Could you...? ぐらい... 丁寧にしとけば

S3: あ possibly 使ったら

S2: じゃあ Could you possibly 使おう

S3: え、なんか possibly 入れるとめっちゃ丁寧になるって

S1: めっちゃ丁寧にしておこうよ、もう。どんぐらいの関係性の生徒かわからないじゃん

S3: 'Could you possibly change your schedule?'

(略)

S1: We should start with 'sorry' to say, '(for this reason), I cannot change...'

S2: Do you say it politely?

S1: Yeah. We should say somewhat politely. But we are to play (the role of) a teacher, so...

S3: (Do we have to) say so politely...?

S1: Yeah, you may not have to be so polite. You don't have to condescend that much.

(Omitted)

S3: Do I have to use 'afraid?' 'I'm afraid that...' How about 'Unfortunately, I can't do it.'?

Would you like to make it, 'Sorry?'

(Omitted)

S3: 'I'm afraid...' Yes, let's use this. 'I'm afraid I can't change schedule'.

S1: How about 'Can't you manage to meet your schedule?'

S3: We only say 'I hope to ...' or 'I hope that I changed schedule...?'

S2: Then we say, 'Could you change...?'

S3: (How about) Please change...

S2: Do you go with 'Please'?

S3: What? 'Please,' right? Oh, don't you need it?

S2: (How about) Could you ...? We'd better be polite as much as saying 'Could you?'

S3: Oh, why don't we use, 'possibly'?

S2: OK, then, let's use 'Could you possibly...?'

S3: Yeah, if you use 'possibly', it will sound very polite.

S1: Yes, let's be very polite..., because we do not know what relationships the student has with the professor.

S3: 'Could you possibly change your schedule?'

(Omitted)

In Japanese culture, when the speaker is in a higher social position or older than the hearer, the speaker does not necessarily have to use polite language, even when the speaker wants to ask the hearer to do something. This is different from the English speaking culture, where the speaker tends to be polite when asking someone to do something, regardless of the difference in social position or age between the interlocutors. Following the Japanese tradition, this group thought in the beginning that they did not have to be polite as they were to play the role of a professor. However, as the discussion continued, they started changing their idea, and in the end, they chose to use the expression, 'Could you possibly', which they thought was more polite than the one they chose in the beginning. They also said that it would be safer to use polite expressions when the social relationship with the interlocutor was unknown.

The following discussions in (10) held by a group of TG3 reveal more clearly their idea on the Japanese tradition. They were discussing if they do not have to use polite language when playing a role of a professor.

**(10) Situation 1 (Refusal) from TG3**

S4: 'We have the test on the day every year...'

S5: これ自分が上（の立場）でしょ？先生だから敬語とか使ってなくない？

S4: そうだね

S6: でもさ、まえどっかでやったときさ、自分が上なのに、ほら上司だったのにさ

S4: あー、'I was wondering...'とか？

S5: でもじゃあなんでそんなさあ、「じゃあテスト受けてくれない」って（こちらが頼むような形で）言うの？だってさ出来なかったら成績貰えないわけだから、「受けなかったら（大学）院いけないよ？」とかさ

S4: あー。'If you...'

- S5: 'If your score...'
- S6: 'You can't get a good grade.'とか？
- S4: あとは 'Study hard.' とか。頑張って勉強しなさいとか。
- S4: 'We have the test on the day of every year...'
- S5: We are in the upper social position, right? ... since we play (the role of) a teacher, we don't use honorifics, do we?
- S4: That's right.
- S6: But when we saw a video or something before, even the person playing the role of boss (were very polite)...
- S4: Ah, (the person was using the expression something like) 'I was wondering...'?
- S5: But why do we have to say, 'could you please take the test' (like we were begging)? You see, if (the student) can't take the test, (the student) cannot get credit. (we should say something like), 'if you do not take the test, you can't go to graduate school.'
- S4: Ah. 'If you...'
- S5: 'If your score...'
- S6: (We say) something like 'you can't get a good grade?'
- S4: Then we say, 'Study hard.' or 'Do your best in studying'.

The discussion above showed that this group made the judgment, based on Japanese cultural mores, that they did not have to use polite expressions when playing the role of a professor responding to the student. This way of thinking was reflected in the roleplay performed by the group below.

**(11) Situation 1 from TG3**

- S7: Next week, we'll have an important test.
- S8: Excuse me. My name is Hanako Suzuki. I heard that you said the test is a week after next. So, I can prepare.
- S7: We have a test on that day every year. So, I'm sorry but I can't reschedule.
- S8: I'd appreciate it if you could do the test week after next.
- S7: If you don't have (one), you can't get (a) grade. Study hard.
- S8: You said so (the test will be next week). I have a plan on next week. I think you have a big responsibility for this... for what you said...

In this roleplay, probably because the teacher's remarks had a high degree of offence, the student side also talked back offensively, saying, 'I think you have a big responsibility for this... for what you said...'.

There were also a roleplay showing that teachers were facing students politely, as below.

**(12) Situation 6 from TG1**

S9: Professor, do you have a time?

S10: Yes.

S9: I'm Keiko Sato. I'm taking your English class on Monday. The homework you gave me was report about octopus, but I wrote about squid. I know that was my fault. But I did my best to do this report. So, I was wondering if you could check my homework.

S10: Did you write a report about squid? Let me check. You did very well. However, last week I said, I gave you a report about octopus... So..., I want a report about octopus... How about make a report about octopus next week? I will check the report.

S9: OK, thank you very much.

In this example, it can be confirmed that both the student's side and the teacher's side have successfully incorporated multiple learned strategies. The student's side played roles in almost the same manner as described in the earlier draft (2), but the teacher's side used more politeness strategies than those described in the draft, and overall, this group answered in a more polite manner than those described in the draft.

Finally, regarding the incorrect use of the past tense of *could* as in *I couldn't* instead of *I can't* in the refusal speech act described earlier, the same was observed with other groups during the roleplay activities and in the DCT's responses. The following transcription from a group discussion in (13) may give a clue to find out why the incorrect use of past tense was chosen by the participants.

**(13) Situation 8 Refusal from TG1**

S11: 「残業してくれない？」って聞かれるわけでしょ？

S12: それでそれを断らなきゃいけない

(略)

S11: 'I have very important appointment... So, I don't have...'

S12: 'So, I'm sorry...'

S11: 'I'm sorry'ってあんまり使わない方がいいって (インストラクターが) 言ってなかったっけ?

S12: そうだっけ?

S11: うん言ってた気がしなくもないんだな

S12: でもここ、I'm sorry 使うしかない?

S11: (テキストか何かで例文を探して) ああ、(I'm sorry という表現を) 使ってるか。じゃあ大丈夫だな。'I'm sorry...'

S12: 'I can't it.'

S11: (I) couldn't のほうがいいかな。

S12: あー、どうなんだろう。

S11: 過去とかそういうの関係なしに、丁寧にするために couldn't にしたほうがいいかなって。

S12: え? こういう場面でも could にするの?

S11: can より could のほうが丁寧なのは多分、普段からずっとそうだよ (だから、より丁寧にするために could にするのは問題ない)

S12: じゃあ、まあ、couldn't にしとこうか。

(略)

S11: (The subordinate was asked,) 'Can you work overtime?', right?

S12: So I have to turn it down.

(Omitted)

S11: 'I have very important appointment... So, I don't have...'

S12: 'So, I'm sorry...'

S11: Didn't the instructor say that we shouldn't use 'I'm sorry' too much?

S12: Is that so?

S11: Yeah, I feel like she has said so...

S12: But we have no choice but to use, 'I'm sorry' here, don't we?

S11: (Looking for an example in the text or something) Oh, they use it (the expression *I'm sorry*) here, don't they? Then it's okay.... 'I'm sorry ...'

S12: 'I can't (do) it.'

S11: '(I) couldn't' be better, I wonder...

S12: Ah, which one is better?

S11: Regardless of the past tense or anything like that, I thought it would be better to use 'couldn't' to be polite.

S12: Really? Do we use 'could' even in such a situation as this?

S11: It's probably always the case that 'could' is more polite than 'can' (so it shouldn't be any problem to use 'could' to make it more polite).

S12: OK, then, let's use 'couldn't'.

(Omitted)

From the conversation above, it can be assumed that the participants inappropriately employed the knowledge they learned from request making, such knowledge of using the past tense can be more polite than using the present tense to produce a refusal speech act as in 'I couldn't change my course.' in (4), 'I'm sorry, I couldn't do.' in (5), and 'I couldn't [to] go.' in (6). Or it could be because the participants learned idiomatic expressions such as 'Could you...?' by rote without understanding that the past tense is used to express politeness, as discussed in Section 5.3.1.4.

These examples show that the participants have acquired various elements of pragmatic knowledge, but some of the knowledge is still imperfect or not proceduralised. The problem is well described in the student's remarks below:

S13: 最初に準備していた時は文法だったり内容だったり、ちゃんとその時は very polite な 構文とか使えていたんですけど、だんだんと会話が熱くなるにつれて、だんだん準備していたものからずれてくると、表現が、もともと身についていたものがやっぱりどうしても出てくるというか…

S13: When I was preparing the scenario, I could produce very polite speech acts by considering the grammar and the content, but as the conversation got heated up, what I said gradually deviated from what I was preparing in the draft. Maybe this was because the expression that came up in my mind first had dripped out of my mouth.

The current study focuses on the developmental process of pragmatic knowledge of low intermediate L2 learners, rather than their speaking ability per se (which is beyond the scope of this study). I will not discuss further on this topic except to say that the fact that the participants cannot make good use of their pragmatic knowledge when it comes to speaking is tied up with their ability to control the load on their working memory, something that is very much the concern of the current study.

Beneficial the discussion practice through roleplays was at helping students enhance their awareness of L2 pragmatic features. I noticed that students shared with each other

what they had noticed from their own interactions, their interactions with the teacher, textbooks, and their reviewing of relevant videos on politeness. I observed that students proactively utilised what they noticed and learned in their roleplays and other verbal activities throughout their EFL learning.

The second is the data from group discussion. The content analysis in the previous section indicated that the use of expressions in the Alerters and Pre-Head Act parts had increased. The following utterances, extracted from the group discussion in preparation for the roleplay, may shed some light on the motive for increasing the use of strategies in Alerters and the Pre-Head Act:

S14: When we ask someone to do something politely in English, we should say something before initiating the request. We should not go straight to requesting, as we learned from the video we saw.

S15: Under English speaking culture, they talk very politely, even asking their subordinates to do something.

S16: I still don't know exactly the difference in the degree of politeness expressed by different types of politeness expressions. For example, how different in politeness degree it is by using 'May I open the window?' or 'Could you open the window?' Although I understand, starting 'Would it be possible to...' or 'I was wondering if you could...' is the most polite way to say, but still not very clear how I should select the one the most appropriate in a given context.

From what students were discussing here, we can reasonably infer that they had already learned how to engage in conversation in terms of knowing how to organise information, how to select contextually appropriate politeness strategies, and that they were aware of potential cultural differences in the sense of politeness. All these are consistent with findings from DCT results.

### 5.3.2.3 Analysis on Data from Questionnaire

This section reports on the results of the questionnaire conducted at the end of the current research. The purpose of conducting the questionnaire was to find out how student participants felt about receiving pragmatic instruction, and in particular, what facets of that instruction, they most felt they derived benefits from. The results of the questionnaire are reported below in Table 56 through Table 59. The number of valid responses was 84 out of 85 participants in the TGs. Table 56 shows the responses of Q1-Q6 subdivided into two types, with Q1-3 and Q6 questioning about receiving pragmatic instruction, while Q4 and Q5 asked learners about their awareness of pragmatic features of English.

**Table 56 Statistical results of the questionnaire (Q1-Q7)**

Question	Answer
<b>Q1. Have you become more interested in pragmatics (politeness) after having received pragmatic instruction?</b>	<b>N = 84</b>
a) Yes, I became very much more interested.	40
b) Yes, I became somewhat more interested.	44
c) No, I did not become more interested than before.	0
d) No, I did not become interested at all.	0
<b>Q2. Having learned about pragmatics (politeness), do you think the pragmatic instruction should be incorporated into English education at university?</b>	<b>N = 84</b>
a) I strongly agree.	55
b) I agree.	28
c) I disagree.	0
d) I strongly disagree.	0
<b>Q3. If you should encounter future situations where you have to communicate in English at work, do you think what you have learned about pragmatics (politeness) will be useful?</b>	<b>N = 83</b>
a) Very useful.	66
b) Useful.	17
c) Not much use.	0
d) Not useful at all.	0
<b>Q4. Having had lessons in pragmatics (politeness), is there any aspect you now especially pay greater attention to, when you communicate in English? If yes, please write down details of which aspect(s).</b>	<b>N = 84</b>
a) Yes	60
b) No	24

*(Continued)*

**Table 56 (Continued)**

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<b>Q5. Did you find anything particularly difficult when learning about pragmatics (politeness)? If yes, please describe the difficulties.</b>	<b><i>N</i> = 84</b>
a) Yes	62
b) No	22
<b>Q6. Having had pragmatic (politeness) lessons, did you find any change in understanding regular English lessons?</b>	<b><i>N</i> = 82</b>
a) Yes, I think I could understand the regular English lessons much better than before.	14
b) Yes, I think I could understand the regular English lessons a little better than before.	53
c) No, I think there is little change in my understanding of regular English lessons.	12
d) No, I don't think there was any change at all.	3
<b>Q7. Do you have any other comments regarding pragmatic (politeness) lessons?</b>	-

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The results of Q1-Q3 and Q6 revealed that the majority of participants had a positive view on learning pragmatics and found learning pragmatics useful to deepen their understanding of regular English lessons. For example, the respondents choosing *a* or *b* with regard to Q1, amounted to 84. The results from Q4 and Q5 showed that more than 70 percent of the respondents were attentive to English pragmatic features, firmly implying the effectiveness of instruction focusing on raising awareness in learners of such pragmatic features.

Table 57 and Table 58 report the results of content analysis on the descriptive responses for Q4 and Q5. The responses were grouped into five, based on the rating system employed when grading the WDCT. These included responses related to the scoring of the Amount of Information and Expression, which are associated with declarative knowledge, and responses related to the scoring of the Context, Organisation of Information, and Indirectness, which are associated with procedural knowledge. In these tables, the types of knowledge are indicated on the left, the knowledge categories the responses are associated with are in the centre, with examples of responses in the right, (the number in [ ] indicates the number of comments).

Table 57 reports the results of content analysis for the descriptive responses to Q4 – that being where the participants were asked to describe what they paid special attention to. The table indicates that the most frequent responses concerned Context. The next most frequent concern is Expression, especially that expression used to achieve politeness. The

responses are categorised according to knowledge type, and this is shown on the left. For example, the response in the table saying, ‘I became aware that *could* and *would* are not the most polite expressions’ is associated with the problem of declarative knowledge. The results showed that while 38 out of 61 respondents paid special attention to the questions related to procedural knowledge, 15 did so with regard to declarative knowledge.

**Table 57 Results of content analysis of the descriptive responses in Q4**

Type of Knowledge	Category	Example of Responses
Declarative knowledge [15]	Amount of Information [0]	-
	Expression [15]	<p>(1) Could, Would が一番丁寧な言葉ではないということに気をつけるようになりました。 I became aware that <i>could</i> and <i>would</i> are not the most polite expressions.</p> <p>(2) I was wondering ～が自分の中で定型となったこと。 Using ‘I was wondering...’ has become a standard for me.</p> <p>(3) 高校で習った丁寧なたのみ方は全く丁寧な言い方ではなかったので気をつけたい。 [2] I want to be careful about the polite expressions I learned in high school that was not actually a polite way of saying.</p>
Procedural knowledge [38]	Context [29]	<p>(4) 安易に please を使わないようになった [2] I stopped using ‘please’ easily.</p> <p>(5) I want you to ～を使わなくなった。 [3] I stopped using ‘I want you to...’</p> <p>(6) 日本語の会話とは意識が違うことを考える。 [3] I became aware of the difference between Japanese and English (in terms of politeness expressions).</p> <p>(7) 立場だけでなく、状況によって丁寧さの度合いを考えるようになった。 [16] I came to think about the degree of politeness depending not only on the position but the situation.</p>

(Continued)

Table 57 (Continued)

<b>Procedural knowledge [38]</b>	<b>Organisation of Information [7]</b>	<p>(8) すぐ頼むのではなく、その前に Attention getting などを入れる。[2] Not straight ahead to requesting but should say something such as attention getting to start a conversation with.</p> <p>(9) 本題に入る前に何個か会話に段階を入れる。[2] Before going into the main topic, some preparatory phrases should be inserted.</p>
	<b>Indirectness [2]</b>	<p>(10) バイト先で外国の方と話すときがあり、“please” や “could” をつけるだけでなく、ポライトネスを考えてもっと長く、ていねいに話している。 I had a chance to talk to foreigners when working part-time. I found them to speak politely by adding various phrases, not just adding ‘please’ and ‘could’.</p> <p>(11) 直接的な表現から 間接的に表現するようになりました。 I began using more indirect expressions than direct ones.</p>
<b>Others [8]</b>	-	-

Table 58 reports the results of content analysis on the descriptive responses for Q5 regarding the difficulty they found in learning pragmatics (politeness). As shown in the table, the respondents found the most difficulty with Context, followed by Expression. For example, some participants found it difficult to use different expressions according to the degree of respect. Some others found it difficult to figure out how polite they should be when asking their peers something. In short, the results showed that what the respondents found the most difficult when learning pragmatics were items associated with procedural knowledge (35 out of 62).

From the answer to the question in Q4, it can be seen that participants learned that the degree of politeness required differs depending on the situation and the position of the interlocutor and that, accordingly, the polite expression is used differently. On the other hand, from the answer to the question in Q5, we can assume that in the actual usage situation, they cannot make a full assessment as to what the most appropriate phrasing at that moment is. This can be because what is considered polite in Japanese society differs so much from established norms in English-speaking society, as in the answers in (7).

Table 58 Results of content analysis of the descriptive responses in Q5

Type of Knowledge	Category	Example of Responses
Declarative knowledge [14]	Amount of Information [0]	-
	Expression [14]	<p><b>Comments regarding English proficiency [7]</b></p> <p>(1) 日本語だと浮かぶことの単語がわからない I cannot find the English correspondence to the words that come to mind in Japanese.</p> <p><b>Regarding the politeness expressions [7]</b></p> <p>(2) 外国人にしか（ネイティブ）書けなそうな表現がある There are expressions that only native speakers can write.</p> <p>(3) 日本語から直訳では無礼になってしまう場合が多々ある点 There are many cases where it sounds rude if I translate directly from Japanese into English.</p> <p>(4) 今まで丁寧いな表現だと思っていたものが、そこまですていな表現ではなかった点 Regarding what was considered a polite expression was not so polite.</p>
Procedural knowledge [35]	Context [33]	<p><b>About the number and proper use of formulaic expressions [16]</b></p> <p>(5) どの場面で、どの表現をつかうのが最も適切なのか Regarding which expression is most appropriate in which situation.</p>
		<p><b>Judgment about the degree of politeness [8]</b></p> <p>(6) 目上の方は丁寧な言葉を使えば良いが、友達に頼む時にどこまで丁寧な言葉にすれば良いか難しかった。 To figure out how polite I should be when asking peers something, though I know it is fine, simply using polite expressions to the seniors.</p>

(Continued)

Table 58 (Continued)

		<p><b>Differences between Japanese and English / individual differences [9]</b></p> <p>(7) ネイティブの人が思う「人間どうしの距離」が私自身のものとしばしば一致しない。例えば上司であっても部下に対して丁寧をお願いするのにに対して、親しい友人どうしなら Can you ~? とか Please... で通じるというのうがどうもよく分からない。 The 'social distance between people' that native speakers understand is often inconsistent with mine. For example, even to his subordinates, a boss asks things politely, while to close friends, expressions, 'Can you...?' or 'Please... ' are used. I don't understand much about how to distinguish.</p> <p>(8) 人によってポライトの度合いが違う点 The point that the degree of politeness differs depending on the person.</p>
	<b>Organisation of Information [2]</b>	<p><b>Discourse structure [2]</b></p> <p>(9) 結局、構文を覚えなければいけない After all, I have to learn the structure of speech acts.</p>
	<b>Indirectness [0]</b>	-
<b>Others [13]</b>	<b>Others [13]</b>	<p><b>Speaking [5]</b></p> <p>(10) 文章では書けるが言葉に出してやりとりするのが難しい I can express my ideas in writing, but difficult to speak in English.</p> <p>(11) いざ話すとなると、すぐには出てこない When it comes to speaking, English doesn't come out right away.</p> <p><b>Grammar [2]</b></p> <p><b>Others [6]</b></p>

Table 59 reports the results of the content analysis of Q7. The total responses were classified into three types: those related to awareness, those addressing the effect of pragmatic instruction, and those that did not fit either of these two groups. The responses regarding the effect of pragmatics instruction were the largest in number (30 out of 52), among which 16 responses are associated with declarative knowledge and 7 responses are associated with procedural knowledge.

**Table 59 Results of content analysis of the descriptive responses in Q7**

Classification	Type of Knowledge	Example
<b>Awareness [13]</b>	<b>Declarative knowledge [6]</b>	<p>(1) 今まで自分が話していた英語はとても無礼な言い方をしていたことがわかった。英語を日本語訳にしてみても、とても失礼でした。could you - would you - よりも I was wondering if... などを使用した方が良いということを初めて知りました。断る際には、～したいんだけど… I'd like to go, but... と少し緩和させた言い方にしていたのは、相手のことを思いやっていたし、素晴らしい表現だと思いました。</p> <p>I found that the way I was speaking in English was very rude. I found it rude even when translating what I said in English into Japanese. It was for the first time that I learned using expressions such as I was wondering if... was better than could you - would you-. I also found it very nice to say something like 'I'd like to go, but ...' before refusing something. I thought using such softening expression was wonderful because it expressed the consideration of the other people.</p> <p>(2) ネイティブが使う語用論から知らない表現をたくさん発見できたので、ネイティブの回答を多くするとよいと思った。</p> <p>I found many pragmatic expressions I did not know before, from hearing what native speakers said, so I thought it would be good to use expressions more from what I learned from them.</p>
	<b>Procedural knowledge [3]</b>	<p>(3) 上司に対して丁寧と言う日本人とは違って、上司だけでなく同僚や部下にもポライトネスを使う英語圏の人々との文化の差を感じました。また、上司であるか部下であるかなどの立場だけでなく、どれだけ重要なことを頼むかなどの状況も考えなければいけないので、状況によってどれだけ丁寧に質問すればよいかが決まるということに初めて気づきました。日常生活を送る中でも例えば英語で海外ドラマを見るとときや外国人にはなしかけられたときなど、授業を受けて学んだポライトネスを使っているのかを気にするようになりました。普段の授業を受けていたら気づかない日本と英語圏の文化の違いや、ポライトネスの使い分けについて少しでも学ぶことができ本当に良かったです。</p> <p>I felt the cultural difference between the people in English-speaking countries who speak politely not only to their bosses but also to their colleagues and subordinates and Japanese people who talk politely only to their bosses. I also noticed for the first time that politeness is determined not only by social status but also depending on how important things you ask for. Even in my daily life, I began wondering if I was using the polite expressions I learned in class, for example, when I was watching foreign shows/films in English or when I was approached by a foreigner. It was really nice that I could learn about the cultural differences between Japanese and English-speaking people that I would not notice if I had taken only regular English classes.</p>

(Continued)

Table 59 (Continued)

<p><b>Effect of Instruction</b> [30]</p>	<p><b>Declarative knowledge</b> [10]</p>	<p>(4) この授業をうけるまで、英語で敬語というと、Could you ~? や Would you ~? くらいしかうかんでいませんでしたが、授業でこの2つでさえ、フランクな言いまわしだと知り、とても驚きました。社会にでたときに、気づかないうちに失礼な受けこたえをしてしまうことを考えると、とてもおそろしいので、今回このような機会でポライトネスについて学べたことは、将来にとっても大きいことでした。日本と英語圏を比べると、やはり文化の違いは大きいとこの授業を通して知ることができました。ありがとうございました。</p> <p>Until I took this class, honorific expressions in English I knew were limited to ‘Could you...?’ or ‘Would you...?’ I was very surprised to learn in the classroom that even these two expressions were very casual. It’s so scary to imagine I may say something rude without knowing it in the future when I go out into (the business) society, so it was great I could learn about politeness at this opportunity. I learned through this class that there is a big difference in culture between Japan and English-speaking countries. Thank you very much.</p> <p>(5) 今まで、日本語では間接的な表現を書けても、それを英語にすると、直接的な表現になっていました。しかし、この授業を受けていくうちに、様々な緩和表現を知ることができました。また、相手によって、適切な丁寧さの表現を使い分けることの重要性も学ぶことができました。今後、ポライトネスの授業で学んだことを、活かせるようにしたいです！</p> <p>Until recently, even if I could write an indirect expression in Japanese, once I translated them into English, it became a direct expression. However, while taking this class, I could learn various softening expressions. I also learned the importance of using appropriate, polite expressions depending on whom I talk to. In the future, I would like to make use of what I learned in the politeness class!</p>
	<p><b>Procedural knowledge</b> [2]</p>	<p>(6) リスニングよりもポライトネスの方がかけるということがわかった。英語がいままでよりすぐでくると思った。</p> <p>I found that I could command English better in writing about politeness than in comprehending spoken English. I thought I became able to retrieve English smoother than before.</p> <p>(7) 英語にこのような敬語表現があったことを知らなかったので面白かった。この授業を通じてポライトネスのスキルだけでなく、英作文の能力も高めることができると思った。</p> <p>I found it interesting to get to know that there was such an honorific expression in English as well. I thought I could improve not only my politeness skills but also my English writing skills through learning in this lesson.</p>

(Continued)

**Table 59** (Continued)

<b>Effect of Instruction [30]</b>	-	(8) これから役立つと思いました。ありがとうございます。 I thought what I learned would be useful for my future life. Thank you very much.
<b>Others [9]</b>	<b>Procedural knowledge [2]</b>	(9) 日本語との差や選択がむずかしい I found it difficult to understand the difference between Japanese and English and to select appropriate expressions in English.  (10) 話す時にどのポライトネスを使えばいいのかがすぐに判断するのが難しく感じた。 I found it difficult to immediately determine which politeness expressions to use when speaking.

All these descriptive responses matched the statistical results from Q1-5. They reflect the fact that almost all participants had a positive impression of receiving pragmatic instruction. In addition, the results of the content analysis revealed that what the respondents paid special attention to, or found difficult when learning pragmatics, was to perform speech acts appropriately in a given context. All these results are consistent with the results obtained from the DCTs reported in Section 5.2.2 and Section 5.3.1.

In summary, the results of the questionnaire confirmed that the majority of the participants had a positive image of learning pragmatics, believing such instruction to be useful to develop their proficiency in English. At the same time, the results show that some of the students are struggling with finding the right words when communicating in English. This suggests the need to further develop the declarative knowledge of the students.

What the participants found the most difficult to learn was the appropriate selection of speech acts in accordance with a given context, a task related to procedural knowledge. These responses accurately reflected the results from WDCT. The majority of students are still in the early stage of developing procedural knowledge. They still need more practice if they are to become better able to comprehend and thereby make more contextually appropriate selections of politeness strategies.

Finally, when it comes to the responses related to awareness, these also highlighted the usefulness of explicit pragmatic instruction if learners are to enhance their awareness of L2-specific pragmatic features, especially in the context of EFL learning. In a country such as Japan, where interaction with English L1 speakers is very limited, this dearth of

opportunities results in too little and too narrow engagement for students wishing to get practice at performing speech acts across a spectrum of contexts.

#### **5.3.2.4 Analysis on Data from Other Sources**

In addition to the previously mentioned data collection, I also collected data from instructor's reflective journal, students' notebooks, and students' e-mails to further support the findings from DCTs. I will present these data one by one to complement the discussion on the DCT Results. In addition, the PRT data obtained from English L1 speakers are presented at the end of this section.

First are the data from the instructor's reflective journal, which provides a variety of invaluable insights, especially regarding how students became interested and attentive to L2 pragmatic features such as politeness strategies. The instructor also mentioned that students proactively tried to make use of what they learned through pragmatic instruction to their daily learning of English in the EFL classroom, which helped them to improve their communicative ability in English. Some students seemed to have more confidence in conversing with her in English. Below are some examples taken from the journal that indicates what she observed. The first example from the journal is:

- (1) A student came up to me before starting the lesson, saying that he saw a Japanese journalist interviewing U.S. President Trump on TV, and felt he was rude because he went straight to the question without introducing himself (actually, the president then asked, who are you?).

Another example noted:

- (2) Many students said that they started to pay more attention than before to how English speakers say things, especially when they ask or refuse something on the video or TV. In addition, they said they wanted to try using the phrases they had learned. They felt easier starting the conversation in English than before as they had some repository of formulaic expressions that they could use to start with.

Another entry in the journal described the instructor’s impression of students’ learning outcomes:

- (3) Students became able to speak much more in English after receiving pragmatic instruction. It seemed they understood the sequential organisation of conversation, including how to initiate conversation, what to say, and in what order. In addition, having learned various formulaic expressions, they could employ these during the conversation. It seemed as if they were able to make quick access to some of the formulaic expressions; those they had memorized through substantial classroom practice.

The instructor commented on students’ progress in terms of speaking English:

- (4) Before instruction, there were quite a few students who hesitated to reply to me in English. There were even some students who did not say a word in English before, but now more and more students are managing to participate; trying and finding something to say in English.

The examples from the journal presented above in fact, indicate in support for the instruction observation on her students’ L2 pragmatic development.

Second are the data collected from the notes taken by the students in their notebooks. The notebook was prepared by the researcher to be used exclusively during pragmatic instruction. They were asked to fill in the notebook freely about the lesson — no instructions on how to fill it in were given. The speech act strategy described in the notebook and other pragmatic features were coded. The frequency of politeness strategies noted is summarised in Table 60, and the frequency of pragmatic features that were commented on is summarised in Table 61 below.

**Table 60 Frequency of politeness strategies noted by TGs**

Strategies		TG1 (N = 24)	TG2 (N = 29)	TG3 (N = 33)	Total (N = 86)
Alerter	si	12	0	28	40
	ag	6	0	16	22
	fn/sn	0	0	3	3

*(Continued)*

**Table 60** (Continued)

Supportive Move	ps	12	5	22	39
	ga	4	1	16	21
	sd	7	0	13	20
	gr	3	0	8	11
	pc	1	0	1	2
Head Act	wwdi	13	24	30	67
	wyb	13	20	28	61
	wmn	14	13	28	55
	al	13	7	14	34
	apif	1	5	6	12
	glif	2	5	0	7
	wwip	0	4	0	4
Modification	dt (possibly)	16	24	31	71
	dt	6	0	1	7
Others	preface	5	1	18	24
	I'm afraid	2	1	14	17

**Table 61** Frequency of the comments on pragmatic features noted by TGs

Types of Comment	TG1	TG2	TG3	Total	Example of Comments
#want	7	11	25	43	(1) want 人 to, ask 人 to は命令口調なのでなるべく使わない Better not use expressions such as 'want person to...' or 'ask a person to...' as it sounds imperative.
Structure	11	3	36	50	(2) いきなり質問から入らないことが大事 ex) 理由を述べる。時間がありますか?などと聞いてみる It is important not to go into a question directly. For example, state a reason, or ask such as 'Do you have time?'
					(3) 誘いを断る時、まず誘ってくれたことの感謝を言ってからなぜ断るのかという理由を話す When declining an invitation, we should start with conversation by thanking for the invitation and then give reasons for the decline.

(Continued)

**Table 61** (Continued)

Indirectness	3	0	12	15	(4) 主語を <b>you</b> にすることで物事の決定権を相手にゆだねる表現になる。 → 間接的な表現になり、polite 度が高まる By using ‘you’ as a subject, it can express the feeling of leaving a decision right to the other party. By doing so, it makes the politeness degree higher.
Modification	2	8	7	17	(5) 負担軽減: a bit, a little Reduction of imposition: a bit, a little
Polite to both superiors and subordinates	2	5	3	10	(6) 日本では、上司から部下へは、敬語を用いないことも多い → 欧米では、上司から部下へも丁寧な表現を使っている In Japan, honorifics are often not used by bosses to subordinates. In Europe and the United States, bosses also use honorifics to subordinates.
About the degree of Politeness	0	7	21	28	(7) 丁寧過ぎるのもよくない It is not good to be too polite.  (8) Situation に合った敬語を使う Use honorifics that match the situation.
About the relationship between the use of the past tense and the degree of politeness	0	2	6	8	(9) 過去形の方がより丁寧 Using past tense is more polite.

Note: If one person commented multiple times on the content in the same category, each was counted separately.

From Table 61, we can see that about 50 notes that described about the structure of the request and refusal making, for example, stating ‘not to go into a question directly’ as in (2) and ‘we should start with conversation by thanking for the invitation’ as in (3). I also found that quite a few students wrote that they should refrain from using ‘I want you to’ because it sounds too imperative. This is compatible with the finding from Kobayashi and Rinnert (2003), indicating this expression is often used by Japanese learners of English. It is speculated from this data that many students probably noticed after receiving pragmatic instruction that this expression was not as polite as they had expected.

It should be noted that just because it is written in a notebook does not mean that it is evident that the student has acquired these politeness strategies as a result of learning. However, it can be said that these data show what kind of pragmatic features the students paid more attention to during the lesson.

The last are the data from students' e-mails. Among the e-mails sent by the students to the instructor, I found many examples showing their improvement in English writing after receiving pragmatic instruction. At the beginning of the first semester, which was about six months before pragmatic instruction started, the instructor asked students to write an e-mail to inform the instructor that they would be absent from class to practice writing e-mails in English. Some students wrote an e-mail in English quite well, containing a good amount and quality of information, which was well-organised, including Alerters, Pre-Head Act, Head Act, and Post-Head Act, using contextually appropriate polite expressions. However, the majority of them were not good at writing. Some of them suddenly got into the main subject without preparatory statements, and their way of responding was not polite enough. After receiving pragmatic instruction, many students improved their writing e-mails by using various politeness strategies suggesting the effect of learning. Their improvements are shown in the following excerpts. Personally identifiable information such as the name of the individual or the class the individual attends was modified.

**Student 4:**

**(Pre instruction)**

I will miss the May 7 TG1 class.

**(Post instruction)**

Excuse me, professor. My name is Jiro Suzuki, belonging to department of Education. I take TG1 class at Monday 2 period. I'm sorry that I absented today's class. It's because I felt sick at that time. And I was wondering if you wait for submitting homework by next Monday.

**Student 5:**

**(Pre instruction)**

Dear Teacher Emiko Saeki.

Hello, my name is Akira Edogawa.

I am taking a class in Academic Writing of second period in Monday.

I'm sorry that I will be absent from this next class because I am sick now. I am careful of not catching a cold in test week.

Sincerely,

Akira Edogawa

**(Post instruction)**

\*Professor, Saeki\*

Hello, my name is Akira Edogawa.

I am taking your class in Academic Writing of second period in Monday.

I'm sorry that I was absent from this class today and will be absent from final exam of TG1 tomorrow because I have the flu. I was wondering if you could tell me the score in this case and what to do. I apologize for the long delay in my response.

Sincerely,

Akira Edogawa

Regarding Student 4, before receiving pragmatic instruction, the student wrote only a line of e-mail on the main subject, but after instruction, he could write much more with rich information, although there were some grammatical mistakes and typos. As the example above indicates, more sophisticated expressions such as 'I was wondering if...' were used in the e-mail asking for an extension of the deadline for submitting homework. The e-mail sent by Student 5 was written quite politely even before instruction, but after instruction, his writing improved further, incorporating expressions such as 'I was wondering if ...' or 'I apologize for the long delay in my response'. As seen above, the data collected from students' e-mails provide further supporting evidence to my discussion extended over the results of DCTs and other instruments.

Finally, PRT data obtained from English L1 speakers are presented in Table 62. They were similar to those reported in some previous studies, such as those of Aoki (1988),

Hill et al. (1986) and Tanaka and Kawade (1982), where the use of more indirect than direct expressions was reported. However, regarding ‘Please + V’, this study obtained a different result from the one reported in Aoki (1988). The English L1 speakers in my study judged this expression slightly higher than the indirect expressions such as ‘Can I ...?’, and ‘Could I ...?’. Taking a closer look at the standard deviation value,  $SD = 9.09$ , I found this significantly higher than the SD value of other expressions. I assume this was because the high scores given by four participants affected the mean score. In other words, this value may not represent the value generated by the L1 English speakers as a whole. In addition, ‘Please + V’ is normally categorised as a direct head act, while ‘Can I ...?’, and ‘Could I ...?’ as indirect. Thus, ‘Can I ...?’, and ‘Could I ...?’ is normally judged higher than ‘Please + V’ in terms of politeness. Hence, it would be more plausible to follow the order proposed by Aoki in terms of ‘Please + V’.

**Table 62 Results of politeness ranking task**

Rank	Expression	<i>M</i>	<i>SD</i>
1	I was wondering if it were possible for you to + V.	26.00	2.59
2	I’d be grateful if you could + V.	23.71	3.30
3	Would it be possible to + V?	22.36	3.85
4	Is there any chance you could + V?	21.79	5.97
5	I was wondering if you could+ V.	21.43	5.95
6	I’d appreciate it if you could + V.	21.43	6.51
7	Would you mind if I + V?	19.29	3.65
8	I wonder if you could + V.	19.07	5.64
9	Would you mind V + ing?	18.29	3.75
10	Would you be able to + V?	17.86	3.58
11	May I + V?	17.50	6.41
12	Do you think you could...?	17.50	3.58
13	Do you mind if I + V?	16.14	5.30
14	Is it possible to + V?	16.00	4.44
15	Is it all right if you ...?	15.50	3.38
16	Do you mind V + ing?	15.50	3.60
17	Please + V.	15.36	9.09
18	Could I + V?	12.57	5.31
19	Could you + V?	11.43	5.04
20	Would you + V?	10.21	4.47
21	Can I + V?	10.14	5.68
22	I would like to + V.	9.14	4.60
23	Can you + V?	7.93	4.65
24	Will you + V?	7.43	4.03
25	Let me +V. (e.g., Let me borrow your pen.)	3.86	2.10
26	I want to V. (e.g., I want to borrow your pen.)	3.64	2.44
27	I want you to V. (e.g., I want you to lend me your pen.)	2.64	1.44
28	V. (e.g., Lend me your pen.)	2.29	2.58

PRT data were used to create the bubble charts in Figure 30 and Figure 31 to compare the use of request formulaic expressions by Japanese participants in the pre- and post-DCT.

#### **5.4 Summary of the Chapter**

This chapter reported the results of quantitative and quantitative analyses on the use of politeness strategies before and after pragmatics instruction. First, the results of pre- and post-DCT by the TGs and the CG were compared to show that the TG improved their pragmatic ability by receiving instruction. Then, in determining how and in what way the TGs improved their pragmatic ability, I looked closely into the change in their use of politeness strategies before and after instruction and reported the results. The descriptive/inferential statistical results revealed that while the TGs improved the amount and quality of expressions used in request and refusal making significantly, they improved only slightly regarding the contextually appropriate use of the strategies. Similar results were reported on complaint and disagreement making.

Following the quantitative results, I reported the qualitative findings to elaborate on what way the TGs improved the use of politeness strategies. I conducted the content analysis where the strategies used were coded to capture the entire picture of their use, and reported the results indicating that the TGs increased the use of mitigation devices such as grounder, preparator and alternative. They also increased the types of strategies and expressions they used. For example, they used expressions such as ‘I wish I could help’ and ‘terribly’ of intensifiers for the first time in the post-DCT. In concluding, I argued that this increased use of the strategies in types and frequency is an indicator of the development of knowledge aspect of pragmatic competence by the TGs.

In addition to the findings from DCT results, I reported the qualitative findings from other instruments such as, ODCT in 5.3.2.1, Roleplay in 5.3.2.2, the questionnaire in 5.3.2.3, and some other sources such as instructor’s reflective journal and students’ notebooks in 5.3.2.4. All these were shown to be complementary in support of the quantitative and qualitative findings from the results of the DCTs.

## Chapter 6: Discussion

This Chapter discusses the results of the quantitative and qualitative data analyses presented in Chapter 5. It now answers the research questions presented in Chapter 1. The research question that this study set out to investigate asked how Japanese EFL learners develop their pragmatic competence, particularly their knowledge and processing ability to produce contextually appropriate speech acts. This chapter now assesses whether and to what extent, the findings bear out the hypothesis. In order to do this more comprehensively, I have found it easier to parse the research question into two research sub-questions, and will address each in turn.

### 6.1 Findings for Research Sub-question 1

The primary research question concerned how Japanese EFL learners develop their pragmatic competence in the classroom context, the first sub-question (SQa) asked was:

**SQa.** Do learners improve the production of request and refusal speech acts after receiving pragmatic instruction? If yes, what are the indications of learners' development?

The research results from DCT Part I presented in Chapter 5 indicate that Japanese EFL learners in the TGs had achieved significant improvement in their pragmatic (declarative) knowledge and processing ability (procedural knowledge) to produce request and refusal speech acts after receiving pragmatic instruction.

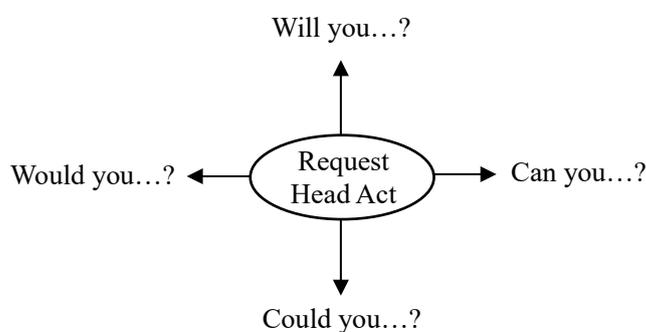
Their development of declarative knowledge was confirmed by the increased amount and quality of request, and refusal strategies used, and the development of processing ability was confirmed by the increased score given to the learners' judgment on context, degree of indirectness and organisation of speech act sequences in the post-DCT.

As for the amount of information, the use of Alerters and Pre-Head Act increased significantly for requests, as did the use of Pre-Head Act and Post-Head Act for refusals,

while in the pre-DCT participants tended to jump straight into the main topic without any introductory statement, which was reported as characteristic with Japanese EFL learners in the previous research (Iwai & Rinnert, 2001; Rinnert & Iwai, 2003). Specifically, with regard to request making, the use of Alerter strategies such as *attention getting*, *self introduction*, or supportive move strategies such as *grounders* (giving or justifying reasons or explaining the situation), *preparator* (e.g., ‘Do you have time?’), and *getting a pre-commitment* (e.g., ‘Would you do me a favour?’) has increased as indicated in Table 40 through Table 42. Regarding refusal making, supportive move strategies such *gratitude* (‘Thank you for your invitation.’) or *statement of positive* (e.g., ‘I think your proposal is good.’), or *pause fillers* (e.g., uh..., well...) has increased as shown in Table 44 through Table 46 in Section 5.3.1.1.

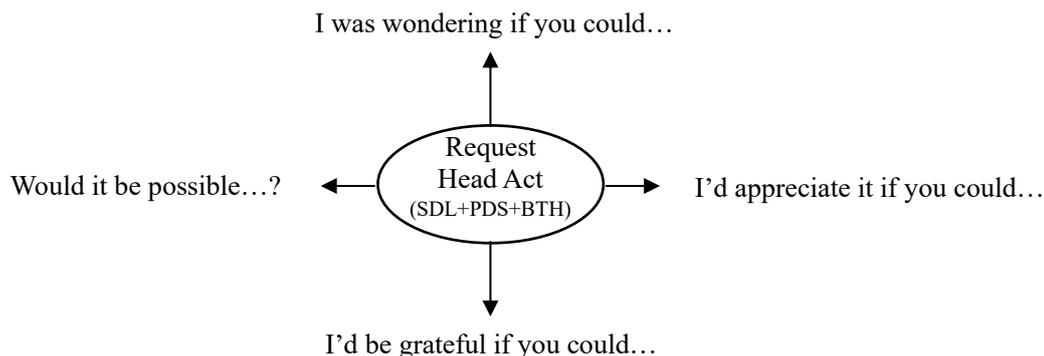
These increases were by no means accidental, but because learners understood these strategies are necessary to produce appropriate speech acts, as students’ remarks in a questionnaire in Table 57 or their notebooks in Table 61 indicate. We can also confirm that their use of strategies was contextually appropriate, as Figure 26 and Figure 27 indicate. This means, learners not only acquired new strategies or declarative knowledge but could make an appropriate judgement on the use of the knowledge in context.

For example, regarding the Head Act, the results of pre-DCT given in Figure 30 indicate, participants used only a limited amount and type of formulaic expressions, such as ‘Could you...?’ and ‘Would you...?’ Or they could not select expressions in accordance with a given context. This is the same as the results reported by Iwai and Rinnert (2001), Sasaki (1998), and Miura (2017). In this case, a declarative chunk they kept stored in memory was something like the one shown in Figure 32. The semantic network formed by a chunk is very simple.



**Figure 32 A chunk encoding request making pre instruction**

After receiving instruction, on the other hand, the participants became aware of the importance of selecting expressions (formulaic expressions) in accordance with a context, such as the social distance between interlocutors and the burden of the task. This sociopragmatic information was added to the semantic network represented by a chunk post instruction, which would be as in Figure 33.



**Figure 33 A chunk encoding request making post instruction**

Regarding the chunk in Figure 33, the most appropriate formulaic expressions for the current situation are chosen in line with whichever production rule is executed. Moreover, which production rule is selected from the competing production rules depends on the utility value assigned to the rule (Anderson, 2007), as described in Section 3.1.3 and Section 3.1.4. This utility value changes after production rules are executed. If executing the production rule yields the correct result, its utility value increases, making it more likely that the production rule will be selected the next time. Conversely, if the correct result is not obtained, the utility value is revised downward. In this case, another production rule with a higher utility value will be more likely to be selected. Whether a correct result is obtained is judged from the reaction of the listener or the feedback from the teacher, etc. This study, following the ACT-R model, assumes that it was through learning and repeated practice of producing request and refusal speech acts, the participants could expand the reservoir of declarative knowledge and update utility value.

In the pre-DCT, the participants of this research tended to use direct request expressions such as ‘Copy this paper.’ or ‘Please + V’. The frequent use of such direct request expressions has been pointed out as characteristic of Japanese English learners in

many previous studies (e.g., Abe & Sezawa, 2011; Akutsu, 2012; Fukazawa & Fordyce, 2005; Iwai & Rinnert, 2001; Nakano et al., 2000; Ohyama, 2006; Ohyama et al., 2009; Taguchi, 2006). Fukushima (1996) and Kobayashi and Rinnert (2003) pointed out that the use of such direct expressions led to utterances being overly direct. In the post-DCT, on the other hand, they used a variety of lexically as well as syntactically sophisticated request expressions such as ‘I would appreciate it if you could...’ or ‘Would it be possible...’. This point was supported by what the participants frequently discussed in the group when preparing for roleplaying or the student’s particular remarks during the discussions shown in Section 5.3.2.2. It was also confirmed by the questionnaire results in Table 57 (example 1) and in what the instructor’s reflective journals described. As the response of the questionnaire indicates, participants became aware that *could* and *would* are not the politest expressions. Or, as the response in example 2 said, after receiving instruction, they could use new (for them) formulaic expressions such as ‘I was wondering if you could...’

At the same time, however, as Figure 30 indicates, there was a so called overuse of ‘I was wondering if you could...’, regardless of context, which caused the deduction of points in the post-DCT. Ishihara and Cohen (2010, 2015) explain this as an overgeneralisation of the L2 pragmatic norm. A student’s statement during a roleplay activity, ‘let’s be very polite... because we do not know what relationships the student has with the professor’ (Section 5.3.2.2, example 9) bears this out. As can be seen in the answer to the questionnaire, ‘(It was difficult to know) how polite I should be’ (example 6 in Table 58), which reveals that the learner still has not fully mastered selecting the contextually appropriate politeness expressions.

As for refusal making, it has been pointed out in previous studies that Japanese learners tend to use direct strategies for the Head Act. For example, Sasaki (1998) reported that *non-performative* (e.g., ‘I can’t.’) was most frequently used in all situations, which was also confirmed by the results obtained in the current study. The frequent use of non-performative ‘I can’t.’ was observed in the pre-DCT and did not decrease even in the post-DCT. However, indirect strategies such as *wish*, *alternative*, and *grounder* increased significantly in post-DCT. As a result, even if the non-performative strategy was used, the utterance as a whole successfully reduced the directness. Exceptionally, *statement of regret* such as ‘I’m sorry’ tended to decrease in the post-DCT. One possible

reason for the decrease is that the instructor encouraged the use of *wish* and *alternative* rather than 'I'm sorry' in some contexts during class. Consequently, the use of the expression has significantly reduced in post-DCT. The example (13) in Section 5.3.2.2, which was extracted from the students' utterances during roleplays, also showed that they paid attention to the use of regret statements.

Note also that, as discussed in Section 3.2 (see also Section 3.3.4), the accurate and speedy production of speech acts depends not only on the smooth retrieval of appropriate declarative knowledge but also on the formation of production rules. If applicable production rules to perform the targeted action are not selected and executed, the task (e.g., performing request and refusal speech acts) will not be achieved in the desired manner. The selection and execution of appropriate production rules are performed through the processing unit in Central procedural system, as shown in Section 3.3.4. In this study, learners' ability to make a correct judgment on the context, the organisation of information (ordering the speech act components) and indirectness, which can be achieved by selecting appropriate production rules, was measured to assess the processing ability. The results in the post-DCT, indicating increased scores for context, organisation of information, and indirectness, were taken as an indicator of the improvement of processing ability, as reported in the previous chapter.

## 6.2 Findings for Research Sub-question 2

The second sub-question asked was:

**SQb.** Do learners improve their production of uninstructed speech acts, such as complaining and disagreeing as a result of learning request and refusal speech acts? What improvements can be traced?

The quantitative and qualitative data on the production of complaint and disagreement speech acts collected in this study indicated that Japanese EFL learners, in fact, improved their ability to produce complaint and disagreement speech acts, despite the fact that they have not received specific instruction for the production. In the pre-DCT, Japanese

learners used a very limited strategy for Alerters and Pre-Head Act and went straight to complaining, which is similar to what Rinnert and Iwai (2003) reported as characteristics of Japanese EFL learners. Their study showed that Japanese EFL learners used fewer initiators, softeners and indirect strategies in complaining compared to English L1 speakers or fluent non-native English speakers. In the post-DCT, however, the scores given to Alerters, Pre-Head Act, and Post-Head Act increased in all situations S11 – S13. This is much the same as observed in Part I of the post-DCT. The reason why these scores increased seems to be that students learned from request or refusal making that they have to say something before directly requesting or refusing something. You can trace this to the recorded conversation given in Section 5.3.2.2, repeated here below.

S14: When we ask someone to do something politely in English, we should say something before initiating the request. We should not go straight to requesting, as we learned from the video we saw.

Table 48 through Table 50 indicate that in the pre-DCT, the participants could use only limited strategies, expressing very direct negation such as ‘I can’t...’ or ‘Your method is wrong’. The use of mitigation strategies in the Pre-Head Act and Post-Head Act parts was also very limited. These findings are consistent with what has been pointed out in previous studies such as Nakabachi (1996) and Beebe and Takahashi (1989). Furthermore, Kreutel (2007) stated that these were the features commonly observed among all English learners. In the post-DCT, on the other hand, the participants used various devices to mitigate face-threatening acts of complaint and disagreement. For example, starting the conversation with positive comments along the lines of ‘I think your method is interesting.’ Similarly, they might preface what they are about to say with ‘Please correct me if I am wrong’. In the same vein, instead of saying, ‘I cannot accept your proposal’, they explained their situation/pointed out problems, gave reasons, or proposed an alternative offering.

Students learned these indirect strategies from request and refusal making, such as expressions of *preparator* (e.g., ‘Do you have time?’), *getting a pre-commitment* (e.g., ‘Would you do me a favour?’), *grounder* (explaining the situation, justifying or giving reasons), *pause filler* (e.g., uh..., well...), *gratitude* (‘Thank you for your invitation.’) or *statement of positive* (e.g., ‘I think your proposal is good’).

Among the strategies mentioned above, for example, *grounder* for requests and refusals corresponds to *giving reason* for disagreements in Walkinshaw (2007), *pause filler* for refusals corresponds to *hesitation words* for disagreements listed in (Malamed, 2010), as shown in Table 63.

Furthermore, many of Trosborg's modification strategies (e.g., *downtoners*, *subjectivizers*, *cajolers*, *intensifiers*) are common to request/refusal modifications. This means that students noticed some of the common features while receiving instruction or participating in-class activities such as roleplay, a point proven by the recorded discussion among the students during the roleplay practising.

**Table 63 Request/refusal strategies corresponding to complaint/disagreement strategies**

<b>Requests</b>	<b>Refusals</b>	<b>Complaints</b>	<b>Disagreements</b>
Preparators	-	Preparators (Trosborg, 1994)	-
Grounder	Grounder	Aggravating the offence and No excuse (Trosborg, 1994)/ Statement of problem and justification (DeCapua, 1989, 1998)	Giving reason (Walkinshaw, 2007)
-	Pause filler	-	Hesitation words (Malamed, 2010)
-	Gratitude / Statement of positive	-	Partial agreement (Malamed, 2010; Rees-Miller, 2000) / Taken agreement (Malamed, 2010; Walkinshaw, 2007) / Positive comment (Rees-Miller, 2000)
-	Alternative	-	Suggesting a compromise / alternative suggestions (Walkinshaw, 2007)

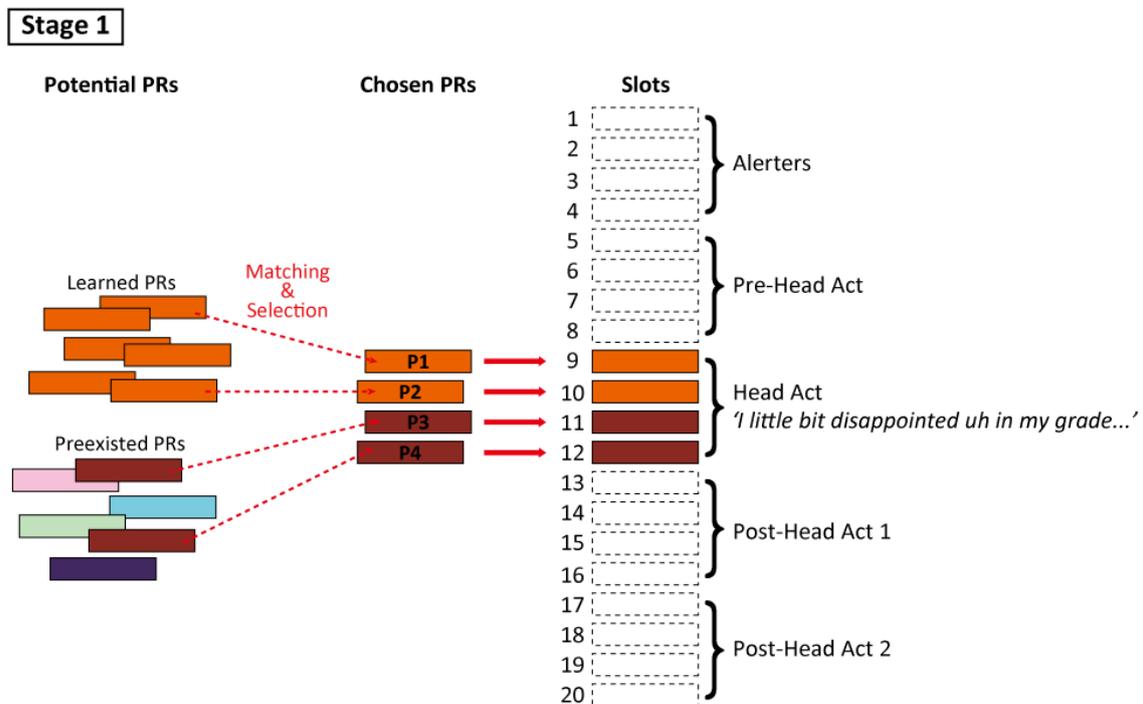
From their experience in producing request and refusal speech acts, the participants also learned some sort of rules common to these types of speech acts. For example, they learned how to order a sequence of speech acts (Alerters, Pre-Head Act, Head Act and Post Head Act) and that each part has to be filled with politeness strategies in accordance with a given context. While the CG has not shown a significant improvement, the TGs have increased the use of strategies significantly in all parts except Head Act.

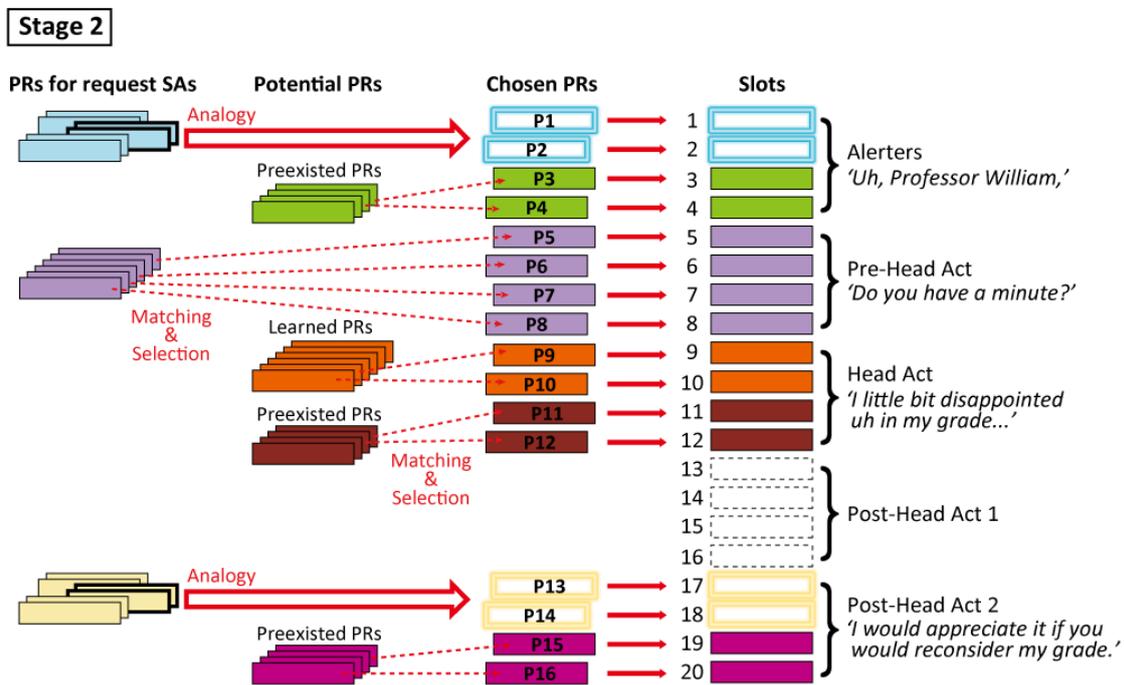
In the previous studies, various Head Act strategies were introduced as being used to avoid face threatening, such as joking ('If we paint the room green it'll be like living

in a pile of lawn-clippings’) and questions (e.g. ‘Do you think that would work smoothly?’) for disagreement (Walkinshaw, 2007, p. 280). However, with the participants of this study, there was no trace of using such strategies. This is not surprising, as they were not instructed on disagreements or complaints, specifically regarding the use of strategies for the Head Act of complaint and disagreement.

I have shown above that the improvement in the production of uninstructed complaints and disagreements was brought about by utilising the learned knowledge pertinent to strategies for making requests or giving refusals. In ACT-R theory, this sort of skill improvement is explained in terms of creating new production rules. According to the theory, new production rules are created out of existing production rules by analogy or generalisation (e.g., Taatgen et al., 2005), as described in Section 3.3.3.3.

The crucial part of this process is that instead of having to create new production rules from scratch, learners have the capacity to create them by blending and modifying past example(s) to meet novel situations. This is exactly what happens when producing complaint and disagreement speech acts by modifying the examples of request and refusal speech acts to meet the novel situation as indicated by Table 51 through Table 53. The concept of knowledge extension in case of request making to complaint making is visualised in Figure 34 (repeated here from Figure 19).





**Figure 34 Graphical display of knowledge extension (Stage 1 & 2)**

Stage 1 represents the case where a learner went directly into complaining without preparatory statements such as Alerters or Pre-Head Act. At this stage, the learner had limited production rules available only to the Head Act part. In the post-DCT, the learner moved up to Stage 2, where new production rules are created to perform complaint/disagreement speech acts. By filling the slots with production rules in the appropriate order, the learner could now execute appropriate strategies for all the parts of Alerters, Pre-Head Act, and Post-Head Act, which were not observed in the pre-DCT.

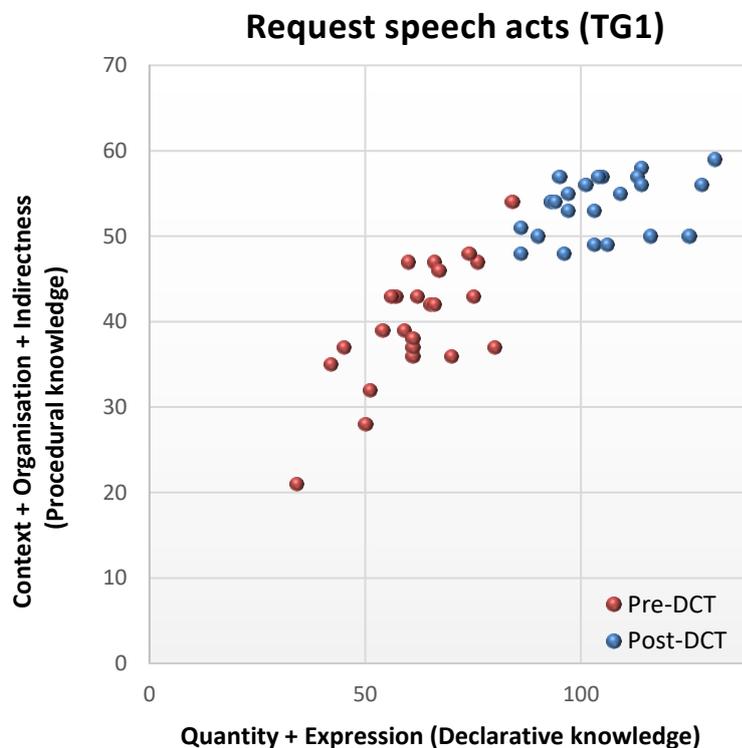
As the diagram indicates, some of the production rules designated to the element of request making are allocated to the slots to perform complaints. This greatly magnifies the speed of adaptability, enabling learners to produce ostensibly 'new' rules with relative ease, and far fewer mistakes. In essence, how we manage to come up with a series of 'newly-created' speech acts, in order to cope with a new context, can be explained in a similar manner.

Now that I have answered the research sub-questions, I will summarise participants' pragmatic ability transition in the bubble charts. In Figure 35, the horizontal axis represents the total score of the amount of information and the expression (of quality of

information), representing the development of declarative knowledge. The vertical axis represents the total score for the context (of quality of information) and the organisation of information and the level of indirectness which are associated with participants' processing ability or procedural knowledge.

The bubble chart in Figure 35 indicates that before instruction, the TG1's ability in request making was located in a red dotted area, while after instruction, it moved up to the blue dotted area, which means they improved both processing ability and declarative knowledge. Similarly, the transition of the TG1's ability of refusal making and complaint and disagreement making are depicted in Figure 36 and Figure 37. The same trend is observed with other TGs (see Appendix Z).

The bubble charts of CG in Figure 38 - Figure 40, on the other hand, indicate red and blue bubbles cluster in the same location, meaning no noticeable change in declarative and procedural knowledge and their abilities to produce speech acts in the post-DCT.



**Figure 35 Request making in the pre- and post-DCT by TG1**

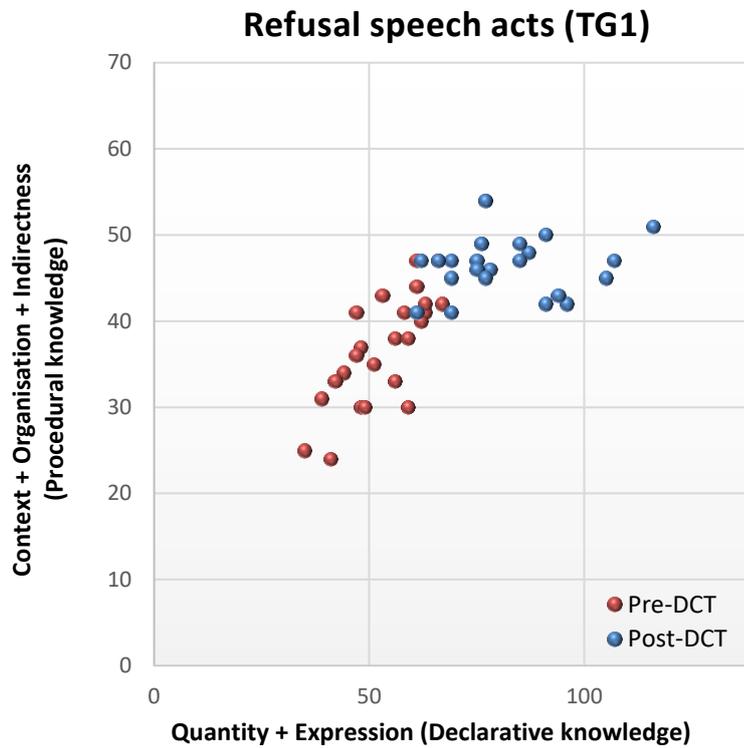


Figure 36 Refusal making in the pre- and post-DCT by TG1

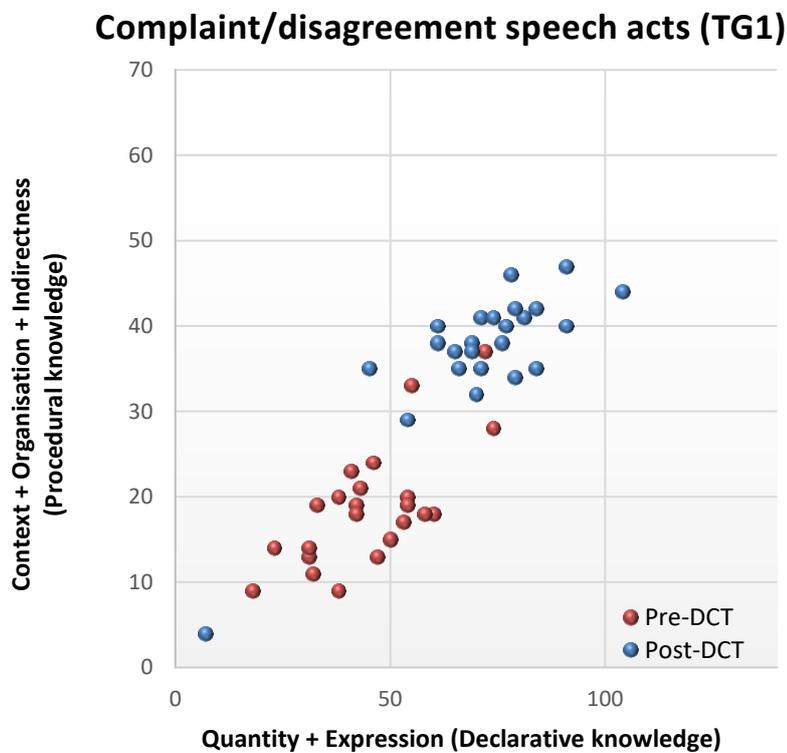


Figure 37 Complaint/disagreement making in the pre- and post-DCT by TG1

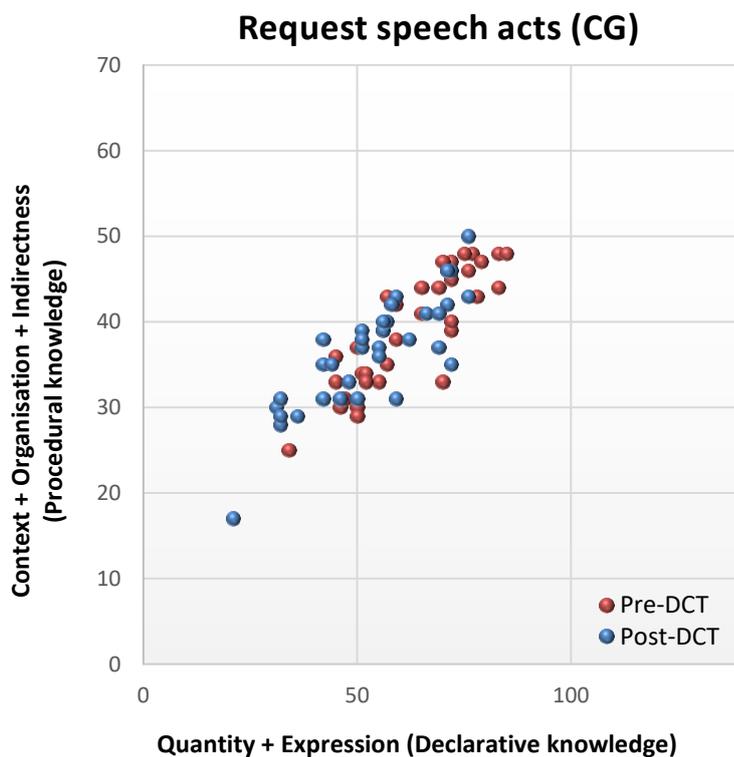


Figure 38 Request making in the pre- and post-DCT by CG

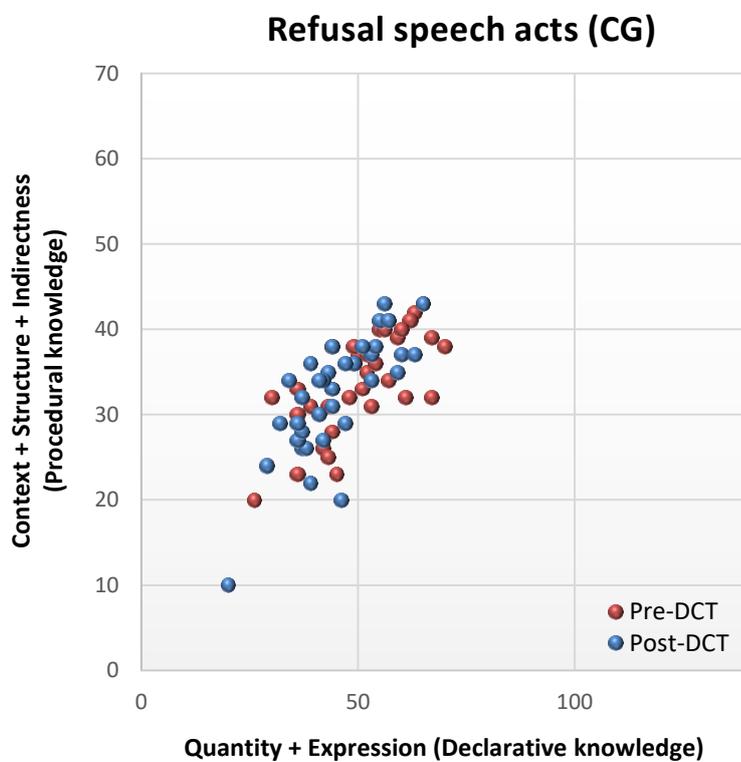
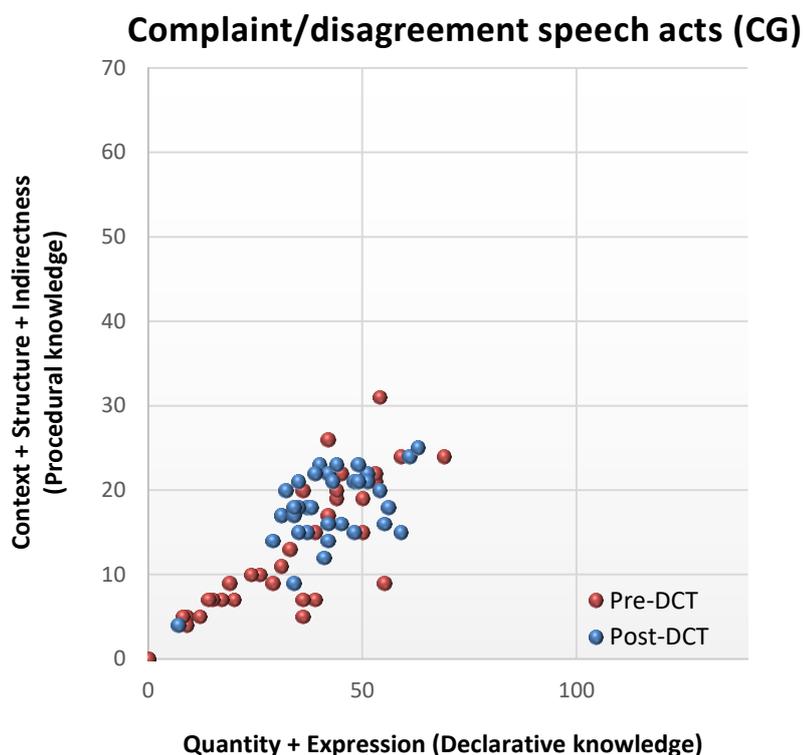


Figure 39 Refusal making in the pre- and post-DCT by CG



**Figure 40 Complaint/disagreement making in the pre- and post-DCT by CG**

### **6.3 Summary of the Chapter**

This chapter summarises the research results and findings on the development of Japanese EFL learners' pragmatic competence that answered the research questions. In responding to the first sub-question, I presented the DCT results indicating that the participants in TGs improved both the amount and quality of the strategies used to produce request and refusal speech acts, which are associated with the development of declarative knowledge and processing ability to perform the contextually appropriate request and refusal speech acts, which are associated with procedural knowledge. As for the second sub-question, I showed that the TGs improved the production of compliant and disagreement speech acts by applying their learned knowledge of request and refusal making. It was shown to be attributable to knowledge compilation that serves to enhance the processing ability, and

knowledge extension involved in creating new production rules play a key role in promoting the development of learners' ability to perform speech acts.

In short, I have shown that the development of Japanese EFL learners' pragmatic competence could be well explained within the frameworks of the ACT-R model and skill acquisition theory. EFL learners have developed their pragmatic competence by developing both knowledge and processing ability. As the statistical results of the DCT indicated, the participants improved both the amount and quality of the strategies that are associated with declarative knowledge. They also developed their processing ability associated with procedural knowledge, enabling them to access the relevant knowledge on performing speech acts appropriately in a given context. The improvement of their processing ability was also confirmed by the data indicating their enhanced ability to produce complaint or disagreement speech acts by calling on their learned knowledge pertinent to strategies for making requests or giving refusals. In other words, learners could create new production rules to perform complaints and disagreements not from scratch but by blending and modifying past examples of request and refusal speech acts to meet novel situations. The results of post-DCT also confirmed the increased use of the learned formulaic expression, which contributed much to developing L2 pragmatic knowledge and processing ability.

Based on these findings, I determined that by participating in this experiment, the Japanese EFL learners substantially developed their pragmatic ability to construct contextually appropriate speech acts. This research found evidence to support the notion that pragmatic teaching manifested in improved knowledge and processing abilities.

## **Chapter 7: Conclusion**

This final chapter provides a synopsis of the present study by summarising the main findings in Section 7.1. Theoretical grounds for the findings are overviewed in Section 7.2, followed by pedagogical, theoretical, and methodological contributions in Section 7.3. The implications of findings for the EFL teaching in Japan are also proposed in Section 7.4. The limitations of the study are described in Section 7.5. Finally, directions of future research are suggested in Section 7.6.

### **7.1 Overview of Main Findings**

This study investigated the development of pragmatic competence by Japanese EFL learners in the classroom setting and explored the underlying mechanism that drove the development. Guided by Anderson's ACT-R model and DeKeyser's skill acquisition theory, the present study examined the development of learners' L2 pragmatic competence both from knowledge and processing perspectives.

As for the development of knowledge, I examined the qualitative and quantitative change in learners' use of politeness strategies after instruction, this being associated with declarative knowledge. The development of processing ability was assessed in terms of, learners' ability to select contextually appropriate strategies as well as their ability to create new production rules to perform 'newly created' speech acts of complaint or disagreement by calling on their learned knowledge to make requests or giving refusals, these being associated with procedural knowledge. The development was verified by measuring the learner's improvement in the production of both instructed speech acts (request and refusal) and not-instructed speech acts (complaining and disagreeing).

Based on the findings from WDCT results and the data from other sources such as ODCT, roleplay, and students' notebooks, which were quantitatively and/or qualitatively analysed, I answered the research questions as follows. In order to answer the main research question of how Japanese EFL learners develop their pragmatic competence in the classroom context, first, two sub-questions were answered step-by-step.

Regarding the first set of sub-questions, 'Do learners improve the production of

request and refusal speech acts after receiving pragmatic instruction? If yes, what are the indications of learners' development?' I presented the results of pre and post-DCTs indicating that the participants of the TGs had improved their ability to produce request and refusal speech acts significantly after receiving pragmatic instruction. They increased in the types, amount and quality of request and refusal strategies they used. I argued that this was an indicator of pragmatic knowledge development and verified it by the improved results of post-DCT and the complementary data from other sources to support DCT results.

The next set of sub-questions includes, 'Do learners improve their production of uninstructed speech acts, such as complaining and disagreeing as a result of learning request and refusal speech acts? What improvements can be traced?' I answered this by showing first that the participants in the TGs have also improved the production of 'newly created' speech acts of complaint or disagreement. They improved both the amount and quality of the strategies used in making complaints and disagreements. Then, I showed their improvement was due to their ability to extend their learned knowledge on requests and refusals to produce 'newly created' speech acts. It was shown that participant learners, in fact, utilised various request and refusal strategies to produce complaint and disagreement speech acts in the post-DCT, which was the key factor driving the improvement in the production of complaint and disagreement speech acts in the post-DCT.

Having answered the sub-questions, I dealt with the primary question of how Japanese EFL learners develop their pragmatic competence in the classroom context. I answered this question by employing the framework of the ACT-R model that can account for skill development both in terms of knowledge and processing ability. In the ACT-R model, to achieve the targeted action, appropriate production rules must be selected and executed in the appropriate order and thereby, appropriate declarative knowledge is retrieved and put into the targeted action. The applicable production rules increase as learners move up the stages of skill acquisition. The more learners practice the target action, the more appropriate production rules are selected to complete the task in the desired manner. Thus, increasing the number of applicable production rules is indispensable for skill development.

In the ACT-R model, knowledge extension and production compilation are explained

as the means of creating new production rules, which are on par with increasing general production rules applicable to produce speech acts in a given context. The selection and execution of appropriate production rules crucial to achieving the target action are controlled by the processing unit according to the learner's processing ability. The crucial part of this process is that instead of having to create new production rules from scratch, learners have the capacity to create them by blending and modifying past examples to meet novel situations. This is exactly what happens when producing complaint and disagreement speech acts by modifying the examples of request and refusal speech acts to meet the novel situation. This greatly magnifies the speed of adaptability, enabling learners to create 'new' rules with relative ease, and far fewer mistakes. In essence, how learners produce new speech acts, in order to cope with a new context, can be explained in a similar manner. Thus, in this study, learners' processing ability was assessed by measuring their ability to extend their learned knowledge to produce new/hypothetical speech acts of complaint and disagreement.

I also pointed out that acquiring declarative knowledge in chunks or formulaic expressions is a great advantage in L2 learning. As discussed in Section 3.3.2, using formulaic expressions helped learners reduce the load on working memory, consequently leading to smoother and less erroneous performance. It saves processing time' and free up efforts for learning and producing grammar. For example, by using a sequence such as 'I was wondering if...?', the learner no longer needs to go through the process of creating the sequence from scratch by referring to the grammatical rules for conditionals. This research obtained evidence to support this claim, although at the same time, I had to admit that there were evidently some cases where students learned formulaic expressions by rote without fully understanding grammatical rules. Their lack of grammatical knowledge of some formulaic expressions was reflected in their grammatical mistakes while they nevertheless could utter fluently formulaic expressions as in their response, 'Would you mind to open the door?' instead of 'Would you mind opening the door?'

All in all, I have illustrated that for language learners to be pragmatically competent, they need to develop both declarative knowledge and the processing ability to execute the declarative knowledge into action. It was also shown that effective control of working memory is another important factor that promotes L2 learning.

## 7.2 Theoretical Grounds for the Findings

The present study employed two distinct theoretical frameworks: one for the study on learners' L2 pragmatics use focusing on the effect of instruction and learning outcomes, and the other for the study on L2 pragmatics development focusing on the learning process. The main frameworks used for language use investigation include Austin's (1962) Speech Act Theory and Brown and Levinson's (1987) Politeness Theory. They were adopted to assess the participants' pragmatic declarative knowledge and their ability to use the knowledge appropriately in a given context before and after instruction. In addition to these theories, Schmidt's (1993a) Noticing Hypothesis and Swain's (2005) Output Hypothesis were employed to design instruction and teaching materials. Schmidt's Noticing Hypothesis was utilised in designing pragmatic instruction with a particular focus on enhancing learners' awareness of L2 pragmatic features and Swain's Output Hypothesis was referred to design the output practice through roleplays and for hypothesis testing.

As for L2 pragmatic development, which was the main focus of this study, Anderson's ACT-R model and DeKeyser's skill acquisition theory were adopted to account for pragmatic development from both knowledge and processing ability perspectives. The overall findings of this study provided a legitimate explanation on what counts as the development of pragmatic competence. Ultimately, this study showed, in line with the ACT-R model, that language learning is a matter of processing memory and that adequate control of the limited capacity (working memory) for retrieval and processing the existing knowledge is vital for enhancing proficiency because the limitation of memory constrains access to the knowledge and procedures available.

The findings also showed, in line with DeKeyser's claim, that learners basically progress from the declarative knowledge stage to procedural knowledge, but the development of knowledge may also occur in parallel, not necessarily in one direction from declarative to procedural knowledge. He pointed this out as evidence that learners sometimes achieved fluency in uttering formulaic expressions while remembering grammar rules. I presented data showing that this is indeed a case in point, where the past tense form of *could* was used incorrectly in describing the present situation, as discussed in Section 5.3.1.4.

Furthermore, I have shown that more grammatical mistakes were found in the results of the ODCCT than those of the WDCT. Students frequently made mistakes, even with simple grammatical rules such as the use of tense makers, while in WDCT, the same type of grammatical mistakes were scarcely observed. This happened maybe because students consumed most of their working memory on speaking, and therefore had no capacity to pay attention to other things - such as grammatical rules. In other words, students could not take control of their working memory efficiently. Given such data, I reconfirmed the importance of instruction to enhance learners' grammatical knowledge to form pragmatically adequate speech acts, although it was beyond the scope of the current study.

Finally, regarding the scarcity of adopting and applying ACT-R model in tandem with skill acquisition theory to studies on SLA or EFL learning, it seems this is often attributed to the requirement of hardware and software investment to collect data and control between conditions. However, as DeKeyser (2015, p. 101) pointed out, with skill acquisition, 'researchers do not need to be trained in computer modelling or neuroscience'. Sophisticated design, collection and analysis of behavioural data can fully contribute to this field. The current study underscores just how much skill acquisition theory and ACT-R model can be practical tools in studies of L2 pragmatic development.

### **7.3 Pedagogical, Theoretical and Methodological Contributions**

Previous studies have shown that language learners made tremendous progress in their production of speech acts after receiving pragmatic instruction and suggested the necessity of integrating pragmatic instruction into the language education curriculum. The findings of the present study also provided support for the positive effect of instruction intervention on developing learners' pragmatic competence in the classroom setting. In addition, the finding of the present study focussing on the learners' development process of L2 pragmatic competence reveals that to develop learners' pragmatic competence, it is necessary to develop both declarative knowledge and processing ability.

These findings have several pedagogical implications. First, understanding the learning process and key factors that promote the development of L2 pragmatic competence is crucial to designing and implementing effective EFL teaching in the classroom setting.

Until recently, L2 pragmatics related instruction has scarcely been provided at all in EFL classes in Japan. Even if it has, in most cases, it was limited to teaching only a few pragmatic expressions. In addition, they were often taught independent of contexts where those expressions are used. Therefore, learners often later came to face such problems as being unable to produce such speech acts appropriately to contexts encountered during real time communication. In order to improve learners' pragmatic ability in a country such as Japan, where the EFL environment faces such limited opportunities to communicate, it is extremely important to incorporate pragmatic instruction into regular EFL teaching effectively. This study made a significant pedagogical contribution by showing the positive effects of even just 20-minute pragmatic instruction sessions, along with evidence of empirical data.

More broadly, to achieve the goal of fostering students with communicative proficiency, language teaching should focus both on developing declarative knowledge and processing ability, not solely on developing declarative knowledge. Hitherto, English education in Japan has heavily emphasised developing learners' declarative knowledge and has not provided enough time and practice through which learners could actually use their declarative knowledge and develop it into procedural knowledge. Consequently, due to the insufficient development of processing ability or procedural knowledge, the majority of students were left, whether in the declarative stage or in transition to the procedural stage, not progressing toward the automatised stage. This research was much guided by using the ACT-R model in tandem with skill acquisition theory. Its findings made clear further support my assumption that the poor outcomes of English teaching in Japan could be attributable to students' lack of sufficient practice to develop their (processing) ability.

Pedagogically, this study contributed by bringing a clearer understanding of learning processes that can be used to revise the EFL curriculum and showing the benefits of integrating pragmatic instruction into the EFL teaching curriculum.

In this study, the beneficial effect of such instruction was able to be confirmed, notwithstanding the constraints of only short sessions being available – just 20-minute of instruction from within a regular class. This owes much to the capability of the instructor, who has rich experience in teaching EFL classes and depth knowledge on pragmatics. She carefully designed pragmatic instruction with the researcher to ensure good fusion

with regular EFL lessons and selected and implemented effective videos and other teaching materials. It is no small factor that the instructor involved in teaching these classes possessed ample knowledge and appreciation of pragmatics. This study contributed to showing the importance of this aspect; of the need to foster like-minded EFL teachers who are cognisant enough to teach pragmatics in a regular EFL class.

The instructor's reflective journal also provides support for the integration of pragmatic instruction, indicating the benefit for the students of receiving pragmatic instruction as she monitored her learners' improvement in overall communicative performance.

Furthermore, this study reconfirmed the importance of repeated practice, especially output practice, as emphasised in skill acquisition theory. It demonstrated that learning through repeated practice of output in context, along with the receiving of appropriate feedback, helps increase the utility value of production rules, and thereby leads to the development of L2 pragmatic ability.

As regards theory, by showing how pragmatic competence develops in an EFL classroom, this study shows the potential of the ACT-R model to elucidate the operational mechanism of pragmatic ability. This was done in two steps. First, I put forward use of the model, albeit partially revised so as to offset its drawbacks (e.g., some inconsistencies in the terminology and definition used, confusing understanding of the interaction among modules), proposing to apply it directly to my study. The model I proposed was able to illustrate the process of learning development more clearly, while, nevertheless, closely adhering to Anderson's explanation of his model. My amended model illustrates how modules are interacted and connected through Central procedural system more precisely. For example, when it comes to the interaction between Declarative module and Central procedural system, where the processing device and production rules interact. This enables a better account for the benefit of proceduralisation and direct access to specific production rules, which are crucial to promoting smooth and proficient performance in the target language. Second, by using the model, I tried to explicate ways learning develops from stage to stage, which fits in precisely with the developmental stages posited in skill acquisition theory. So far, skill acquisition theory has emphasised the importance of repeated practice, but it has not been clarified why it is necessary. The model I proposed in this study explains this clearly. It illustrated that iterative practice serves (1) to create

new production rules, and (2) to increase the utility value of the executed production rules. By using the model, I could show that iterative practice leads learners to be able to select the most suitable of potential multiple production rules to perform the target action, and the processes of selecting the appropriate production rules more clearly. It also became clear that receiving feedback on whether the execution of the production rule was correct or not is important, as it serves to raise the utility value. This study was able to model and explain how L2 pragmatic ability develops.

Methodologically, this study made several contributions to the study of L2 pragmatic development. First, this study proposed an innovative method to assess the development of pragmatic ability by learners at low and intermediate levels of English. In previous studies, measuring speed/fluency of performance was most commonly used to measure processing ability. However, this method may not be applicable to the low proficiency learners, since the speed of performance does not correctly reflect the processing ability of those learners who have a problem of speaking out their thoughts smoothly, even though they could actually select appropriate production rules to perform the target action. The innovative method used in this study is applicable to learners of all levels of proficiency. To the best of my knowledge, the method of this research to examine the learners' ability to extend their existing knowledge to produce unlearned speech acts is unprecedented. Furthermore, providing a model for researchers to replicate this study, without complicated work, made it easier for researchers to apply, consequently raising implications for allowing related research to move forward in an otherwise muddled ongoing discussion in the field.

Lastly, as far as making a methodological contribution is concerned, this is an innovative proposal. The method helps explain the developmental process of L2 pragmatic ability. It uses an integrated framework of the ACT-R model and skill acquisition theory, and together with a sequential explanatory model incorporating mixed method analysis, first using quantitative data collection, and then trying to confirm and explain those findings, it demonstrates the robustness of this study.

## 7.4 Implications of Findings for the EFL Teaching in Japan

Conventional cognitive-based SLA studies have focussed mostly on the initial stages of acquisition, or *initial input selection*, and little attention has been paid to how the acquired knowledge is used and developed. Anderson's ACT-R model and DeKeyser's skill acquisition theory, on the other hand, focus more on the existing knowledge and its development, which is based on the assumption that learners can practise something only that they already know. For example, if you don't know any French words, you cannot practice speaking French. I believe, through my own experience, this is especially pertinent to all L2 learning.

This study, drawing on Anderson's ACT-R model that lays weight on the efficient control of memory, and DeKeyser's skill acquisition theory that emphasises the importance of consolidating the declarative knowledge base to ensure solid proceduralisation that can be achieved through repeated and meaningful practice, made clear that the genuine problem in current EFL teaching in Japan, not so much in its heavy focus on teaching complex grammatical rules and difficult vocabulary but in the lack of sufficient practice it provides for developing processing capacity to access appropriate target declarative knowledge in the process of reaching to perform linguistic behaviour during communication.

Furthermore, this study clarifies another aspect of the problem with conventional grammar teaching in Japan, that of English grammar and vocabulary being taught devoid of meaningful context or scene-setting. This way of grammar teaching is ineffective in consolidating declarative knowledge and keeping it accessible. Instead, grammar teaching to ensure proceduralisation is necessary.

Skill acquisition theory emphasising the importance of establishing solid declarative knowledge to ensure proceduralisation gives us hints and prompts regarding what practice is necessary when moving up from declarative to procedural, and further to the automatization stage. The theory implies the importance of teaching grammar in association with the scene where the grammar is used, if we are to develop in the learner an understanding of the correspondence of form, meaning and function necessary to enhance proceduralisation.

## 7.5 Limitations of the Study

There are several limitations to the present study. First, limitations due to the institutional constraint: for the purpose of the present study, research was conducted integrally within regular EFL classes in a university. Therefore, a fully randomised assignment of the participants to groups was not attained. In addition, because of this inflexibility, the researcher had limited control over the intragroup variations, such as the difference in the degree of motivation for learning English by the group. In fact, students in one of the three TGs seemed noticeable less motivated in their learning of English than those in the other two TGs. In many previous studies, it was shown that motivation is an important factor that affects the development of L2 learning. Although the variation did not affect the overall results since the group comparison among the TGs was not the focus of this study, it is suggested that future studies should take motivation into consideration when making group comparisons.

Another limitation was in conducting a delay test or post research study. In my MA research, I found from the instructor's post research comments revealing that students showed notable improvement in their communicative performance, such as giving presentations, debating and conversing with the instructor in English. Obtaining such post research data is essential to see how the effect of pragmatic instruction is reflected in learners' dairy communicative performance. However, due to time and institutional constraints, it was only possible to obtain from the instructor's reflective journal on post research observation. Therefore, it is suggested for future studies to conduct longitudinal research or post research study to see how learners can maintain and apply the learned knowledge in communicating in L2 in various real-world settings.

Furthermore, in the current research, I used WDCT as the main data collection instrument, and ODCCT was conducted only with one TG. For assessing the development of processing ability, it is essential to examine how the interlocutors take turns and respond to each other to continue the conversation. The sole use of WDCT had limitations to obtaining such kind of data. If ODCCT was conducted with all the TGs, the findings might vary. However, an instrument that can collect more natural data for learners of all levels has not been established yet. In order to further advance research in this field in the future, it is urgently required to devise a new data collection method.

Moreover, this study examined the development of pragmatic competence by EFL learners, focusing on their ability to construct speech acts, which is only one aspect of pragmatics. In addition, learners' ability of knowledge extension was examined within speech act production which might also be limitations. Testing the learners' ability of knowledge extension to the different domains than speech acts production, for example, learners' understanding of the metaphorically extended meaning such as illuminate (light up or make clear) or the difference in literal versus intended meaning such as *pretty good* in British English does not mean *good*, is suggested for future studies.

## **7.6 Suggestions for Future Research**

Through this research, the importance of practice to enhance processing ability or procedural knowledge was confirmed. This conformed with the results of this study indicating that after instruction, learners became able to use a wide range of formulaic expressions, by which students could free up their efforts for searching words and checking grammar and consequently free up time and effort for other tasks such as considering what to say next or searching more sophisticated expressions. Consequently, students could improve their overall communication skills in English. At the same time, the results suggested that students still need further practice to enhance the speedy interaction between the processing device and procedural memory so that an appropriate general production rule or a specific production can be selected and executed swiftly.

I also confirmed the need to enhance learners' grammatical knowledge to be operational when executing production rules, which is to say, during verbal communication. Having found these facts stimulates me to further study how to utilise these research findings in actual EFL teaching, which is the topic suggested for future study.

In addition, this study suggests the potentiality of employing Anderson's ACT-R model and skill acquisition theory for the ILP studies focusing on L2 pragmatic development in response to a severe shortage of empirical data from L2 learners.

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## Appendices

### Appendix A: Pre-Post Comparison Studies by Taguchi (2015, pp. 6-10)

Study	Design	Participants	L2	Pragmatic target(s)	Treatment type	Outcome measure(s)	Data	Results	Evidence of effectiveness
Alcón-Soler & Guzman-Pitarch (2013)	Pre-post	Spanish L1 ( <i>n</i> = 92)	English	Refusal	Explicit	Interview	Freq	Effective	Significant pre-post gain ( <i>t</i> -test).
Belz & Vyatkina (2005)	Pre-post	Mixed L1s ( <i>n</i> = 16)	German	Modals	Explicit	Online communication	Freq	Effective	Frequency of modals increased by 22 times after instruction.
Bouton (1994)	Pre-post	Mixed L1s ( <i>n</i> = 14)	English	Implicature	Explicit	MCQ	Score	Effective on some implicature	Significant pre-post gain ( <i>t</i> -test).
Cunningham & Vyatkina (2012)	Pre-post	English ( <i>n</i> = 9)	German	Politeness modals & subjunctive	Explicit	Online discussion	Qual	Effective	Appropriate use of target forms in posttest.
Cohen & Tarone (1994)	Pre-post/ control	Mixed L1s ( <i>n</i> = 25)	English	Opinion	Explicit	Essays	Rating	Effective	TG outperformed CG at posttest ( <i>t</i> -test).
da Silva (2003)	Pre-post/ control	Spanish L1 ( <i>n</i> = 14)	English	Refusal	Explicit	Role play	Qual	Effective	TG produced more indirect refusals and supporting moves at posttest.
Eslami & Eslami-Rasekh (2008)	Pre-post/ control	Iranians ( <i>n</i> = 52)	English	Request & apology	Explicit	Recognition task; DCT	Score; rating	Effective	Significant interaction effect of time and group (MANOVA).
Eslami-Rasekh et al. (2004)	Pre-post/ control	Iranians ( <i>n</i> = 66)	English	Request, apology, complaint	Explicit	MCQ	Score	Effective	TG outperformed CG at posttest ( <i>t</i> -test).

Study	Design	Participants	L2	Pragmatic target(s)	Treatment type	Outcome measure(s)	Data	Results	Evidence of effectiveness
Fukuya & Zhang (2002)	Pre-post/control	Chinese L1 ( $n = 24$ )	English	Request	Implicit	DCT	Rating	Effective	TG outperformed CG at posttest. (ANOVA).
Halenko & Jones (2011)	Pre-post	Chinese L1 ( $n = 26$ )	English	Request	Explicit	DCT	Rating	Effective	Significant gain for TG but not for CG ( $t$ -test).
Ishida (2007)	Pre-post/control	Mixed L1s ( $n = 6$ )	Japanese	Speech style	Explicit	MAQ	Freq	Effective	TG commented on speech style 11 times more often than CG.
Iwai (2013)	Pre-post/control	Mixed L1s ( $n = 28$ )	Japanese	Interactional marker	Explicit	Conversation	Freq	Effective	Over 70% of TG group produced the target form but nobody in the CG (0%).
Johnson & deHaan (2013)	Pre-post	Japanese L1 ( $n = 22$ )	English	Request & apology	Strategic instruction	DCT	Rating	Effective on appropriateness but not on accuracy	Significant gain for appropriateness but not for accuracy ( $t$ -test).
Kakegawa (2009)	Pre-post	English L1 ( $n = 11$ )	Japanese	Sentence final particles	Explicit	Emails	Freq	Effective	Frequency of particles increased by almost three times after instruction.

Study	Design	Participants	L2	Pragmatic target(s)	Treatment type	Outcome measure(s)	Data	Results	Evidence of effectiveness
Kondo (2008)	Pre-post	Japanese L1 ( <i>n</i> = 38)	English	Refusal	Explicit	Oral DCT	Freq	Effective	Frequency of strategy use changed by 11–20% toward NS baseline data.
Liddicoat & Crozet (2001)	Pre-post-delay	English L1 ( <i>n</i> = 10)	French	Structure of small talk	Explicit	Role play	Freq	Effective on content but not on forms	Content increase from 0% to 86%; Form increase from 10% to 60%.
Louw et al. (2010)	Pre-post	Chinese L1 ( <i>n</i> = 3)	English	Interview skills	Explicit	Mock job interview	Rating	Effective	Interview skills ratings improved by about 50% at posttest.
Lyster (1994)	Pre-post-delay/control	English L1 ( <i>n</i> = 106)	French	Address forms	Explicit	Written task; Oral task; MCQ	Rating; Score	Effective on written task & MCQ only	Significant interaction effect between time and group (ANOVA).
Martínez-Flor (2008)	Pre-post	Spanish L1 ( <i>n</i> = 38)	English	Request	Inductive and deductive	Role play	Freq	Effective	Request modifiers increased from 25.6% to 74.4%.
Narita (2012)	Pre-post/control	Mixed L1s ( <i>n</i> = 41)	Japanese	Hearsay expression	Implicit	Knowledge tests; Oral production	Score; Rating	Effective	Significant interaction effect between time and group (ANOVA).

Study	Design	Participants	L2	Pragmatic target(s)	Treatment type	Outcome measure(s)	Data	Results	Evidence of effectiveness
Nguyen (2013)	Pre-post-delay/control	Vietnamese L1 ( <i>n</i> = 50)	English	Criticisms modifiers	Explicit	DCT; Role play; Oral peer feedback	Freq	Effective	EG outperformed CG at posttest (Mann-Whitney test).
Safont (2004)	Pre-post	Spanish L1 ( <i>n</i> = 160)	English	Request	Explicit	DCT; Role play	Freq	Effective only on DCT	Significant pre-post increase in frequency ( <i>t</i> -test).
Sardegna & Molle (2010)	Pre-post	Japanese L1 ( <i>n</i> = 5)	English	Reactive tokens	Explicit & implicit	Online discussion	Qual	Effective	Target forms emerged at post, but negative L1 transfer remained.
Sykes (2009, 2013)	Pre-post	Mixed L1 ( <i>n</i> = 53 & 25)	Spanish	Request & apology	Implicit	DCT	Freq	Effective for apology only	1–6% gain for request strategies; 49% gain for apology strategies.
Tan & Farashaian (2012)	Pre-post/control	Malay L1 ( <i>n</i> = 60)	English	Request	Explicit	DCT; AJ-listen; AJ-read	Score	Effective	TG outperformed CG at posttest ( <i>t</i> -test).
Taylor (2002)	Pre-post	L1 not reported ( <i>n</i> = 16)	Spanish	Gambits	Explicit	Discussion; Role play	Freq	Effective on discussion only	Significant pre-post gain for discussion, but not for role play ( <i>t</i> -test).
Usó-Juan (2013)	Pre-post	Spanish L1 ( <i>n</i> = 10)	English	Refusal	Explicit	DCT	Freq	Effective	Significant pre-post gain ( <i>t</i> -test).

Study	Design	Participants	L2	Pragmatic target(s)	Treatment type	Outcome measure(s)	Data	Results	Evidence of effectiveness
Utashiro & Kawai (2009)	Pre-post	Mixed L1s ( <i>n</i> = 24)	Japanese	Reactive tokens	Explicit	Recognition & production test	Score	Effective	Significant pre-post gain (ANOVA).
Van Compernelle (2011)	Pre-post	English L1 ( <i>n</i> = 1)	French	Address forms	Explicit	Awareness interview	Qual	Effective	Expression of more nuanced understanding of address forms.
Wishnoff (2000)	Pre-post/ control	Mixed L1s ( <i>n</i> = 26)	English	Hedging	Explicit	Planned & unplanned writing task	Freq	Different gain by task	TG outperformed CG at posttest ( <i>t</i> -test).
Yoshimi (2001)	Pre-post/ control	Mixed L1s ( <i>n</i> = 17)	Japanese	Interactional discourse marker	Explicit	Story telling	Freq	Effective	Discourse marker increased from 0.02 to 0.39/clause for TG. No change for CG.

*Note.* MAQ: metapragmatic awareness questionnaire. AJ: appropriateness judgment task. MCQ: multiple-choice questionnaire. DCT: discourse completion test. Explicit: instruction with metapragmatic information. Implicit: instruction without metapragmatic information. Delay: delayed posttest. TG: treatment group. CG: control group. Freq: frequency count of target strategies and forms. Qual: Qualitative analysis of conversations and verbal reports.

## Appendix B: Textual Display of a Chunk Encoding the Addition Fact ( $3 + 4 = 7$ )

The ACT-R software describes the chunk,  $3 + 4 = 7$  as below:

```
GOAL(Fact3+4)
isa addition-fact
addend1 THREE
addend2 FOUR
sum SEVEN (or NIL)
```

‘isa’ represents the type (category) of the chunk, and ‘addend1’, ‘addend2’ and ‘sum’ are slots in the chunk, which represents attribution of the type. THREE and FOUR are fillers or contents of the slot, thus sum, in this case, is SEVEN. In case the answer is not known yet, it is indicated as NIL.

A typical (general) production rule is indicated in the condition part (IF) and the action part (THEN) pair, where the encoded chunks are embedded. The steps of thought toward the goal of problem-solving are expressed by a sequence of condition-action rules or so-called general production rules (general interpretive procedure) in a production system as shown below:

### <General Production Rule>

```
IF    the goal is to add two digits n1 and n2 in a column
        and  $n1 + n2 = n3$ 
THEN say n3
```

This general production rule requires retrieving a specific sum to match the goal in the second line ( $n1 + n2 = n3$ ). Thus, for example, if the goal was to find out what 3 and 4 are, the goal would be to retrieve  $3+4=7$  chunk.

Next, a subsequent specific production rule is created by applying the general production rules above for a specific (current) use as indicated below.

```
IF    the goal is to find the sum of 3 and 4
THEN say 7.
```

**Appendix C: Participants' Learning History of Foreign Language**

<b>Male (N =)</b>	93
<b>Female (N =)</b>	27
<b>Average age</b>	19.23

<b>English learning</b>	<b>Average</b>	<b>Min.</b>	<b>Max.</b>
<b>Start learning (age)</b>	11.57	4	14
<b>Period of learning (year)</b>	7.579	6	16

<b>After-school learning</b>	<b>Number of people</b>	<b>Average year</b>	<b>Remarks</b>
English conversation	18	3.75	-
English learning	3	2.17	-
Tutoring school	61	3.18	Calculated with *N=60
Cram school	3	1.50	Calculated with *N=2

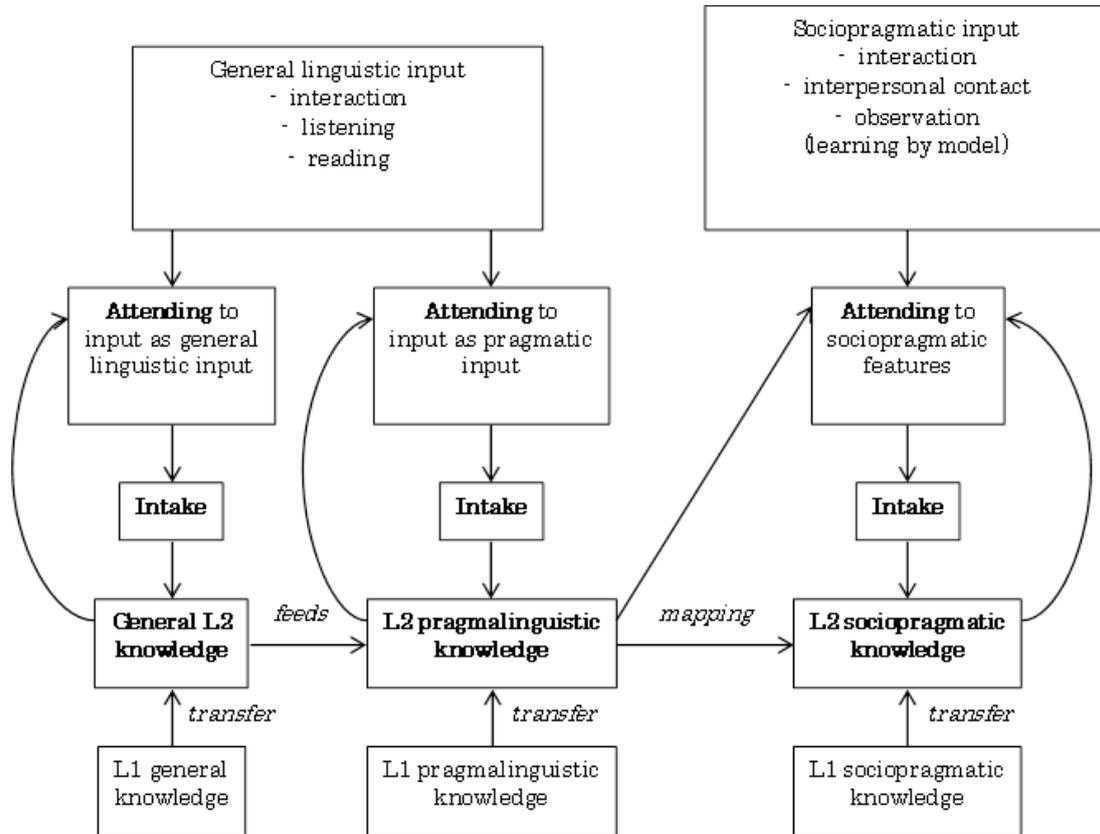
Note:

Since it is possible to answer multiple items, the number of respondents includes duplicates. Those who did not answer about the number of years of study were excluded when calculating the average number of years.

<b>Foreign language</b>	<b>Level</b>	<b>Number of people</b>	<b>Period (year)</b>
Korean	beginner	1	2
Spanish	beginner	17	0.80
	NA	2	0.75
Chinese	beginner	36	0.92
	NA	3	2.83
German	beginner	17	1.37
	NA	4	3.50
French	beginner	4	1.75
	NA	3	3.50
<b>Total</b>		<b>87</b>	

**Two months or more of study abroad experience:** 4

## Appendix D: Roever's Model of Pragmatics Learning



Adopted from Roever (2009, p. 562)

## Appendix E: Teaching Plan

<b>Week 1</b> (90 min.)	<b>Introduction of the research and guidance to procedures</b> <ol style="list-style-type: none"> <li>Brief explanation of the research, researcher, and schedule (10min.)</li> <li>Pre-DCT (80 min.)</li> </ol>	
<b>Week 2</b> (20 min.)	<b>The preliminary session on pragmatic instruction</b> <ol style="list-style-type: none"> <li>Implicit instruction: watch a video, nothing directly related to the speech acts but showing some cultural difference in starting a conversation. (<a href="https://www.youtube.com/watch?v=o8byNsJseaE">https://www.youtube.com/watch?v=o8byNsJseaE</a>)</li> <li>Introduction to speech acts: explain briefly about the basic concept of pragmatics and production of speech acts. Encourage students to proactively interact with the instructor and peers through Q&amp;A discussion.</li> <li>Group discussion: how to ask a professor to write a letter of recommendation for you.</li> <li>Instructional feedback from the instructor.</li> </ol>	
<b>Week 3</b> (20 min.)	<b>Explicit instruction on Requests</b> <ol style="list-style-type: none"> <li>Watch a video requesting a subordinate to make a copy. (<a href="https://www.youtube.com/watch?v=QWBwCoecvkM&amp;list=PLcetZ6gSk969oGvAI0e4_PgVnlGbm64bp&amp;index=6">https://www.youtube.com/watch?v=QWBwCoecvkM&amp;list=PLcetZ6gSk969oGvAI0e4_PgVnlGbm64bp&amp;index=6</a>)</li> <li>Group discussion on what students noticed about requesting something from the people in the lower social status in L2 (e.g., difference in request making in L1 and L2).</li> <li>Feedback from the instructor.</li> </ol>	
<b>Week 4</b> (20 min.)	<b>Explicit instruction on Requests</b> <ol style="list-style-type: none"> <li>Group discussion: how to make a request to a friend.</li> <li>Feedback from the instructor.</li> <li>Practice a short roleplay. Do some exercises in the textbook (Heart to Heart) to review and confirm what they learned.</li> </ol>	
<b>Week 5</b> (20 min.)	<b>Implicit introduction on Refusals</b> <ol style="list-style-type: none"> <li>Learning through video: how to say 'No' nicely. (<a href="https://www.youtube.com/watch?v=FWlfhY2S6ws&amp;feature=youtu.be">https://www.youtube.com/watch?v=FWlfhY2S6ws&amp;feature=youtu.be</a>)</li> <li>Preparation to learn about refusal making (Brainstorming).</li> <li>Group discussion on how to produce refusal speech acts (checking if students discuss using the knowledge on request making to construct refusal speech acts).</li> </ol>	
<b>Week 6</b> (20 min.)	<b>Explicit instruction on Refusals</b> <ol style="list-style-type: none"> <li>Learning through video on refusing the offer of lunch. (<a href="https://www.youtube.com/watch?v=WFDvDcozhYM&amp;list=PLcetZ6gSk969oGvAI0e4_PgVnlGbm64bp&amp;index=18">https://www.youtube.com/watch?v=WFDvDcozhYM&amp;list=PLcetZ6gSk969oGvAI0e4_PgVnlGbm64bp&amp;index=18</a>)</li> <li>Group discussion: what students noticed when viewing a video on how to say 'No' to the offer of barbecue.</li> </ol>	
<b>Week 7</b> (20 min.)	<b>Explicit instruction on Refusals</b> <ol style="list-style-type: none"> <li>Learning through video: Being Polite, How to soften your English. (<a href="https://www.youtube.com/watch?v=rQN4-15AXE0">https://www.youtube.com/watch?v=rQN4-15AXE0</a>)</li> <li>Instruction on 'softening strategies' in the textbook.</li> <li>Group discussion: how to ask your professor to check your homework politely.</li> <li>Feedback from the instructor.</li> </ol>	

(Continued)

## Teaching plan (Continued)

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- Week 8**  
(20 min.)
1. Review on request making (e.g., tips to make requests politely in L2).
  2. Instruction about ‘structuring speech acts’ and formulaic expressions.
  3. Group discussion to prepare roleplays on refusal making.
- Week 9**  
(20 min.)
1. Review on how to start conversation politely.
  2. Group discussion about what students noticed comparing the Japanese press interview with the UK press interview they saw in the video in the second week.  
(<https://www.facebook.com/ABCNews/videos/say-hello-to-shinzo-pres-trump-tells-japanese-reporter-referring-to-japanese-pri/345551519324289/>)
- 
- Week 10**  
(20 min.)
1. Review on refusal making.  
(<https://www.youtube.com/watch?v=Zo1E0jsIKto&feature=youtu.be>)
  2. Roleplay activities (group discussion + creating scripts + roleplay).
  3. Feedback from the instructor.
- 
- Week 11**  
(20 min.)
1. Roleplay activities (group discussion + roleplay), creating scripts and do roleplay on refusal making in different contexts.
  2. Feedback from the instructor.
- Week 12**  
(20 min.)
1. Review on request and refusal makings.  
(<https://www.youtube.com/watch?v=TukVfbsWpNA&feature=youtu.be>)
  2. Roleplay activities and group discussion on what students learned about speech acts production in different context.
  3. Feedback from the instructor.
- 
- Week 13**  
(20 min.)
1. Review what students learned about contextually appropriate production of speech acts.
  2. Group discussion on how to say things politely in L1 and L2.
  3. Feedback from the instructor.
- Week 14**  
(80 min.)
1. Post-DCT (80 min.)
-

## Appendix F: WDCT

### Discourse Completion Test (DCT)

ID: \_\_\_\_\_

**I. Please read each of following situations After each situation you will be asked to write a response in the blank. Please respond as you would in an actual conversation.**

I. 下記に状況を説明した文章があります。文章をよく読んで、それぞれの問題に答えて下さい。回答の際は、自分がその場面にいることを想像して、実際に話すように記述して下さい。

#### Situation 1

You are a professor (the age of 50) and has books in your both hands. You cannot open the door and need to ask a student passing by to open the door. What would you say to the student?

あなたは大学教授（50歳）です。両手で本を抱えているためドアが開けられません。そこで通りすがりの学生にドアを開けるように頼みたいと思っています。その学生に何と言いますか？

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### Situation 2A

You are a freshman in college and having a chemistry test in two days. As you missed the class several times, you want to ask your friend, Hiroko for the lecture notes, who attended the class regularly and took good notes. What would you say to her?

あなたは大学1年生です。2日後に化学のテストがありますが、授業を何回か欠席してしまったため、毎回授業に出席ししっかりノートをとっていた友人のヒロコさんにノートを借りたいと思っていますがどのように頼みますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 2B**

Suppose you are the student. Since you attended the class every time seriously and took good notes, you'd rather not lend the notes to your friend Taro, who often missed the classes. How do you respond him?

あなたがノートを頼まれた学生の立場だったとします。毎回まじめに授業に出席してしっかりとしたノートなので出来ればノートを貸したくないと思っています。友人のタロウに対してどう答えますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 3A**

You are the director (the age of 40) of Sales Department. You want to ask your subordinate, (Henry Brown, the age of 25) to copy some documents. How do you ask?

あなたは 会社の営業部の部長 (40 歳) です。部下のヘンリー・ブラウン (25 歳) に資料のコピーを頼みたいと思っています。どのように頼みますか？

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 3B**

Suppose you are the subordinate. You are about to leave the company as you have an appointment with the client and do not think you have a time for making a copy. How do you respond to your boss (Victoria Smith, the age of 40)?

次に、あなたが部下の立場だったとします。取引先との約束があり今すぐ外出しなければならないため、コピーをする時間がありません。上司のヴィクトリア・スミス(40 歳)に対して何と答えますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 4A**

You are a college student under job hunting and going to visit a company of your first choice for a job interview today. However, you are getting late for the interview and would like to reschedule the appointment. What would you say to the person in charge of recruitment?

あなたは就職活動中の大学生です。今日は第一希望の会社の面接の予定でしたが、約束の時間に間に合いそうにありません。どうしてもその面接を受けたいので、面接スケジュールの変更をお願いしたいと思っています。その会社の人事担当者に何と言いますか？

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 4B**

Suppose you are the person in charge of recruitment. You do not think you can reschedule the interview since the interviewers are not available for other time today. How do you respond to the student (George Adams)?

あなたがこの会社の人事担当者だったとします。その日は予定の時間以外に面接官の都合がつかないため、面接の時間を変更することができません。この学生（ジョージ・アダムス）に対してどのように回答しますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 5A**

Suppose you are the director of Finance Department (the age of 50). You are becoming late for documenting the materials to report to the president. You would like to ask your subordinate (William Carman, the age of 25) to work these weekends (both Saturday and Sunday). What would you like to say?

あなたは会社の財務部の部長(50歳)です。社長に報告するための資料作成が遅れており、部下のウィリアム・カーマン(25歳)に今週の土曜日と日曜日の2日間の休日出勤を頼みたいと思っております。どのように伝えますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 5B**

Suppose you are the subordinate. You would like to help your boss (Richard Cook, the age of 50) but cannot make it as you are attending the wedding of your best friend this Saturday. How would you respond to your boss?

今度はあなたが部下の立場だったとします。部長のリチャード・クック（50 歳）を手伝いたいと思っていますが、土曜日は自分の親友の結婚式があるためどうしても出勤できません。あなたならこの部長にどう答えますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 6A**

You are a freshman in college. You forgot to bring a handout given last week in the class. You want to ask the professor (Elizabeth Waters, the age of 45) for another copy as she is going to use it in the class today. What would you say to her?

あなたは大学 1 年生です。先週の授業で配られたプリントを持ってくるのを忘れてしまいました。授業で使うため、エリザベス・ウォータース教授（45 歳）に再度プリントを貰いたいと思っています。何と言いますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 6B**

Suppose you are the professor. You do not have an extra copy with you to give to the student (Mary Scott). How do you respond to the student?

もしあなたがこの大学教授の立場だったとして、予備のプリントが 1 枚もないため学生（メアリー・スコット）にプリントを渡せないとしたら、どのように言いますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 7A**

You are a freshman in college. You need to collect as many participants as possible for your research experiment. You may have to ask students at Science Engineering, though you are not familiar with. The experiment may take a long time. To ask for the corporation how do you say to the students who you don't know?

あなたは大学 1 年生です。自分の研究実験に参加してくれる人をできるだけたくさん探さなければならぬため、同じ理工学部で面識のない学生にも実験に協力してもらいたいと思っています。ただし、その実験は時間がかかる可能性のある実験です。何とか協力してもらうために、面識のない学生に対してどのように言いますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 7B**

Suppose you are the student who is asked for the participation. You think you do not want to participate in the experiment which was said to take a long time. How do you respond to the researcher?

今度はあなたが協力を求められた側の学生だったとして、時間がかかりそうなような実験には参加したくないと思っているとしたら、相手の学生にどのように答えますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 8A**

You are a freshman in college. You have an assignment to submit in two days but you do not think you can make it since you have been in bed with the flu. You would like to ask your professor (James King, the age of 60) for a week extension of the deadline. How do you say to the professor?

あなたは大学 1 年生です。2 日後に提出しなければならない課題がありますが、先週インフルエンザで寝込んでいたため、提出期限に間に合いそうにありません。そこで担当のジェームズ・キング教授（60 歳）に 1 週間の提出期限の延長をお願いしたいと思っています。教授にどのように言いますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Situation 8B

Suppose you are the professor. You understand the student (Charles Kelly) was sick but you think one-week extension is too long and unacceptable. How do you respond to the student?

次にあなたがこの教授の立場だったとします。相手の学生チャールズ・ケリーが病気だったことは理解していますが、1週間の延長は長すぎるので認めたくありません。彼にどのように回答しますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Situation 9A

You are a professor (the age of 45) at the department of Economics. For your own research, you are wishing to launch the joint project with the department of Science and Engineering. You want the students at the department of Science and Engineering to join the project. How do you say to the students, who you are not familiar with?

あなたは経済学部の教授(45歳)です。自分の研究のため、理工学部との共同研究プロジェクトを立ち上げようとしており、理工学部の学生にもプロジェクトに参加して貰いたいと思っています。面識のない学生に対してどのように言いますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Situation 9B

Suppose you are a freshman at the department of Science and Engineering. You do not want to join the project because you are not interested in the content of the project at all. How do you respond to the professor (Edward Davies), who came up to you?

もしあなたが逆の立場で、理工学部の大学1年生だったとして、共同研究の内容にまったく興味が持てないので参加したくないと思っていたら、声をかけてきた経済学部のエドワード・デービス教授に対して何と伝えますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 10A**

You are a freshman in college, attending the conference on your research topic. You want to take notes but found that you did not have a pen with you. You want to borrow a pen from a man sitting next to you just by chance, who looks like a professor (around the age of 60). How do you say to him?

あなたは大学1年生で、自分の研究分野の学会に参加しています。発表の内容のメモをとりたいと思っていますが、ペンを忘れてきてしまったため、たまたま隣に座っていた教授らしき男性（60歳くらい）にペンを借りたいと思っています。どのように言いますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Situation 10B**

Suppose you are the professor. You were asked for a pen by the person who looks like a student sitting next to you, who you were not familiar with. You cannot lend him a pen because you have only one pen with you. How do you say to the student?

今度はあなたが大学教授だつたとします。面識のない隣の学生らしき人からペンを貸してほしいと言われましたが、残念ながら1本しか持っていないため貸せません。何と言いますか。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**II. Referring to the examples given below, complete the dialogue in accord to the situations Purpose and the role of participants set for each dialogue. You can take turns of speech as many as you want. Please indicate who is speaking as shown in the example below.**

II.ここからは、会話形式で回答する問題になります。例題を参考にして、それぞれ与えられた状況設定の中で、あなたとあなたの話し相手がやり取りする様子を想像して、会話形式になるように答えて下さい。なお、会話のターンは何回になっても構いません。但し、発言者がわかるように明記して回答して下さい。

**Example**

Situation: in the classroom, Purpose: negotiation, Role: Student and Professor

You are the student taking an English language course. It is just about the middle of the term now. You want to ask the professor who teaches at the language course to give more practice in conversation and less on grammar. But the professor does not think it a good idea and wants to reject the idea. You want to persuade the professor. How does the dialogue go?

例題：

あなたは英語のクラスを受講している学生です。学期も中期にさしかかり、そのコースの担当教授に文法の練習を減らしてもっと会話の練習時間を増やして欲しいとお願いしたいと思っています。一方教授はその考えに同意できません。その学生は何とか教授を説得したいと思っております。どのように話が進んでいくのでしょうか？

You: I would XXXXXXXX. (You ask the professor to give more practice in conversation and less on grammar. / 教授にもっと文法の時間を減らし会話練習の時間をとって欲しいと依頼する)

Professor: XXXXXXXXXX. (He/she want to refuse the request. / その提案受け入れられません)

You: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX. (You want to persuade the professor to change his/her mind. / 教授を説得して決心を変えてもらおうとしています)

(Continue the dialogue, if necessary. / 必要であれば会話を続けてください)

You: XXXXXX.

Professor: XXXXXXXXXXXXXXXXXXXX.

You: XXXXXXXXXXXXXXXXXXXX.

Professor: XXX.

⋮

⋮

Professor: XXX.

### Situation 11

Situation, preparing for the party, Purpose: to get sugar, Role: Friend

You are a freshman in college and preparing to have a party with other five friends from the same department. You are about to make a cake but found no sugar left. You asked one of your friends (Anne) to go to the supermarket and get some sugar. 1) What do you say? Your friend mistakenly bought salt for sugar. 2) What do you say to your friend? Since you cannot make a cake without sugar, you want to ask him/her again to go and get some sugar. 3) What do you say? 4) Continue the conversation until you get sugar.

あなたは大学 1 年生で、同じ学部の仲のいい友達 5 人でパーティーをするための準備をしています。みんなでケーキを作ろうとしたところ、砂糖がないことに気付いたので、ひとりの友達（アン）に近くのスーパーで買ってきてもらうように頼みたいです。1) 友達に何と申しますか？ 2) その友達が誤って塩を買ってきてしまいました。その時あなたは彼女にどう申しますか？ 3) また砂糖がなければケーキが作れないため、もう一度その子に買いに行きたくて申したいのですが、何と申しますか？ 4) 最終的に砂糖が手に入るまで会話を続けて下さい。

You: \_\_\_\_\_

\_\_\_\_\_

( ): \_\_\_\_\_

\_\_\_\_\_

( ): \_\_\_\_\_

\_\_\_\_\_

( ): \_\_\_\_\_

\_\_\_\_\_

( ): \_\_\_\_\_

\_\_\_\_\_

You: Great, finally we got sugar.

**Situation 12**

Situation: Planning a project at lab, Purpose: propose an alternative method, Role: Student and Professor.

You participated in an experimental research project. You believe the experimental method the principal professor is proposing will not work. You want to explain your thought and propose him to change the method. 1) What do you say? Despite your effort, the professor seemed not willing to accept your proposal. 2) What does the professor say? You want to persuade him by any means to accept his alternative method . 3) What do you say? 4) Please continue writing, if necessary, how the dialogue goes on between the two.

あなたはある実験研究プロジェクトに参加していますが、主任教授の実験方法では上手く行かないと考えています。自分の考えを説明し、方法を変えてもらいたいと思っています。1) どのように伝えますか。一方、教授はその考えに賛同できません。2) どのように学生に反論しますか。それに対し、あなたは何とか教授を説得をして代案を受け入れてもらいたいと考えています。3) 教授をどのように説得しますか。4) その後教授が同意するまでどの様に会話が進んでいくでしょうか書いてみて下さい。

You: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Professor: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

( ): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

( ): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

( ): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Professor: Great (finally the professor accepted your idea).

**Situation 13**

Situation: business meeting, Purpose: price negotiation, Role: Sales Rep and Client company.

You are now at the business meeting with your client. The client wants to ask the price reduction by 20 %. 1) What does the client say? You cannot accept 20 % because it is too much and your company will not make any profit. 2) What do you say to the client? You, then, want to propose the alternative plan because you strongly wish to continue business with the client, 3) what do you say to the client?

あなたは商談に参加しています。取引先は 20%の値下げを要求しようと考えていますが、  
1) どのように伝えますか。一方、あなたの会社は赤字になってしまうため、その要求には  
応じられないと考えています。2) どのように返答しますか。しかし取引先がその答えに満  
足していないようです。なんとか取引を継続するために、代替案を提案したいと思ってい  
ます。3) どのように提案しますか？

Client: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

You: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

( ): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

( ): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

( ): \_\_\_\_\_

\_\_\_\_\_

Client: OK, I will discuss with our management team about your proposal.

## Appendix G: Questionnaire on Educational Background

2018年10月



### 言語学習履歴に関するアンケート

学籍番号 \_\_\_\_\_

#### 1. 英語学習について

現在の年齢 \_\_\_\_\_

英語学習開始時の年齢 \_\_\_\_\_

英語学習期間（義務教育期間を含む） \_\_\_\_\_ (例) 6年

学校以外での英語学習と期間 \_\_\_\_\_

(例) 塾/3年、英会話スクール/半年

#### 2. 日本語・英語以外の言語について

日本語と英語以外の言語の学習経験のある方は、その言語とレベル、学習開始年齢と期間をお知らせください（大学での第二外国語の授業も含まれます）。学習経験のある言語は**全て**記入をお願いします。学習経験がない場合は空欄のままで結構です。

(例) フランス語(初級)/半年(18歳～)、スペイン語(中級)/4年(12歳～)、中国語(上級)/6年(5歳～)

\_\_\_\_\_

#### 3. 留学経験について

1ヶ月以上の海外留学経験のある方は、滞在国（複数記入可）と滞在期間、滞在時の年齢をお知らせください。なお、滞在国はアメリカなどの英語圏の国でなくても結構です。滞在経験がない場合は空欄のままで結構です。

(例) アメリカ/3ヶ月(10歳～)、フランス/2年(15歳～)

\_\_\_\_\_

質問は以上です。ご協力ありがとうございました。

(For Japanese participants)



### PERSONAL INFORMATION SHEET

Please answer the following questions. All personally identifiable information will be kept confidential.

1. Age: \_\_\_\_\_
2. Sex: \_\_\_\_\_
3. Nationality (e.g. British, American etc.): \_\_\_\_\_
4. Your first/dominant language (e.g. English): \_\_\_\_\_
5. Other languages and proficiency levels (beginner / intermediate/ upper-intermediate / advanced) (e.g. Spanish/ upper-intermediate):  
Language \_\_\_\_\_ / Proficiency \_\_\_\_\_  
Language \_\_\_\_\_ / Proficiency \_\_\_\_\_  
Language \_\_\_\_\_ / Proficiency \_\_\_\_\_
6. Have you lived abroad for more than one month? Yes / No  
If you choose 'Yes', which countries and how long? (e.g. France for 3 years etc.):  
\_\_\_\_\_
7. Are you student? Yes / No  
If you choose 'Yes', which degree? (e.g. Bachelor, Master etc.): \_\_\_\_\_
8. Do you have any working experience? Yes / No  
If you choose 'Yes', what type of work and how long? (e.g. bank officer for 5 years etc.):  
\_\_\_\_\_

**Thank you so much!**

PERSONAL INFORMATION SHEET 2018 [English L1 speakers]

(For English L1 speakers)

## Appendix H: Questionnaire on Pragmatic Instruction

### 語用論(ポライトネス)の授業に関するアンケート

学籍番号: \_\_\_\_\_

下記の1~7の質問について、それぞれ最も当てはまるものに丸をつけて、必要があれば回答を記入して下さい。

1. 今回の授業を受けて、語用論(ポライトネス)に興味を持ちましたか？

- a) とても興味を持った
- b) まあまあ興味を持った
- c) あまり興味を持たなかった
- d) 全く興味を持たなかった

2. 今回語用論(ポライトネス)について学んでみて、このような授業を今後の大学の英語教育にももっと取り入れていったほうが良いと思いますか？

- a) とてもそう思う
- b) まあまあそう思う
- c) あまりそうは思わない
- d) 全くそうは思わない

3. 将来仕事で英語を使うことになった場合、今回の語用論(ポライトネス)の授業で学んだことは役に立つと思いますか？

- a) とても役に立つと思う
- b) まあまあ役に立つと思う
- c) あまり役に立たないと思う
- d) 全く役に立たないと思う

4. 語用論(ポライトネス)の授業を受けて、英語を使う際に何か気をつけるようになったことはありますか？「ある」と答えた場合は、具体的にどのような点を気をつけるようになったかを教えて下さい。

- a) ある  
(具体例: \_\_\_\_\_ )
- b) 特にない

5. 語用論(ポライトネス)を学ぶ中で、何か難しいと思った点がありますか？ 難しいと感じた点がある場合は、具体的にどのようなところが難しいと感じたかを教えて下さい。

- a) 難しいと思った点がある  
(具体例: \_\_\_\_\_ )
- b) 特に難しいと思った点はない

6. 語用論(ポライトネス)の授業を受けて、通常の英語の授業の理解度に変化があったと感じますか？

- a) 通常の授業の理解度がとても深まったと感じる
- b) 通常の授業の理解度がまあまあ深まったと感じる
- c) 通常の授業の理解度が深まったとはあまり感じない
- d) 通常の授業の理解度が深まったとは全く感じない

7. 語用論（ポライトネス）の授業を受けて、何か気づいたことや感想などがあればお願いします。

質問は以上です。

ご協力、ありがとうございました。

## Appendix I: Politeness Ranking Task

### Politeness Ranking Task

学籍番号 : \_\_\_\_\_

最も丁寧な表現

最も丁寧ではない表現

**Task**

下の28の表現を全て用いて、最も丁寧だと思うものから最も丁寧ではないと思うものの順に並び替え、左のマスの上から下へと順番に記入してください。  
 なお、表現の意味がわからないものには、数字の右隣に「?」を記入してください。

1. Can you + V?
2. Could you + V?
3. Can I + V?
4. Could I + V?
5. Will you + V?
6. Would you + V?
7. May I + V?
8. Please + V.
9. I want you to V. (e.g., I want you to lend me your pen.)
10. I want to V. (e.g., I want to borrow your pen.)
11. I would like to + V.
12. Is it all right if you ...?
13. Is there any chance you could + V ?
14. Would you be able to + V ?
15. Is it possible to + V ?
16. Would it be possible to + V ?
17. Do you think you could...?
18. Do you mind if I + V?
19. Would you mind if I + V?
20. Do you mind V+ing?
21. Would you mind V+ing?
22. V. (e.g., Lend me your pen.)
23. Let me +V. (e.g., Let me borrow your pen.)
24. I was wondering if it were possible for you to + V.
25. I was wondering if you could+V.
26. I wonder if you could + V.
27. I'd appreciate it if you could + V.
28. I'd be grateful if you could + V.

(For Japanese participants)

## Politeness Ranking Task

The most polite

The least polite

### Task

Please order the **ALL** following expressions (1 to 28) according to politeness from the highest to the lowest.

1. Can you + V?
2. Could you + V?
3. Can I + V?
4. Could I + V?
5. Will you + V?
6. Would you + V?
7. May I + V?
8. Please + V.
9. I want you to V. (e.g., I want you to lend me your pen.)
10. I want to V. (e.g., I want to borrow your pen.)
11. I would like to + V.
12. Is it all right if you ...?
13. Is there any chance you could + V ?
14. Would you be able to + V ?
15. Is it possible to + V ?
16. Would it be possible to + V ?
17. Do you think you could...?
18. Do you mind if I + V?
19. Would you mind if I + V?
20. Do you mind V+ing?
21. Would you mind V+ing?
22. V. (e.g., Lend me your pen.)
23. Let me +V. (e.g., Let me borrow your pen.)
24. I was wondering if it were possible for you to + V.
25. I was wondering if you could+V.
26. I wonder if you could + V.
27. I'd appreciate it if you could + V.
28. I'd be grateful if you could + V.

(For English L1 speakers)

## Appendix J: Roleplay Scenarios

### ***Role-play (A)***

これからグループ同士でロールプレイを行います。今まで授業で習った点（構造、表現、ストラテジーなど）を思い出しながら、自分達の主張が相手に受け入れられるまで会話を続けてください。

#### **【準備】**

- ① グループの代表者（実際に相手グループとロールプレイをする人）を **Situation** ごとに 1 人決めてください（合計 2 人）。他の人は代表者が相手グループの人とやり取りする際に、補佐してください。
- ② 下記の状況で自分達ならどのように言うかをグループ全体で考えてください。相手グループのあらゆる答えを想定して、どのような返答が来ても対応できるように準備してください。

#### **Situation 1**

あなたは今大学で英語の授業を受けていて、再来週にはとても重要なテストが控えています。ところが先生が勘違いをしていて、テストは来週だと言いました。あなたはテストの準備を全くしていないため、何としてもテストは予定通り再来週にして欲しいと思っています。どのようにして先生に頼みますか？

※相手グループから会話がスタートします

※先生の名前は相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

#### **Situation 2**

あなたは大学の英語の先生（45 歳）です。ある学生が個人的に自分のところにやっけて、文法中心の授業ではなくコミュニケーション中心の授業をして欲しいと言いました。あなたは、とある理由から文法中心の授業をしており、その方針は変えたくないと思っています。学生に何と伝えますか？

※相手グループから会話がスタートします。

※学生の名前は相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

### **Role-play (a)**

これからグループ同士でロールプレイを行います。今まで授業で習った点（構造、表現、ストラテジーなど）を思い出しながら、自分達の主張が相手に受け入れられるまで会話を続けてください。

#### **【準備】**

- ① グループの代表者（実際に相手グループとロールプレイをする人）を **Situation** ごとに 1 人決めてください（合計 2 人）。他の人は代表者が相手グループの人とやり取りする際に、補佐してください。
- ② 下記の状況で自分達ならどのように言うかをグループ全体で考えてください。相手グループのあらゆる答えを想定して、どのような返答が来ても対応できるように準備してください。

#### **Situation 1**

あなたは大学の英語の先生（45 歳）です。来週成績に大きく関わる授業内テストを行う予定です。学生にも 2 週間前にそのように伝えてあります。また、とある理由からテストの日には変更したくないと思っています。テストのことを忘れていた学生に注意喚起するため、もう一度「来週テストをやる」ということを伝えてください。

※こちらのグループから「来週テストをします」と伝えて、ロールプレイを開始してください

※先生の名前は相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

#### **Situation 3**

あなた自身のことを想像してください。来週の英語の授業でプレゼンテーションをする予定でしたが、ある理由からどうしても日にちを変えて欲しいと思い、個人的に先生をお願いをしに行きました。どのように先生に伝えますか？先生が日程を変更してくれるまで、会話を続けてください。

※こちらのグループからロールプレイをスタートしてください

※学生の名前は、相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

### ***Role-play (B)***

これからグループ同士でロールプレイを行います。今まで授業で習った点（構造、表現、ストラテジーなど）を思い出しながら、自分達の主張が相手に受け入れられるまで会話を続けてください。

#### **【準備】**

- ① グループの代表者（実際に相手グループとロールプレイをする人）を **Situation** ごとに 1 人決めてください（合計 2 人）。他の人は代表者が相手グループの人とやり取りする際に、補佐してください。
- ② 下記の状況で自分達ならどのように言うかをグループ全体で考えてください。相手グループのあらゆる答えを想定して、どのような返答が来ても対応できるように準備してください。

### **Situation 3**

あなたは大学の英語の先生（45 歳）です。来週の授業で学生にプレゼンテーションをしてもらう予定です。ところがある学生が日にちを変えて欲しいと個人的にお願いに来ました。あなたはある理由から変更は出来ないと思っています。どのように学生に伝えますか？

※相手グループから会話がスタートします

※学生の名前は、相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

### **Situation 4**

あなた自身を想像してください。明後日の英語の授業でレポートを提出しなければなりません、間に合いそうにありません。重要なレポートなので絶対に終わらせなければと思い、仲のいいクラスメートのひとりに手伝ってもらうようお願いしようとしています。何とお願いしますか。相手の学生が手伝ってくれるまで会話を続けてください。

※こちらから会話をスタートさせてください

※学生の名前は、相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

### ***Role-play (b)***

これからグループ同士でロールプレイを行います。今まで授業で習った点（構造、表現、ストラテジーなど）を思い出しながら、自分達の主張が相手に受け入れられるまで会話を続けてください。

#### **【準備】**

- ① グループの代表者（実際に相手グループとロールプレイをする人）を **Situation** ごとに1人決めてください（合計2人）。他の人は代表者が相手グループの人とやり取りする際に、補佐してください。
- ② 下記の状況で自分達ならどのように言うかをグループ全体で考えてください。相手グループのあらゆる答えを想定して、どのような返答が来ても対応できるように準備してください。

### **Situation 2**

あなた自身を想像してください。今受けている英語の授業は文法が中心で、あまりコミュニケーションの練習がありません。あなたはコミュニケーションの練習の方が大事だと思うので、個人的に先生のところに行ってコミュニケーション重視の授業にしてもらうようお願いすることにしました。先生には何と言いますか？先生が了承するまで会話を続けてください。

※相手グループから会話がスタートします。

※学生の名前は相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

### **Situation 4**

あなた自身を想像してください。明後日の英語の授業で重要なレポートを提出することになっています。仲のいいクラスメートのひとりが自分のレポートを手伝って欲しいと言ってきました。あなたはある理由から手伝いたくないと思っています。そのクラスメートに何と言いますか？相手が諦めるまで会話を続けてください。

※相手グループから会話がスタートします。

※学生の名前は、相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

### ***Role-play (C)***

これからグループ同士でロールプレイを行います。今まで授業で習った点（構造、表現、ストラテジーなど）を思い出しながら、自分達の主張が相手に受け入れられるまで会話を続けてください。

#### **【準備】**

- ① グループの代表者（実際に相手グループとロールプレイをする人）を **Situation** ごとに1人決めてください（合計2人）。他の人は代表者が相手グループの人とやり取りする際に、補佐してください。
- ② 下記の状況で自分達ならどのように言うかをグループ全体で考えてください。相手グループのあらゆる答えを想定して、どのような返答が来ても対応できるように準備してください。

#### **Situation 5**

あなたはある会社の若手社員（23歳）です。自分が今手がけているプロジェクトを成功させるためには、どうしても最新のパソコンが10台必要です。パソコン購入について、上司にどのようにお願いしますか？

※こちらから会話をスタートしてください。

※上司の名前は相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

#### **Situation 6**

あなたは大学の英語の先生（45歳）です。学生に「タコについて」の論文を読んでレポートを書く宿題を出しましたが、ある生徒が誤って「イカについて」の論文でレポートを提出してきました。テーマが間違っているためレポートを受け取りたくありません。学生に何と言いますか？学生が承諾するまで会話を続けて下さい。

※相手のグループから会話がスタートします。

※先生の名前は相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

### **Role-play (6)**

これからグループ同士でロールプレイを行います。今まで授業で習った点（構造、表現、ストラテジーなど）を思い出ししながら、自分達の主張が相手に受け入れられるまで会話を続けてください。

#### **【準備】**

- ① グループの代表者（実際に相手グループとロールプレイをする人）を **Situation** ごとに 1 人決めてください（合計 2 人）。他の人は代表者が相手グループの人とやり取りする際に、補佐してください。
- ② 下記の状況で自分達ならどのように言うかをグループ全体で考えてください。相手グループのあらゆる答えを想定して、どのような返答が来ても対応できるように準備してください。

### **Situation 5**

あなたはある企業の部長（50 歳）です。部下がパソコンを 10 台購入したいと言ってきました。しかし、部署にはその予算がないため、どうしても 10 台購入することはできません。どのように部下に伝えますか？

※相手グループからスタートします。

※部下の名前は相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

### **Situation 7**

あなた自身を想像してください。来週の英語の授業で「イルカ(dolphin)とサメ(shark)」の比較についてプレゼンテーションをする予定です。仲のいいクラスメートが同じテーマを選んでいることがわかり、発表のテーマを「アジア象とアフリカ象」に変えて欲しいと頼まれました。しかしある理由から変更したくはありません。相手の学生に何と言いますか？相手が変更してくれるまで会話を続けてください。

※相手のグループから会話がスタートします。

※学生の名前は、相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

### ***Role-play (D)***

これからグループ同士でロールプレイを行います。今まで授業で習った点（構造、表現、ストラテジーなど）を思い出しながら、自分達の主張が相手に受け入れられるまで会話を続けてください。

#### **【準備】**

- ① グループの代表者（実際に相手グループとロールプレイをする人）を **Situation** ごとに 1 人決めてください（合計 2 人）。他の人は代表者が相手グループの人とやり取りする際に、補佐してください。
- ② 下記の状況で自分達ならどのように言うかをグループ全体で考えてください。相手グループのあらゆる答えを想定して、どのような返答が来てても対応できるように準備してください。

#### **Situation 7**

あなた自身を想像してください。来週の英語の授業で「イルカ(dolphin)とサメ(shark)」の比較についてプレゼンテーションをする予定です。しかし仲のいいクラスメートが同じテーマを選んでいることがわかり、発表のテーマを「アジア象とアフリカ象」に変えるように頼もうとしています。相手の学生に何と言いますか？相手が変更してくれるまで会話を続けてください。

※こちらから会話をスタートしてください。

※学生の名前は、相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

#### **Situation 8**

あなたはある企業の若手社員（23 歳）です。所属している部署は来週社運をかけた大きなコンペティション(competition)に参加する予定ですが、今日（金曜日）になってもその会場で配る資料（handouts）がまだ完成していません。そのため上司があなたに残業（overtime）して欲しいと言ってきました。しかし、あなたはとある理由でどうしても今日残業することができません。どのように上司に伝えますか？

※相手のグループから会話がスタートします。

※上司の名前は、相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

### ***Role-play (d)***

これからグループ同士でロールプレイを行います。今まで授業で習った点（構造、表現、ストラテジーなど）を思い出しながら、自分達の主張が相手に受け入れられるまで会話を続けてください。

#### **【準備】**

- ① グループの代表者（実際に相手グループとロールプレイをする人）を **Situation** ごとに 1 人決めてください（合計 2 人）。他の人は代表者が相手グループの人とやり取りする際に、補佐してください。
- ② 下記の状況で自分達ならどのように言うかをグループ全体で考えてください。相手グループのあらゆる答えを想定して、どのような返答が来ても対応できるように準備してください。

### **Situation 6**

あなた自身を想定してください。英語の授業で「タコについて」の論文を読んでレポートを書く宿題を出しましたが、あなたは誤って「イカについて」の論文でレポートを書いてしまいました。自分としてはとても頑張ったレポートなので、どうにかして先生（45 歳）に見て貰いたいと思っています。先生に何と伝えますか？ 学生が受け取ってくれるまで会話を続けて下さい。

※こちらから会話をスタートしてください。

※先生の名前は相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

### **Situation 8**

あなたはある企業の部長（50 歳）です。所属している部署は来週社運をかけた大きなコンペティション（competition）に参加する予定ですが、今日（金曜日）になってもその会場で配る資料（handouts）がまだ完成しておりません。そのため部下のひとり（23 歳）に残業（overtime）をお願いしたいと思っています。どのように部下に伝えますか？ 部下が残業を引き受けてくれるまで会話を続けてください。

※こちらから会話をスタートしてください。

※上司の名前は、相手のグループの人の名前をそのまま使ってください（必要があれば）。

<メモ欄>

**[English ver.]**

***Roleplay (A)***

From now on, we practice roleplays between groups. Remember and make use of what you have learned in the class (structure, expression, strategy, etc.) and continue the conversation until your claim is accepted by the other party.

**【Preparation】**

- ① Please select one representative of the group (the person who actually plays the role with the other group) for each situation (two people in total). Others should assist the representative when interacting with people in the other group.
- ② Think about what you would say in the following situations as a group. Be prepared to respond to any response, assuming every answer from the other group.

**Situation 1**

You are attending an English class at university now and will have a very important test coming up next week. However, the teacher said by mistake that the test was next week. You haven't prepared for the test at all, so you hope the test will be conducted next week as originally scheduled. How do you ask your teacher?

- \* The interlocutor in the other group starts the conversation.
- \* For the teacher's name, use the name of the interlocutor in the other group (if necessary).

<Notes>

**Situation 2**

You are an English teacher (45 years old) at university. A student came to you in person and asked you to give a communication-centric lecture instead of a grammar-centric lecture. you have a certain belief in your grammar-centric lecture and you don't want to change that policy. What do you say to students?

- \* The interlocutor of the other group starts the conversation.
- \* For the name of the student, please use the names of the interlocutor of the other group (if necessary).

<Notes>

## *Role-play (a)*

### **Situation 1**

You are an English teacher (45 years old) at university. Next week, you are planning to give an in-class test that will greatly affect the grades of students. You already told the students about the test two weeks ago. Also, for some reason, you don't want to change the test date. To alert students who may have forgotten about the test, please inform them again that students will have the test next week.

- \* Please start the roleplay from your side, saying a test is scheduled next week.
- \* For the teacher's name, use the name of the interlocutor in the other group (if necessary).

<Notes>

### **Situation 3**

Imagine yourself in the following situation: You were planning to give a presentation in the English class next week, but for some reason, you strongly wish to get the presentation date changed, so you visit your teacher in person to ask for the change of the test date. How would you tell your teacher? Continue the conversation with your teacher until he accepts your request.

- \* Please start the conversation from your side.
- \* For the student's name, use the name of the interlocutor in the other group (if necessary).

<Notes>

## ***Role-play (B)***

### **Situation 3**

You are an English teacher (45 years old) at university. You are planning to have students give a presentation in the class next week. However, a student came to ask for a change of the test date. You don't think you can change the date for some reason. How do you tell your students?

- \* The other group starts the conversation.
- \* For the student's name, use the name of the interlocutor in the other group (if necessary).

<Notes>

### **Situation 4**

Imagine you are in the following situation: you have to submit a report for the English class the day after tomorrow, but you don't think you can make it in time. It's an important report, so you think you should finish it by any means. For this reason, you are asking one of your close classmates to help you. What would you say to your classmate? Continue the conversation until the interlocutor accepts your request for help.

- \* Please start the conversation from your side.
- \* For the student's name, use the name of the person in the other group as it is (if necessary).

<Notes>

## ***Role-play (b)***

### **Situation 2**

Imagine you are in the following situation: The English class you are taking now focuses on grammar and do not give much practice for communication. You think communication practice is more important than the practice of grammar. Therefore, you decided to visit your teacher in person to ask for a more communication-oriented class. In such a situation, what do you say to your teacher? Please continue the conversation until the teacher approves your request for the change.

\* Please start the conversation from your side.

\* As for the name of the student, please use the name of the interlocutor in the other group (if necessary).

<Notes>

### **Situation 4**

Imagine you are in a situation: you are supposed to submit an important report in the English class the day after tomorrow. One of your close classmates asked you to help with his/her report. You don't want to help for some reason. What do you say to that classmate? Continue your conversation with him/her until he/she gives up getting your help.

\* The other group starts the conversation.

\* For the student's name, use the name of the interlocutor of the other group (if necessary).

<Notes>

## *Role-play (C)*

### **Situation 5**

You are a young employee (23 years old) of a company. In order for the project, you are working on to succeed, you need 10 of the latest computers by any means. How would you ask your boss to purchase the 10 computers?

- \* Please start the conversation from your side.
- \* For the name of the boss, use the name of the interlocutor in the other group (if necessary).

<Notes>

### **Situation 6**

You are an English teacher (45 years old) at university. You gave a student homework to read a paper on "About Octopus" and write a report on the paper, but one student mistakenly submitted a report on "About Squid". You don't want to accept the report because the theme is wrong. What do you say to students? Please continue the conversation until the student consent to your decline.

- \* The conversation starts from the other party's group.
- \* For the teacher's name, use the name of the person in the other group as it is (if necessary).

<Notes>

*Role-play (c)*

**Situation 5**

You are the manager of a company (50 years old). Your subordinate came to ask purchase 10 PCs. However, because your department does not have enough budget to buy the 10 units, you cannot purchase them. How do you tell your subordinates?

- \* Start the conversation from the other group.
- \* For the names of subordinates, use the names of the interlocutor of the other group (if necessary).

<Notes>

**Situation 7**

Imagine you are in a situation as follows: You are going to give a presentation on the comparison of "dolphin and shark" in the English class next week. However, you found out that your close classmates chose the same theme, and were asked to change the theme of the presentation to "Asian elephants and African elephants." But for some reason, you don't want to change the topic. What do you say to the other student? Keep conversation until the other person accepts the changes.

- \* The conversation starts from the other party's group.
- \* For the student's name, use the name of the interlocutor of the other group (if necessary).

<Notes>

## ***Role-play (D)***

### **Situation 7**

Imagine you are in the following situation: You will give a presentation on the comparison of "dolphin and shark" in the English class next week. You found out that your close classmates chose the same theme and was asked you to change the theme of the presentation to "Asian elephants and African elephants." But for some reason, you don't want to change it. What do you say to the other student? Keep talking until the other person changes it.

- \* The conversation starts from the other party's group.
- \* For the student's name, use the name of the person in the other group as it is (if necessary).

<Notes>

### **Situation 8**

You are a young employee (23 years old) of a company. The department you belong to is planning to participate in a big competition next week, but even today (Friday), the materials (handouts) to be distributed at the venue have not been completed yet. Because of this, your boss asked you to work overtime. But for some reason, you cannot work overtime today. How do you tell your boss?

- \* The other group starts the conversation.
- \* For the name of the boss, use the name of the interlocutor of the other group as it is (if necessary).

<Notes>

## *Role-play (d)*

### **Situation 6**

Imagine you are in the following situation: In an English class, you had homework to read a paper on "About Octopus" and write a report about this, but you accidentally wrote a report on "About Squid". Since you worked very hard on it, you want to persuade your teacher (45 years old) to accept the report and check it by any means. What do you tell your teacher? Continue the conversation until the teacher accepts the report.

\* You start the conversation.

\* For the teacher's name, use the name of the interlocutor (if necessary).

<Notes>

### **Situation 8**

You are the manager of a company (50 years old). The department you belong to is planning to participate in a big competition next week, but even today (Friday), the materials (handouts) to be distributed at the venue have not been completed yet. Therefore, you would like to ask one of your subordinates (23 years old) to work overtime. How do you tell your subordinates? Continue the conversation until your subordinates accept work overtime.

\* Please you start the conversation.

\* For the name of the boss, use the name of the interlocutor (if necessary).

<Notes>

「EFL環境で学ぶ日本人大学生の語用論的能力の発達に関する研究」の概要

□本研究を次のように実施致します。研究の目的や実施内容等をご理解いただき、本研究にご参加いただける場合は、別紙の「研究参加への同意書」にご署名をお願い致します。なお、研究に参加しない、あるいは一度参加を決めた後に途中で辞退されることになっても、不利益を被ることは一切ありません。

< 研究の目的 >

□この研究は、EFL環境における日本人の大学生の語用論的能力の発達について調査することを目的として実施いたします。研究の結果、上記の点が明らかになることによって、今後の効果的な英語学習に貢献できるのではないかと考えております。

1. 研究者について

□この研究は、Jim McKinley 博士の指導のもと、University-College-London-Institute-of-Education、Culture、Communication-and-Media 博士課程在学中の大山 舞によって実施されます。この研究に対する倫理的承認は UCL Institute-of-Education より習得済みです。

2. 調査方法と期間について

□この研究では、授業を観察するほか、授業内でご記入頂いた談話完成テスト (DCT) やポライトネスランキングの解答、授業中に使用されたノート (研究用に別途配布します) を収集し分析いたします。また、1年を通して担当教員に送られた E-mail やテストの結果など (研究に関係のあるものに限る) も、同意を頂いた上で収集・分析いたします。その際は、個人が特定できないよう氏名等の個人情報は削除して分析作業を行います。内容を正確に記録するため、授業中は音声の録音も合わせて行います。なお、分析をするなかでお伺いしたいことが出てきた場合、同意いただいた方にインタビューをお願いすることがあります。調査期間は 2018年4月16日から 2019年2月28日まで (授業の観察は 10月1日から 1月14日まで) を予定しております。

3. 研究にかかる時間

各 DCT (約 30 分)、口頭での DCT・ポライトネスランキング・質問票記入 (各 10 分)、ディスカッション・ロールプレイなど (約 15 分)、必要に応じたインタビュー (5~10 分)。

4. 研究辞退について

研究の趣旨をご理解いただきご参加いただければと思いますが、参加するか否かはご自身でご判断くださるようお願い致します。研究への参加をお断りになられたり、一度参加を決めて同意書に署名された後に途中で辞退されることになっても、何ら不利益を被ることはありません。その際には、それまでに収集したデータを即座に廃棄致します。

5. 収集データの公表

収集したデータの取り扱いには担当教員と英語母語話者の協力者 1 名、研究者に限定されます。この研究の成果は、博士論文やその他の研究論文、学会発表等に使用します。なお、論文等でデータを使用する際は、個人が特定できないような形で表記致します。また、ご希望の方には研究結果の概要をお知らせします。

6. 守秘や個人情報、研究データの取り扱いについて

収集したデータは、研究目的にのみ使用致します。同意書を含む紙媒体についてはスキャンしてデジ

タル化し、原本はシュレッダーにかけて廃棄します。また、個人情報を保護するため、デジタル化したデータに関してはパスワードを設定し、使用するパソコンにもプロテクトをかけて厳重に保管します。なお、収集した全てのデータは、早稲田大学の倫理規程に従い 10 年間保存した後、適切な処理のもと速やかに廃棄致します。

#### 7. お問い合わせ先について

研究内容に関するご質問は、以下の連絡先までご連絡ください。

研究者：大山 舞 (UCL Institute of Education, Culture, Communication and Media)

・Email: XXXXXXXXXXXX@ucl.ac.uk

・Tel: +44 (0)XX XXXX XXXX・・・(イギリスにかかります)・

・また、研究者の研究倫理等に関する問題が発生した場合は、指導教官である Jim McKinley 博士までご連絡下さい。

**Dr Jim McKinley**

Email:XXXXXXXXXXXX@ucl.ac.uk

UCL Institute of Education, University College London

20 Bedford Way, Bloomsbury, London WC1H 0AL

こちらの用紙はお手元にて保管をお願い致します。

研究概要および同意書【2018年10月版】

Note: For the protection of personal information, the document was partially modified.



## **PARTICIPANT INFORMATION STATEMENT**

*The Effect of Explicit Instruction on the Development of Pragmatic Competence of Japanese EFL learners: Raising Pragmatic Awareness in Realization of Requests and Refusals.*

### **Dear Participants (English L1 speakers)**

You are invited to participate in the study of the effectiveness of instruction on the development of pragmatic competence by Japanese students in EFL learning.

#### **(1) Who is carrying out the study?**

The study is being conducted by Mai Oyama and will form the basis for the degree of PhD in Culture, Communication and Media at the University College London (UCL) Institute of Education under the supervision of Dr Jim McKinley. Ethics approval for this study has been granted.

#### **(2) Method and period of study**

The results of DCT and politeness ranking judgement by English L1 speakers will be collected to be used as reference standard, when analysing the results of DCTs and politeness ranking judgement obtained from the Japanese students. In addition, follow up interviews will be conducted when I find DCT responses that need to be clarified with those participants who agree with the interview. Additional questions such as age, working experience, and nationality of the participants will be also asked on the questionnaire. The study will be from 1st September to 28th February 2019.

#### **(3) How much time will be for the participation?**

Around 30 minutes for responding DCT and politeness ranking, 5 minutes for questionnaire and 5 to 10 minutes for the follow up interview if necessary.

#### **(4) Can I withdraw from the study?**

Being in this study is completely voluntary - you are not under any obligation to consent. Even after giving consent, you can withdraw from the project at any time without any explanation. Data collected related to you will not be used in the study and will be disposed immediately after withdrawal. In addition, participants may choose, at any time, to have any recordings of themselves deleted that they do not want used for the study.

#### **(5) Will anyone else know the results?**

All aspects of the study, including results, will be strictly confidential and the access to information on participants is limited to the instructor, one English L1 speaker who will

assist her, and the researcher. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report. I will provide the summary of the findings to those who would like to receive.

**(6) How are the confidential individual information and the research data handled?**

The data collected will be used solely for the purpose of research. In order to protect individual information, a password will be set for the digitalized data. Paper documents including the consent form will be digitalised and original papers will be shred into disposal. All the data collected will be stored as long as 10 years in accord to UCL Research Data Policy and Science Council of Japan ethical guideline and then completely deleted or disposed in the proper manner.

**(7) Data Protection Privacy Notice**

The data controller for this project will be UCL. The UCL Data Protection Office provides oversight of UCL activities involving the processing of personal data, and can be contacted at [data-protection@ucl.ac.uk](mailto:data-protection@ucl.ac.uk). UCL's Data Protection Officer can also be contacted at [data-protection@ucl.ac.uk](mailto:data-protection@ucl.ac.uk).

Further information on how UCL uses participant information can be found here: <https://www.ucl.ac.uk/legal-services/privacy/participants-health-and-care-research-privacy-notice>.

If you are concerned about how your personal data is being processed, or if you would like to contact us about your rights, please contact UCL in the first instance at [data-protection@ucl.ac.uk](mailto:data-protection@ucl.ac.uk).

**(8) What if I require further information?**

When you have read this information, I will answer any questions you may have. If you would like to know more at any stage, please feel free to contact me on +44 XXXXXXXXXXXX or at [xxxxxxxxxxxx@ucl.ac.uk](mailto:xxxxxxxxxxxx@ucl.ac.uk).

And in case you have a complaint or concerns, you can contact with my supervisors.

**Dr Jim McKinley**

Email: [xxxxxxxxxxxx@ucl.ac.uk](mailto:xxxxxxxxxxxx@ucl.ac.uk)

UCL Institute of Education, University College London  
20 Bedford Way, Bloomsbury, London WC1H 0AL

This information sheet is for you to keep.

## Appendix L: Consent Form



### 研究参加への同意書

私は、「語用論的能力の発達に関する研究」について以上の事項について説明を受けました。研究の目的、方法、データ管理等について理解し、研究に参加いたします。

参加者（署名） \_\_\_\_\_

日付：2018年 月 日

#### インタビューへの参加について

・ インタビューを受けることに（ 同意する ・ 同意しない ）

#### 授業内容の録音について

・ 録音データの研究への利用について（ 同意する ・ 同意しない ）



**PARTICIPANT CONSENT FORM**

*The Effect of Explicit Instruction on the Development of Pragmatic Competence of Japanese EFL learners: Raising Pragmatic Awareness in Realization of Requests and Refusals.*

I have read the information statement and I understand that I may at any time withdraw from the study. I also understand that my opinions and data will be kept strictly confidential in all reporting of findings. I agree to take part in the study.

Your signature .....

Your Name (printed) .....

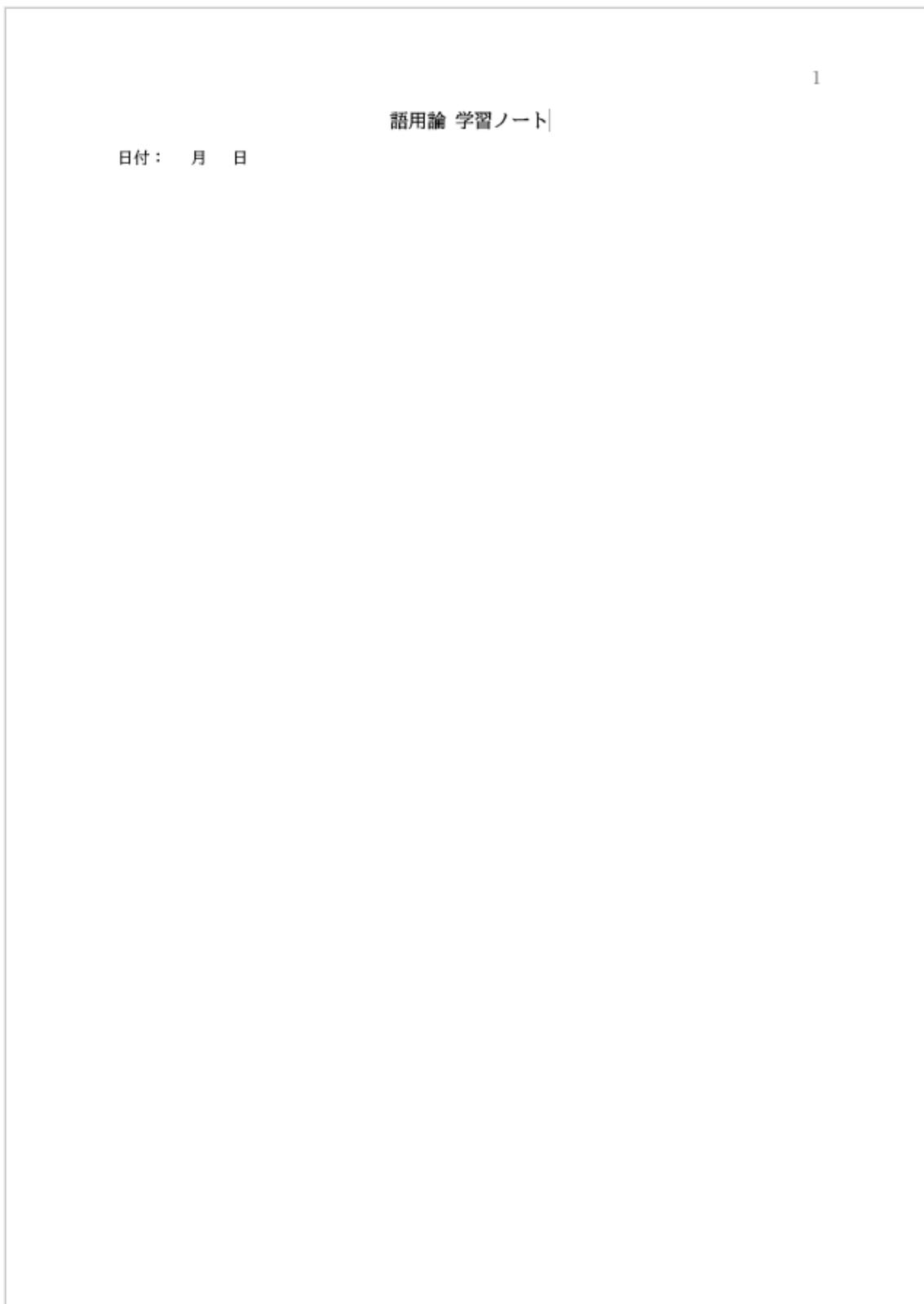
Date .....

**Participation in the interview** (please circle your response)

- I agree
- I do not agree

If you choose 'I agree', please provide your email address .....

**Appendix M: Notebook Distributed to the Participants in TGs**



## Appendix N: Template for Instructor's Journal

1

### Instructor's Journals

日付： 月 日

語用論の授業を実施している間に、以下の点に関連することであれば書き留めて下さい。

- ・学生のポライトネスストラテジーの使用に関して気が付いたこと
- ・学生の発話において構造的な点に関して気が付いたこと
- ・学生の使用するポライトネス表現について気が付いたこと

メモ欄

|

日誌記載欄

## Appendix O: Rating Criteria

Amount of Information				
<i>Quantity</i>				
The number of strategies used represents the quantity of each element (Alerters, Pre-HA, Head and Post-HA).				
Quality of Information				
<i>Expression</i>				
<b>Alerters</b>	0: No score	1: Good		
	<i>No response/ make no sense</i>	<ul style="list-style-type: none"> <li>- Hello</li> <li>- Excuse me</li> <li>- Tim</li> </ul>		
<b>Pre-HA</b>	0: No score	1: Fair	2: Good	3: Excellent
	<i>No response/ make no sense</i>	<i>Not sophisticated, simple expressions are used.</i> <ul style="list-style-type: none"> <li>- I don't have a book with me, now.</li> <li>- I have to cancel the meeting.</li> </ul>	<i>Not very sophisticated but reasonably good expressions are used.</i> <ul style="list-style-type: none"> <li>- I have to cancel the meeting, as I am sick.</li> <li>- Due to the heavy rain, Tom had to give up his trip.</li> </ul>	<i>Sophisticated and high quality expressions are used.</i> <ul style="list-style-type: none"> <li>- I'm afraid I have some rather awkward news. The materials to hand in to the schedule are getting late.</li> </ul>
<b>Head Act</b>	0: No score	1: Fair	2: Good	3: Excellent
	<i>No response/ make no sense</i>	<i>Direct strategies or contain few (or no) semantic moves are used.</i> <ul style="list-style-type: none"> <li>- Lend me a book.</li> <li>- Open the door.</li> <li>- Please open the door.</li> </ul>	<i>A limited range of semantic moves are used.</i> <ul style="list-style-type: none"> <li>- Can you open the door?</li> <li>- Could you open the door?</li> </ul>	<i>Complex syntactic and lexical modifiers are used.</i> <ul style="list-style-type: none"> <li>- Wouldn't it be better to change the method here and introduce a more qualitative approach using ethnography?</li> <li>- I was wondering if I couldn't get a lift home with you.</li> </ul>
<b>Post-HA</b>	0: No score	1: Fair	2: Good	3: Excellent
	<i>No response/ make no sense</i>	<i>Not sophisticated, simple expressions are used.</i> <ul style="list-style-type: none"> <li>- Ask David.</li> <li>- Not today,</li> </ul>	<i>Not very sophisticated but reasonably good expressions are used.</i> <ul style="list-style-type: none"> <li>- I think David is over there. He may be able to lend you his.</li> </ul>	<i>Sophisticated and high quality expressions are used.</i> <ul style="list-style-type: none"> <li>- As it's top priority, and could make us a tidy profit, let's put our noses to the grindstone and get it done? What do you say?</li> </ul>

<i>Context</i>			
	-2	-1	0
<b>Alerters</b>	Quite inappropriate	Slightly inappropriate	Appropriate

<i>Grammar</i>		
-2	-1	0
Serious grammatical errors can that cause misinterpretation	Some grammatical errors that hardly cause misinterpretation	No/minor errors

	-2	-1	0
<b>Pre-HA</b>	Quite inappropriate	Slightly inappropriate	Appropriate

-2	-1	0
Serious grammatical errors can that cause misinterpretation	Some grammatical errors that hardly cause misinterpretation	No/minor errors

	-2	-1	0
<b>Head</b>	Quite inappropriate	Slightly inappropriate	Appropriate

-2	-1	0
Serious grammatical errors can that cause misinterpretation	Some grammatical errors that hardly cause misinterpretation	No/minor errors

	-2	-1	0
<b>Post-HA</b>	Quite inappropriate	Slightly inappropriate	Appropriate

-2	-1	0
Serious grammatical errors can that cause misinterpretation	Some grammatical errors that hardly cause misinterpretation	No/minor errors

**Organisation of Information**

0	1	2
No response/not appropriate	Slightly not natural but acceptable	Sounds natural

**Indirectness**

0	1	2	3	4
No response/make no sense	Offensive or inappropriate	Somewhat offensive or inappropriate	Mostly appropriate	Appropriate and effective



no negative points are given to Context and Grammar. Next, as for the Head Act, there is only one strategy ('Can you ...?') was used, and no specific problems with the use of this strategy were found. Therefore, '1' for Quantity is given. Regarding Quality of Information, there seem no specific problems with the use of 'Can you ...?' Thus, '2' for Expression and '0' for Context are given. Now with Organisation of Information, it is scored as '1' since without Pre-Head Act it sounds a bit abrupt to ask a student passing by to open the door. As regards Indirectness, '3' is given as the expression used sounds mostly appropriate.

By contrast, in the post-test, one Alerter and two strategies were used for preparatory. Therefore, '1' (Alerters) and '2' (Pre-Head Act) for Quantity in Amount of Information are given. Regarding the Quality of Information, the expression, 'Could I ask a big favour of you?' is used for Pre-Head Act, for which the high quality of expression, '3' is given for Expression. However, the expression is too polite for this context. Therefore, '-2' is given for Context. Following the rating criteria (see Appendix O), the expression, 'I have many books in both hands.' gets 1 point for Expression. The use 'I have many books in both hands.' was appropriate and no grammatical problems, so no negative points are given to Context and Grammar. Similarly, as for Head Act, '1' is given for Quantity in Amount of Information. However, the expressing 'I was wondering if you could...' sounds too polite in this context. Therefore, '-2' is given for Context in Quality of Information. The quality of the expression itself, however, is high (from pragmalinguistic perspective) and no grammatical problems. Thus '3' is given for Expression and '0' is given for Grammar in Quality of Information. As for Organisation of Information, '2' is given. With Indirectness, '2' is given as the entire sentence is expressed overly indirect.

**Appendix Q: Results of Interrater Reliability for Scoring DCT**

Situation	Intraclass Correlation Coefficient			Percent Agreement		
	Intraclass Correlation	95% Confidence Interval		Agree	Disagree	
		Lower Bound	Upper Bound			
S1	0.988	0.957	0.996	82	6	93.18%
S2A	0.994	0.980	0.998	97	1	98.98%
S2B	0.993	0.975	0.998	94	2	97.92%
S3A	0.990	0.967	0.997	71	6	92.21%
S3B	0.995	0.984	0.999	87	2	97.75%
S4A	0.982	0.938	0.995	105	13	88.98%
S4B	0.987	0.954	0.996	88	6	93.62%
S5A	0.994	0.979	0.998	82	6	93.18%
S5B	0.988	0.959	0.997	83	10	89.25%
S6A	0.997	0.990	0.999	91	2	97.85%
S6B	0.977	0.921	0.993	87	3	96.67%
S7A	0.982	0.939	0.995	89	10	89.90%
S7B	0.988	0.959	0.997	74	9	89.16%
S8A	0.998	0.993	0.999	81	10	89.01%
S8B	0.996	0.986	0.999	83	3	96.51%
S9A	0.998	0.993	0.999	87	1	98.86%
S9B	0.998	0.995	1.000	93	1	98.94%
S10A	0.996	0.987	0.999	87	3	96.67%
S10B	0.989	0.961	0.997	79	2	97.53%
S11(1)	0.989	0.961	0.997	81	2	97.59%
S11(2)	0.987	0.955	0.996	103	12	89.57%
S12(1)	0.998	0.992	0.999	98	2	98.00%
S12(2)	0.981	0.934	0.995	68	3	95.77%
S12(3)	0.996	0.987	0.999	71	1	98.61%
S13(1)	0.982	0.936	0.995	51	4	92.73%
S13(2)	0.989	0.963	0.997	67	2	97.10%
S13(3)	0.997	0.988	0.999	45	2	95.74%
<b>Total</b>	<b>0.998</b>	<b>0.992</b>	<b>0.999</b>	<b>2224</b>	<b>124</b>	<b>94.72%</b>

## Appendix R: List of Codes

### Alerter Strategies

STRATEGIES	CODES	DESCRIPTION/EXAMPLE
Attention Getter	#ag	- Hello. - Excuse me. - Listen.
Surname/Family Name	#sn	- Ms. Lee
First Name	#fn	- Tim
Title/Role	#tr	- Professor - Ma'am
Undetermined Name	#un	- [Name]
Self Introduction	#si	- I'm John Smith. - I'm a student at the University of England.

### Head Act Strategies [Request]

	STRATEGIES	CODES	DESCRIPTION/EXAMPLE
Direct	Mood derivable	#md	<i>utterances in which the illocutionary force is explicitly named</i> - Clean up that mess. - Lend me your car.
	Performative	#perf	<i>utterances in which the grammatical mood of the verb signals illocutionary force</i> - I am asking you to move your car.
	Hedged Performative	#hp	<i>illocutionary force modified by modals or verbs expressing intention</i> - I must ask you... - I have to ask you...
	Obligation Statement	#os	<i>utterances which state the obligation of the hearer to carry out the act</i> - You'll have to move your car.
	Want Statement	#want	<i>expresses the speaker's desire that the hearer carries out the act</i> - I really wish you'd stop bothering me. - I want you to lend me your pen. - I would like you to clean the kitchen.
Indirect	Suggestory formulae	#sg	utterances which contain a suggestion to do X. - How about cleaning up the kitchen?
	Petition	#let #wil #cny #wld #cld #dmn #argt	<i>asking for feasibility of the request</i> - Let me +V. (e.g., Let me borrow your pen.) - Will you + V? - Can you + V? / 3. Can I + V? - Would you + V? - Could you + V? / 4. Could I + V? - Do you mind V+ing? - Is it all right if you ...?

### Head Act Strategies [Request]

	STRATEGIES	CODES	DESCRIPTION/EXAMPLE
Indirect		#psb #dmi #dyt #may #wyb #wmn #wond #wmi #apif #awdi #wwdi #ach #wdib #glif #wwip	- Is it possible to + V ? / Is it all right to + V - Do you mind if I + V? - Do you think you could...? - May I + V? - Would you be able to + V ? - Would you mind V+ing? - I wonder if you could + V. - Would you mind if I + V? - I'd appreciate it if you could + V. - I am wondering if you could+ V. - I was wondering if you could+ V. - Is there any chance you could + V ? - Would it be possible to + V ? - I'd be grateful if you could + V. - I was wondering if it were possible for you to + V.
	Hint	#sh	<i>similar to preparatory, but not conventionalised, requires more inferencing</i> - Will you be going home now? / I wasn't at the lecture. (Strong hint) - [Intent: getting hearer to clean] You've been busy here, haven't you? (Mild hint)

### Head Act Strategies [Refusal]

Direct	Perfomative	#perf	- I refuse.
	Non-Perfomative	#np	<i>Negative willingness/ability</i> - No. - I can't./ don't think so.
Indirect	Grounder	#gr	<i>excuse, reason, explanation / gr(ex), gr(re), gr(ex) (subcategories)</i> - I'm going to a party that day.
	Statement of Regret	#rg	- I'm sorry. / <i>sorry for decline</i> - I feel terrible.
	Wish	#ws	- I wish I could help. - I'd love/like to help.
	Alternative	#al	- Why don't you ask someone else? - I can have it ready by noon.
	Promise of Future Acceptance	#fa	- Next time I'll do it.
	Set Condition	#sc	- If you had asked me earlier...
	Hedging	#hging	- Gee, I don't know. - I'm not sure.
	Guilt Trip	#gt	- You said you would have it ready by now.
	Reputation of Original Request	#rr	- Help you call people tonight?
Request Help or Empathy	#rh	- I could really use some help.	

## Supportive Moves

### Request Supportive Move Strategies

STRATEGIES	CODES	DESCRIPTION/EXAMPLE
Grounder	#gr	<i>reasons, justifications, statement of facts / gr(re), gr(ju), gr(sf)</i> - I forgot my notebook. - I have to cancel the meeting.
Disarmer	#disam	<i>remove potential objections</i> - I know you are very busy...?
Imposition Minimizer	#imp	<i>reduce imposition</i> - It shouldn't take long.
Preparator	#pptr	<i>announcement of request, asking about the availability of something, permission of hearer</i> - I'd like to ask you something. / Would mind if I asking some questions? - Do you have time? - Won't you be seeing Mary?
Getting a Pre-Commitment	#pc	- Would you do me a favor?
Apology	#apol	- I'm sorry to bother you.
Gratitude	#grat	- Thanks for your work last week.
Desire	#des	<i>expresses the speakers desire that the event denoted in the proposition come out</i> - I'd like to borrow... - I want to see... / I want to ask... (Use this code)
Compliment	#com	<i>giving a compliment</i> - <b>Your car is so nice.</b> Can I use Your car?
Hope	#ho	
		- <b>I hope</b> that you can help me. / <b>I hope</b> that you will go to the supermarket.
Encouragement	#enc	We are count on you. / I will of course pay you back for this.

### Refusal Supportive Move Strategies

STRATEGIES	CODES	DESCRIPTION/EXAMPLE
Empathy	#ep	- I realize you are in a difficult situation...
Pause Filler	#pf	- Uh... - Oh... - Well... - Uhm...
Statement of Positive	#ps	- That's a good idea.
Gratitude/ Appreciation	#ga	- Thank you for inviting me.
Imposition Minimizer	#im	- We can make the meeting short.

### Other Speech Act Strategies

STRATEGIES	CODES	DESCRIPTION/EXAMPLE
Sorry	#sr	- I'm sorry. (to apologise)
Self Blame	#sb	<i>self blame</i> - I understand that's my fault.
Offer of repair	#or	- I'll pay for the damage.

### Modifications (Downgrader/Upgrader Strategies)

#### Lexical and phrasal downgraders

STRATEGIES	CODES	DESCRIPTION/EXAMPLE
Politeness Markers	#pm	<i>bid for cooperation</i> - Please.../ Clean the kitchen, please. - Do you think you could present your paper this week?
Pause Filler	#pf	- Uh... - Well...
Hedge	#hg	<i>adverbials used to avoid precise specification</i> - somehow                      may/might, look/seem - kind of
Subjectivizer	#sj	<i>expresses speaker's subjective opinion</i> - I'm afraid - I wonder/think/believe/suppose
Downtoner	#dt	<i>sentential or propositional modifiers</i> - perhaps - possibly - If you don't mind, / If you are OK, - If (it's) possible,
Cajoler	#ca	<i>to increase, establish, or restore harmony between the interlocutors</i> - <b>You know</b> , I'd really like you to present your paper next week. - Actually,
Appealer	#app	<i>elicit a hearer signal, final position</i> - Clean up the kitchen, dear, <b>will you?/okey?</b> - We are going in the same direction, <b>aren't we?</b>
Understater	#us	<i>adverbials modifiers that underrepresents the state of affairs</i> - a bit                      just - a little

### Syntactic downgraders

Negation of preparatory condition	#npc	- You couldn't give me a lift, could you? - I don't suppose you'd like to...
Conditional	#cd	<i>only if replacable by an indicative form (e.g., I suggest you leave now)</i> - I <b>would</b> suggest you leave now.
Aspect	#as	<i>only if replacable by a simple form (e.g., I wonder if I could get a lift home with you)</i> - I'm <b>wondering</b> if I could get a lift home with you.
Tense	#tn	<i>only if past is used with present time reference</i> - I <b>wanted</b> to ask you to present your paper a week earlier.
Conditional clause	#cc	- I was wondering if you could present your paper a week earlier than planned. - It would fit in much better if you could give me your paper a week earlier. - <b>If it were possible,</b>
	#others	Utterances that do not fall under the above strategy, but that affect the listener's impression.

### Upgrader Strategies

STRATEGIES	CODES	DESCRIPTION/EXAMPLE
Intensifier	#it	<i>adverbial modifiers</i> - very - terribly
Commitment indicator	#ci	- I'm <b>sure/certain/surely/certainly</b> you won't mind giving me a lift.
Time intensifier	#ti	- You'd better move your car <b>right now/immediately!</b>
Emotional expression	#em	- Oh - Oh, no. - Oh, God.
Emphasis	#emp	<i>exclamation mark, underlining or capitalisation, if in written form</i>
Lexical uptoner	#lu	- still - as soon as
Expletive	#xp	- Shit. - Damn.
Repetition	#rp	<i>Literally or by paraphrase</i>

**Extra codes**

STRATEGIES	CODES	DESCRIPTION/EXAMPLE
Self defence	#sd	<i>To reduce face threatening toward myself</i> If I was wrong, please correct me.
Precaution	#prec	<i>Urging precaution</i> Please be careful
Reminder	#rmd	<i>Remind what was told before</i> I should tell you again
Prevent mistakes	#pmi	<i>To give additional information to avoid the mistake</i> There is 'sugar' in the package

**Head Act Strategies [Complaint]**

STRATEGIES	CODES	NAME OF CODES	DESCRIPTION/EXAMPLE
D1	Blame	#bps	blaming person On no, not again! <b>You really are thoughtless.</b> / Bloody fool! <b>You've done it again.</b> / You are wrong!
		#bbh	blaming behaviour How on the earth did you manage to be so stupid.
		#mbl	Modifued blame You could have said so, if you had so much to do.
	Accusation	#wa	warning Next time don't expect me to sit here waiting for you./ This method will kill someone.
		#da	direct accusation You bought salt!
		#inda	indirect accusation Did you buy salt?
D2	Expression of disapproval	#dpp	disapproval I don't like the method. / This method doesn't work well.
		#ilc	ill consequences People might be shocked with our salty cake./ Now, we need more time to make a cake.
		#any	annoyance It's salt! / Oh, we cannot make a cake with this...!
I	No explicit reproach	#hin	hints Is this sugar? / It looks salt to me...
-	Below the level of reproach	#ac	acceptance / no complaints That's OK. / All right. / Nor harm done, let's meet some other time.

Directive acts	#thrt	threat	If we don't finish the job today I'll have to discuss it with the boss.
	#rre	request for repair/change	I want to change the method.

## Supportive Moves [Complaint]

STRATEGIES	CODES	NAME OF CODES	DESCRIPTION/EXAMPLE
Supportive moves	#prb	statement of problem/ pointing out facts	This method needs money and time.
	#slt	proposing solution	
	#js	justification	
	#sld	strong recommendation	<i>Saying or asking about the right or sensible thing to do or the right way to behave.</i> You <b>should</b> change the method.
	#evd	providing evidence	This idea in this book is very new and easy.
	#scn	self-confidence	I believe it will success in this method/ my method will be successful. /
	#opn	giving opinion/explanation	(I think) there's means to try it. / (I think) we need to try... / We should not do this way.
	#akp	asking opinion/ explanation/clarification	what do you think of doing my method?
	#jk	joke	Are you OK? I think you should have rest.
	#cms	express commiserate	That's too bad.
	#cfrt	comfort	It is not your mistake (fault) / Don't worry.
	#if	condition	If this part will change, (it works well) / if...not/ Without...
	#rfc	request for trial/chance	Give me one chance.
	#che	request for check	Could you read this book?
	#rac	request for acceptance	Could you believe the method?
	#sw	statement of wish	I wish you'd accept it. / I hope you don't say, 'No'.
	#enc	encouragement	We are count on you. / I will of course pay you back for this.
	#rw	promise of reward	
	#st	steer	I don't want to tell you this, but.../ I've read your essey and About the method,
	#disam	disarmer	I don't mean to be presumptuous
#ps	statement of positive	I really like your idea.	
#ga	gratitude	Thank you, Anne	
#hear	hearer	Sorry, I mistakenly bought salt instead of sugar.	

### Head Act Strategies [Disagreement]

STRATEGIES		CODES	NAME OF CODES	DESCRIPTION/EXAMPLE
D1	explicit performative	#nac	performative	I don't accept it/ I disagree. / I can't (agree).
	implicit performative	#nep	neagative performative	No. / I don't think so.
		#cs	conter-statement	(Respond to 'It is not important.') It is important. / (Respond to 'It's red') It's blue.
D2	-	#ne	criticism/negative evaluation	It is totally wrong / That's not practical. / I don't believe it.
		#irv	Irrelevancy	It doesn't matter. / You're straying off the topic. / It is nothing to do with it.
		#cll	Challenge	<i>interrogative with question particles such as when, what, who, why, where and how</i> Wasn't it? Who said... / ('He is getting old' に対して) How old is too old?
I	-	#als	alternative suggestions	How about trying ...?
		#jok	Joking	If we paint the room green it'll be like living in a pile of lawn-clippings
		#clm	Counter claim (alternative claim)	<i>Alternative claim that does not directly contradict or challenge others' claim.</i> (Maybe you are right,) but...
		#qu	question	Do you think that would work smoothly?
		#hin	hinting	I think someone might have the wrong end of the stick.
-	Agreement	#agr	agreement	I'll accept. / I agree.
		#ac	acceptance	

### Supportive Moves [Disagreement]

Supportive moves	#ta	Token agreement	You are right/I like you idea/I understand/Yeah + but...
	#lm	envelope*	It's my limit.
	#evd	providing evidence	This idea in this book is very new and easy.
	#js	justification	
	#scn	self-confidence	I have used this method for long time. / I believe it will success in this method/ my method will be successful. / The way I'm proposing is the best way to go about this project.
	#prb	statement of problem/ pointing out facts	This method needs money and time.

**Supportive Moves [Disagreement]**

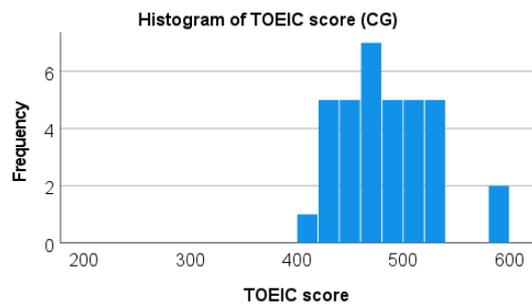
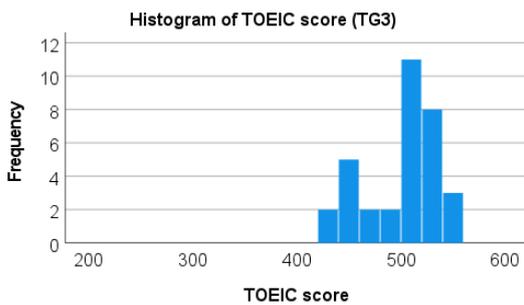
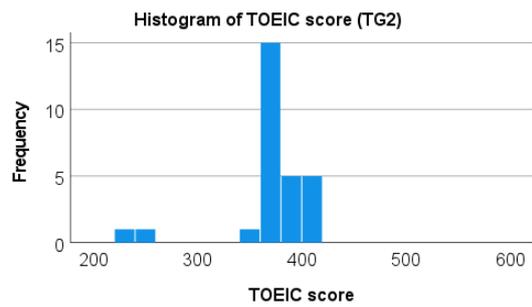
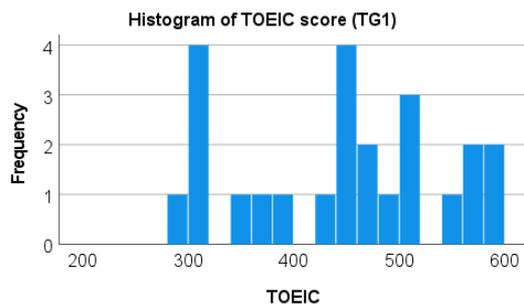
STRATEGIES	CODES	NAME OF CODES	DESCRIPTION/EXAMPLE
Supportive moves	#slt	proposing solution	
	#opn	giving opinion/explanation	(I think) there's means to try it. / (I think) we need to try... / We should not do this way.
	#akp	asking opinion/explanation/clarification	what do you think of doing my method?
	#sld	strong recommendation	<i>Saying or asking about the right or sensible thing to do or the right way to behave.</i> You <b>should</b> change the method.
	#prb	statement of problem/pointing out facts	This method needs money and time.
	#sw	statement of wish	I wish you'd accept it. / I hope you don't say, 'No'.
	#st	steer	I don't want to tell you this, but.../ I've read your essay and / About the method,
	#ps	statement of positive	
	#rg	statement of regret	I'm sorry
	#ws	wish	I wish I could (agree).

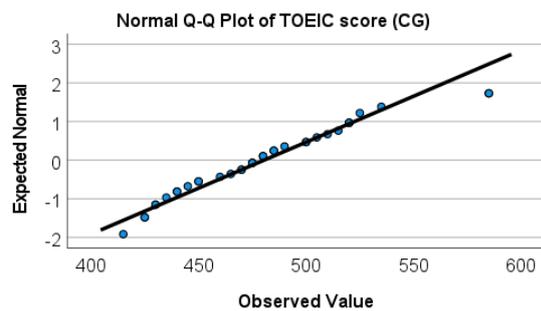
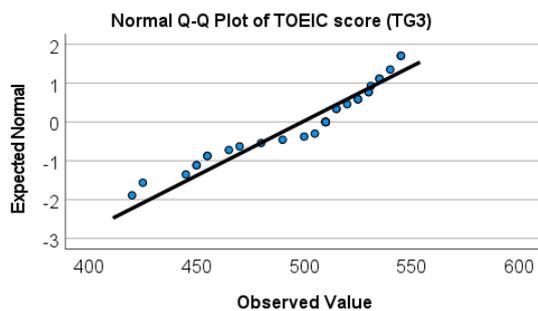
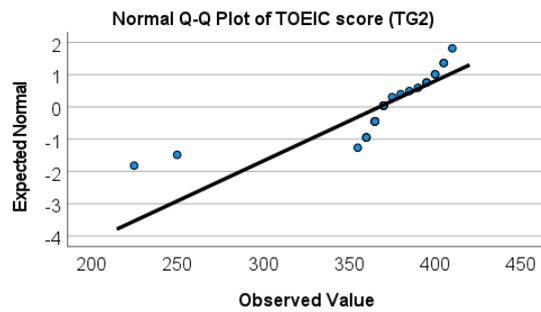
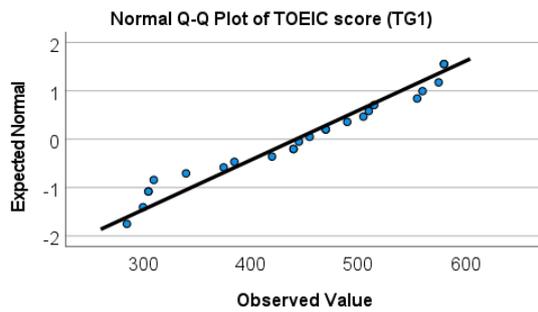
**Appendix S: The Data to Assess Normal Distribution of TOEIC Score**

**Statistics Data**

	TG1	TG2	TG3	CG	TOTAL
N =	24	28	33	35	120
Mean	442.29	367.50	499.12	480.43	451.59
Median	450.00	370.00	510.00	475.00	462.50
Std. Deviation	<b>97.546</b>	40.265	35.525	42.015	74.853
Variance	9515.172	1621.296	1262.047	1765.252	5603.000
Skewness	-.211	<b>-2.571</b>	<b>-.769</b>	<b>.674</b>	-.535
Std. Error of Skewness	.472	.441	.409	.398	.221
Kurtosis	<b>-1.169</b>	<b>7.442</b>	<b>-.498</b>	.381	-.077
Std. Error of Kurtosis	.918	.858	.798	.778	.438
Minimum	285	225	420	415	225
Maximum	580	410	545	585	585
Percentiles					
25	348.75	365.00	467.50	445.00	395.00
50	450.00	370.00	510.00	475.00	462.50
75	513.75	393.75	527.50	510.00	510.00

Note: Numerical values that may not follow the normal distribution (standard deviation set as 50.00 or higher or Skewness and Kurtosis  $\pm 0.4$  or higher, respectively) are shown in bold.





Tests of Normality						
Class	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
TG1	.121	24	.200*	.928	24	.088
TG2	.319	28	<.001	.671	28	<.001
TG3	.226	33	<.001	.902	33	.006
CG	.085	35	.200*	.950	35	.110

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Following Ghasemi & Zahediasl (2012) for 2 through 4 and Nicol (2010) for 1, whether the distribution of the data is normal is judged comprehensively.

1. Frequency distribution table
2. Histogram
3. Q-Q plot
4. Normality test (Kolmogorov-Smirnova test or Shapiro-Wilk test)

The judgment criteria for each confirmation method (criteria for judging that the normal distribution is followed) are as follows.

1. Frequency distribution table

- a. The difference between Mean and Median is almost equal.
- b. Standard deviation is not too large.
- c. Skewness and Kurtosis values are close to 0 respectively.

2. Histogram

- a. A bell curve is symmetrical.

3. Q-Q plot

- a. The result would be shown as a straight diagonal line, if the data are normally distributed.

4. Normality test (Kolmogorov-Smirnova test or Shapiro-Wilk test)

- a. When the sample size is 50 or more, Kolmogorov-Smirnova test is used. If the result of the test has a p-value greater than 0.05, it indicates normal distribution of data.
- b. When the sample size is less than 50, Shapiro-Wilk test is used. If the result of the test has a p-value greater than 0.05, it indicates normal distribution of data.

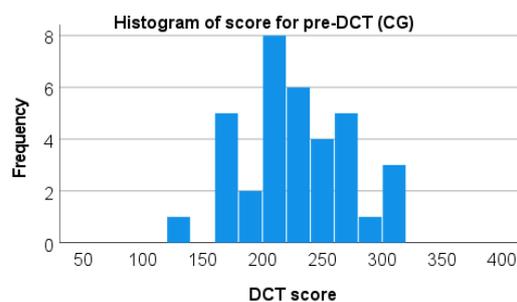
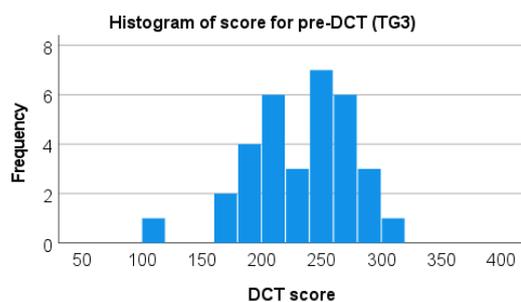
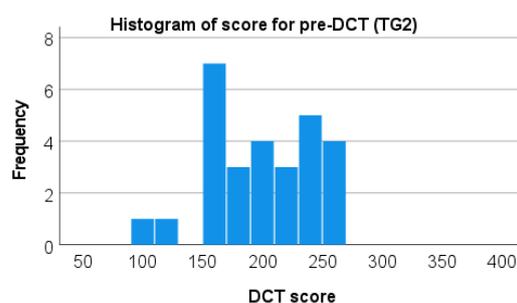
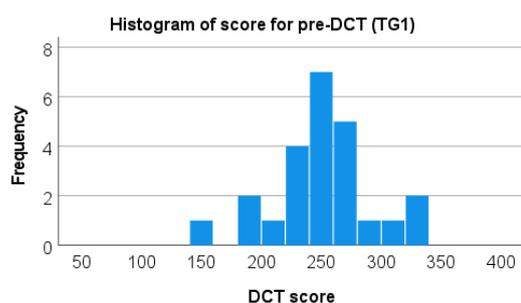
Judging from the data obtained from four methods above, it is hard to say that the bell curves generated from the TGs' data draw a perfect symmetric. In the Q-Q plot graphs, the dots of TG2 and TG3 are off the straight line beyond acceptable range. Furthermore, the distributions were significantly non-normal for the variables TG2 ( $W = 0.671$ ,  $p < 0.01$ ), and TG3 ( $W = 0.902$ ,  $p < 0.01$ ) according to Shapiro-Wilk tests. Based on the outcome described above, a non-parametric test was used to assess the equivalence of English-language proficiency among the groups.

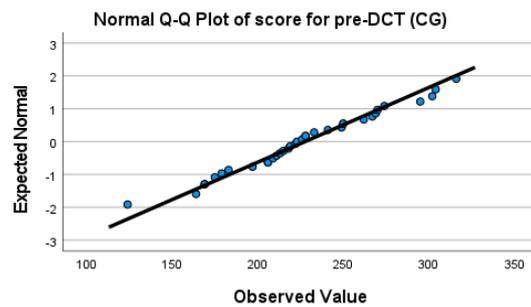
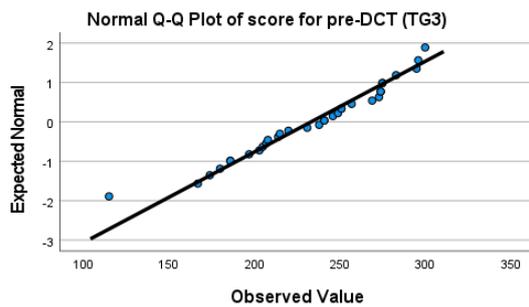
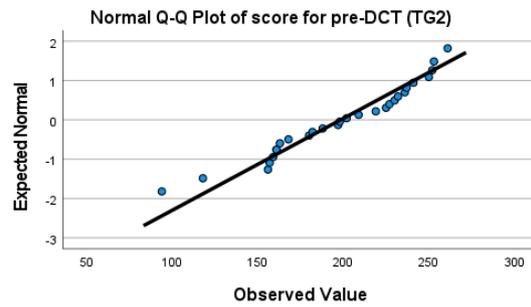
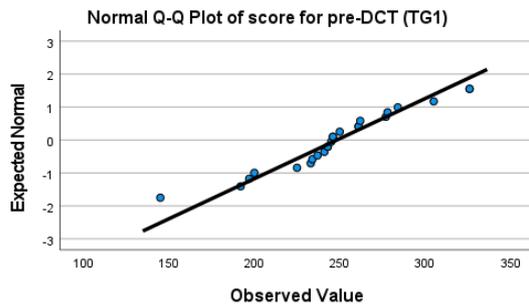
## Appendix T: The Data to Assess Normal Distribution of Equivalence of L2 Pragmatic Ability

Statistics Data

	TG1	TG2	TG3	CG	TOTAL
N =	24	28	33	35	120
<b>Mean</b>	248.21	198.43	233.21	227.60	226.46
<b>Median</b>	245.50	200.00	241.00	223.00	230.50
<b>Std. Deviation</b>	41.087	42.807	43.487	43.941	45.777
Variance	1688.172	1832.476	1891.110	1930.835	2095.561
<b>Skewness</b>	-0.217	<b>-0.534</b>	<b>-0.538</b>	0.019	-0.283
Std. Error of Skewness	0.472	0.441	0.409	0.398	0.221
<b>Kurtosis</b>	<b>0.983</b>	-0.243	0.088	-0.124	0.031
Std. Error of Kurtosis	0.918	0.858	0.798	0.778	0.438
Minimum	145.00	94.00	115.00	124.00	94.00
Maximum	326.00	261.00	300.00	316.00	326.00
Percentiles					
25	233.25	161.50	204.00	206.00	197.00
50	245.50	200.00	241.00	223.00	230.50
75	273.25	235.00	273.50	262.00	256.00

Note: Numerical values that may not follow the normal distribution (standard deviation set as 50.00 or higher or Skewness and Kurtosis  $\pm 0.4$  or higher, respectively) are shown in bold.





Tests of Normality						
Class	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
TG1	.147	24	.192	.955	24	.353
TG2	.125	28	.200*	.948	28	.173
TG3	.098	33	.200*	.962	33	.285
CG	.096	35	.200*	.983	35	.850

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Both TGs and CG draw a relatively symmetrical bell-shaped curve, and the Q-Q plot diagram also shows dots are nearly on straight line. Furthermore, the distributions were not significantly non-normal for the variables TG1 ( $W = 0.955$ ,  $p = .353$ ), TG2 ( $W = 0.948$ ,  $p = .173$ ), TG3 ( $W = 0.962$ ,  $p = .285$ ), and CG ( $W = 0.983$ ,  $p = .850$ ) according to Shapiro-Wilk tests. Based on these results, a parametric test was used to assess the equivalence of L2 pragmatic ability among the groups.





















### Appendix W: Types of Strategies Used in WDCT (TG3)

TG3 Strategy	Situation 1			Situation 2A			Situation 3A			Situation 4A			Situation 5A			Situation 6A			Situation 7A			Situation 8A			Situation 9A			Situation 10A																																			
	Pre DCT			Post DCT			Pre DCT			Post DCT			Pre DCT			Post DCT			Pre DCT			Post DCT			Pre DCT			Post DCT			Pre DCT			Post DCT																													
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Strategy	Situation 2B				Situation 3B				Situation 4B				Situation 5B				Situation 6B				Situation 7B				Situation 8B				Situation 9B				Situation 10B																																											
	Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT																																													
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so	4				11	1			1	3	2		5	4			6				2	2			7				4	3			5	4			1	5	4		5	1			1	7			3	2			2	1			7				9	1			12	2			7	2						
others	5	7			3	1											1	1	1		1	1	2										1	1			1	1	1		1	2	2		1	3			2	2											1								1				1			





Strategy	TG3 Situation 11(1)				Situation 11(2),(3)				Situation 12(1)				Situation 12(2)				Situation 12(3)				Situation 13(1)				Situation 13(2)				Situation 13(3)						
	Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT				
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd
rre(want)							3				1				2																				
rre(plmd)							3				1											1													
rre(sld)																						1													
rre(sg)																						1													
rre(wil)											1																								
rre(cny)							5				1																								
rre(wld)							1				2				1																				
rre(cld)							7				10				1							1													
rre(wyb)											1																								
rre(psb)											1																								
rre(wdib)											2											1													
rre(dyt)																																			
rre(dmn)											1																								
rre(wmn)											4																								
rre(wond)																																			
rre(wwdi)											3																								
rre(wwip)											2																								
rre(apif)											1																								
rre(des)															1																				
ta																																			
lm																																			
nac																																			
nep																																			
cs																																			
cll																																			
als																																			
als(want)																																			
als(wdib)																																			
als(wmn)																																			
als(dmi)																																			
als(wwdi)																																			
clm																																			
qu																																			
agr																																			
sb																																			
sr																																			
cd																																			
sd																																			
hear																																			
hear(wwip)																																			
so																																			
others(plmd)																																			
others																																			

### Appendix X: Types of Strategies Used in WDCT (CG)

CG Strategy	Situation 1				Situation 2A				Situation 3A				Situation 4A				Situation 5A				Situation 6A				Situation 7A				Situation 8A				Situation 9A				Situation 10A															
	Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT																	
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt												
ag	26	1	18		16		10		16		12		13		10		14	1	8		15		7		21		17		13		7		11		10		26		22													
sn					9		9		8		6						2		5		4	1	3	2					6		3																					
fn									10		7	1					10	1	2			1	1						2		2				1																	
tr																			1		1		1																													
un	2																																																			
si													9	1	5						1				3		1		1		1		1		10	1	2		1													
gr	29	4	10	1	2	1	29	8	17	2	4	6					41	3	1	29	1	3	27	2	3	20	1	1	36	1	26	1	43	4	5	35	2	3	45	2	6	44	6	22	3	2	15	1	32	4	17	6
pptr	2																												3		1		1		1																	
apol			1			1		4									8	1	11			1				4		13	1					2																		
des						2	1		1		2		1		2	1	1	1		1	1				3	1	1		1	1	1		1		4	2	4	1	1													
com						1																																														
md		3									2		3																																							
perf											1	3																																								
hp											1																																									
let																																																				
want																																																				
plmd						1	2		3		1		1		1		1		1				12		1	1					3		2		3		1	11		10												
sg	7				14		3		9		6		14		2								2		4		4		5		7		5		6		5		4		1		8		1	1		3				
sh																																																				
wil																																																				
cny	1										1												1		2																											
wld	10				7		9		4		9		7		2		1		7		8		1				1		3		5		1		2		1		5		4		2									
cid	4				5		7		5		3		1		9		14		6		5		10		10		10		10		7		9		8		8		6		10		7									
may	6				8		9		10		5		6		15		13		5		9		16		14		10		6		13		12		15		4		6		9		16									
dmn	1						1		3				1		2		2		1		2						1		3		1		1		1		3		3		3											
wmn																																																				
dmi																																																				
apif																																																				
pm	5				2		2																																													
sj																																																				
dt																																																				
app																																																				
pf																																																				
rg																																																				
al																																																				
sb																																																				
sr																																																				
others																																																				



CG	Situation 11(1)				Situation 11(2),(3)				Situation 12(1)				Situation 12(2)				Situation 12(3)				Situation 13(1)				Situation 13(2)				Situation 13(3)																																			
	Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT		Pre DCT		Post DCT																																	
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt																												
ag	7	1	2	7					1				1	1			8				9												1				1																											
fn	7	2	13	6	1	10			1	3	2	7	5	4	2						5	1			7	1		1					1																															
tr																																																																
gr	31		1	19	1	1							15				1	15							1				1	1			1	1			3	1			1				1	3	5		2	8	4						1				1	1		
pptr	1																																																															
apol	1				2	2			7				6																																																			
des					1	1			1				1				1				1	4			1				1	2	2		4	7			5	8							1								3	1	1									
md																									1																								1															
perf																																																																
hp																																																																
want																																																																
plmd		2				1											1												1				4				4								1																			
sg		8				7							2												1								1				1				4				4																			
sh																																																																
wil		1																																																														
cny		10							1																								2																															
wld		5				3																																			1																							
cld		5				8							1																								1				1																							
may																																																																
dmn													1																																																			
wmi		1																																																														
pm		1				1																																																										
hg																																																																
sj																																																																
dt																																																																
ca																																																																
app																																																																
it																																																																
em																																																																
rp(da)	1	7				4							5	9			3	9																																														
rp(any)																																																																
ep																																																																
pf																																																																
ps																																																																
ga																																																																





Appendix Y: Distribution of Strategies Used in DCT Part II

S11 (1) Strategy	TG1											TG2										
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
Alerters	11	2	7		23	5	3		20	31	11	5	3	8		25	3	1		16	29	13
Request SM		19	3	5		29		3	27	32	5		23			38	1	4		23	43	20
Request HA (D)			7				1		7	1	-6			7			1	1		7	2	-5
Request HA (I)				15			22		15	22	7		19			25				19	25	6
Modification	1	5	2		2	12	4		8	18	10		7			4	9	1		7	14	7
Refusal SM		1				1			1	1	0					2				0	2	2
Refusal HA (I)									0	0	0							1		0	1	1
Complaint SM									0	0	0						1			0	1	1
Non categorised		1	1					1	2	1	-1		1			5				1	5	4
<b>Total</b>	<b>12</b>	<b>28</b>	<b>35</b>	<b>5</b>	<b>25</b>	<b>47</b>	<b>30</b>	<b>4</b>	<b>80</b>	<b>106</b>	<b>26</b>	<b>5</b>	<b>34</b>	<b>34</b>	<b>0</b>	<b>25</b>	<b>52</b>	<b>38</b>	<b>7</b>	<b>73</b>	<b>122</b>	<b>49</b>

S11 (1) Strategy	TG3											CG										
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
Alerters	12	7	8		36	4	6		27	46	19	14	3	15		13	1	10		32	24	-8
Request SM		28	3	2		41	2	3	33	46	13		33		1		22	4	1	34	27	-7
Request HA (D)			10			1	2		10	3	-7			10				8		10	8	-2
Request HA (I)				18			29		18	29	11			22				25		22	25	3
Modification		6	2		2	10	11		8	23	15	1	7	2			4	2		10	6	-4
Refusal SM		2				4			2	4	2									0	0	0
Refusal HA (I)									0	0	0									0	0	0
Complaint SM				1				1	1	1	0			1						1	0	-1
Non categorised		1				1	1		1	2	1		1	1			2			2	2	0
<b>Total</b>	<b>12</b>	<b>44</b>	<b>41</b>	<b>3</b>	<b>38</b>	<b>61</b>	<b>50</b>	<b>5</b>	<b>100</b>	<b>154</b>	<b>54</b>	<b>15</b>	<b>44</b>	<b>51</b>	<b>1</b>	<b>13</b>	<b>29</b>	<b>49</b>	<b>1</b>	<b>111</b>	<b>92</b>	<b>-19</b>

S11 (2,3) Strategy	TG1										TG2											
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
Alerters	3	2	2	3	1	4		1	10	6	-4	2	2	1	7	1	8	1	3	12	13	1
Request SM			1	19			1	15	20	16	-4				18		1		26	18	27	9
Request HA (D)				1					1	0	-1									0	0	0
Request HA (I)								1	0	1	1									0	0	0
Refusal SM		6				12	5	2	6	19	13		6	4	3		17	6	4	13	27	14
Refusal HA (D)									0	0	0									0	0	0
Refusal HA (I)			1			2	1	2	1	5	4		1	1			3			2	3	1
Complaint SM		1		5		2	3	4	6	9	3			3	3				6	6	6	0
Complaint HA (D)			21			15			21	15	-6			23			27			23	27	4
Complaint HA (I)						4			0	4	4						1			0	1	1
Complaint DA (D)				7					7	0	-7			9				4		9	4	-5
Complaint DA (I)				13				21	13	21	8			14				23		14	23	9
Disagree SM									0	0	0						1			0	1	1
Disagree HA (D)																				0	0	0
Modification	1	6	9	4		6	4	5	20	15	-5		2	7	4		6	16	12	13	34	21
Non categorised			5	2		4	3		7	7	0			3	1			3	2	4	5	1
<b>Total</b>	<b>4</b>	<b>15</b>	<b>39</b>	<b>54</b>	<b>1</b>	<b>26</b>	<b>37</b>	<b>54</b>	<b>112</b>	<b>118</b>	<b>6</b>	<b>2</b>	<b>11</b>	<b>42</b>	<b>59</b>	<b>1</b>	<b>36</b>	<b>54</b>	<b>80</b>	<b>114</b>	<b>171</b>	<b>57</b>

S11 (2,3) Strategy	TG3											CG										
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
Alerters	4	2	1	7	3	4	3	8	14	18	4	1	4	2	7	1	6	4	2	14	13	-1
Request SM			1	15			1	31	16	32	16				23			1	22	23	23	0
Request HA (D)				3					3	0	-3				1				2	1	2	1
Request HA (I)				1				3	1	3	2				3				2	3	2	-1
Refusal SM		5	9	1		17	11	5	15	33	18		8	1	3		14	3	3	12	20	8
Refusal HA (D)									0	0	0				1					1	0	-1
Refusal HA (I)								1	0	1	1		1				1	1		1	2	1
Complaint SM		2		12		1	5	19	14	25	11		2	1	6		2	1	5	9	8	-1
Complaint HA (D)			25	1			28		26	28	2			30				32		30	32	2
Complaint HA (I)									0	0	0									0	0	0
Complaint DA (D)				6				2	6	2	-4				9				11	9	11	2
Complaint DA (I)				14				28	14	28	14				14				20	14	20	6
Disagree SM									0	0	0									0	0	0
Disagree HA (D)									0	0	0		2							2	0	-2
Modification		1	4	3		4	7	19	8	30	22		5	12	1		3	12	1	18	16	-2
Non categorised		2	4	4			7	3	10	10	0		1	4	3		2	5	1	8	8	0
<b>Total</b>	<b>4</b>	<b>12</b>	<b>44</b>	<b>67</b>	<b>3</b>	<b>26</b>	<b>62</b>	<b>119</b>	<b>127</b>	<b>210</b>	<b>83</b>	<b>1</b>	<b>23</b>	<b>51</b>	<b>70</b>	<b>1</b>	<b>28</b>	<b>59</b>	<b>69</b>	<b>145</b>	<b>157</b>	<b>12</b>

S13 (1) Strategy	TG1									TG2													
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D	
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				
<b>Alerters</b>	1			1	14	2				2	16	14	1				7				1	7	6
<b>Request SM</b>		4	8	2		17	2			14	19	5		7	9	1		20	3	1	17	24	7
<b>Request HA (D)</b>			4				1			4	1	-3			2				2		2	2	0
<b>Request HA (I)</b>			5				19			5	19	14			3				18	1	3	19	16
<b>Refusal SM</b>		3				12				3	12	9					9				0	9	9
<b>Refusal HA (I)</b>						2				0	2	2									0	0	0
<b>Complaint SM</b>		1		2		2	2	2		3	6	3		1	6	3		5	2	3	10	10	0
<b>Complaint HA (D)</b>			2				1			2	1	-1						2			0	2	2
<b>Complaint DA (D)</b>				1						1	0	-1									0	0	0
<b>Complaint DA (I)</b>				1				1		1	1	0								2	0	2	2
<b>Modification</b>		2	2			5	1	1		4	7	3					4	12	5		0	21	21
<b>Non categorised</b>						1		1		0	2	2			1						1	0	-1
<b>Total</b>	1	10	21	7	14	41	26	5		39	86	47	1	8	21	4	7	38	39	12	34	96	62

S13 (1) Strategy	TG3											CG										
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
<b>Alerters</b>					9				0	9	9	1				1				1	1	0
<b>Request SM</b>	4	3			14	2	3		7	19	12		7	8			6	8		15	14	-1
<b>Request HA (D)</b>		6	1			2			7	2	-5			5				10		5	10	5
<b>Request HA (I)</b>		4					24		4	24	20			5				12		5	12	7
<b>Refusal SM</b>					9				0	9	9	1				1				1	1	0
<b>Refusal HA (I)</b>					1				0	1	1									0	0	0
<b>Complaint SM</b>	1	2	3		3	3	4		6	10	4	2		3		2		6		5	8	3
<b>Complaint HA (D)</b>		2				2			2	2	0			1				3		1	3	2
<b>Complaint DA (D)</b>			1						1	0	-1			1						1	0	-1
<b>Complaint DA (I)</b>								1	0	1	1						1	2		0	3	3
<b>Modification</b>		1			7	10	4		1	21	20			1				1		1	1	0
<b>Non categorised</b>					2				0	2	2			1						1	0	-1
<b>Total</b>	0	5	18	5	9	36	43	12	28	100	72	1	10	22	3	1	9	35	8	36	53	17

S13 (2) Strategy	TG1									TG2												
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
<b>Alerters</b>							1		0	1	1					1				0	1	1
<b>Request SM</b>				1				1	1	1	0						1	2		0	3	3
<b>Request HA (D)</b>									0	0	0			1					1	0	-1	
<b>Request HA (I)</b>									0	0	0						4		0	4	4	
<b>Refusal SM</b>		2	2	2		15	6	3	6	24	18					10			0	10	10	
<b>Refusal HA (D)</b>				4			5		4	5	1			2			5		2	5	3	
<b>Refusal HA (I)</b>		6	4	1		6	7	3	11	16	5		5	3		7	6	2	8	15	7	
<b>Disagree SM</b>		1	2	4		6	3	8	7	17	10		5	6	6	20	7	9	17	36	19	
<b>Disagree HA (D)</b>				9			10		9	10	1			13			13		13	13	0	
<b>Disagree HA (I)</b>				4			3	1	4	4	0			1			4	2	1	6	5	
<b>Modification</b>				1	1		5	6	3	2	14	12				5	3	4	0	12	12	
<b>Non categorised</b>					1		1		1	1	0			2		1			2	1	-1	
<b>Total</b>	0	9	26	10	0	32	42	19	45	93	48	0	12	25	7	1	44	40	21	44	106	62

S13 (2) Strategy	TG3									CG												
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt			
<b>Alerters</b>					3				0	3	3					1				0	1	1
<b>Request SM</b>				1		2	2		1	4	3		1	3	5		2	8	4	9	14	5
<b>Request HA (D)</b>									0	0	0				1					1	0	-1
<b>Request HA (I)</b>							1		0	1	1									0	0	0
<b>Refusal SM</b>						10	2		0	12	12			1						1	0	-1
<b>Refusal HA (D)</b>			1				1		1	1	0			2						2	0	-2
<b>Refusal HA (I)</b>	5	4			10	5			9	15	6	4	1			7	4			5	11	6
<b>Disagree SM</b>	2	10	13		13	20	19		25	52	27	3	5	4		5	5	10		12	20	8
<b>Disagree HA (D)</b>			14				20		14	20	6			16				32		16	32	16
<b>Disagree HA (I)</b>							5		0	5	5			3				1	1	3	2	-1
<b>Modification</b>				1		4	8	1	1	13	12		1	1		1				2	1	-1
<b>Non categorised</b>									0	0	0									0	0	0
<b>Total</b>	0	7	29	15	3	39	64	20	51	126	75	0	9	32	10	1	15	50	15	51	81	30

S13 (3) Strategy	TG1									TG2															
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D			
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt						
<b>Alerters</b>									0	0	0									0	0	0			
<b>Request SM</b>	1			2				2		3	3	5	2		4		1		3		1	5	4	-1	
<b>Request HA (D)</b>				3				1			3	1	-2				1					1	0	-1	
<b>Request HA (I)</b>								2	1		0	3	3						1	1	2	0	4	4	
<b>Modification</b>				2				1	2	1	2	4	2			1			1	3	3	1	7	6	
<b>Refusal SM</b>	2							3	1	3	2	7	5		3				4	3	1	3	8	5	
<b>Refusal HA (D)</b>											0	0	0							1		0	1	1	
<b>Refusal HA (I)</b>			3					2	4	1	3	7	4				1		2			1	2	1	
<b>Disagree SM</b>	1	2	2					6	7	3	5	16	11		6	3	4		9	3	7	13	19	6	
<b>Disagree HA (D)</b>											0	0	0			1			1	1		1	2	1	
<b>Disagree HA (I)</b>			9					7	1		9	8	-1		11					20	1	11	21	10	
<b>Non categorised</b>	2	4	2					7	3		8	10	2			1	1			2	2	2	4	2	
<b>Total</b>	0	6	18	11	0	14	31	16			35	61	26		0	13	17	8	0	21	34	17	38	72	34

S13 (3) Strategy	TG3									CG														
	Pre-DCT				Post-DCT				T1	T2	D	Pre-DCT				Post-DCT				T1	T2	D		
	Al	Pr	Hd	Pt	Al	Pr	Hd	Pt				Al	Pr	Hd	Pt	Al	Pr	Hd	Pt					
<b>Alerters</b>					1				0	1	1									0	0	0		
<b>Request SM</b>	3					1		1	3	2	-1	1		1		3	2	1				2	6	4
<b>Request HA (D)</b>				1		1			1	1	0	1	1							2	0	-2		
<b>Request HA (I)</b>							2		0	2	2									0	0	0		
<b>Modification</b>	3					2	4	1	3	7	4	1		1			1			2	1	-1		
<b>Refusal SM</b>	1	1				5	1	1	2	7	5	3				4	2			3	6	3		
<b>Refusal HA (D)</b>									0	0	0									0	0	0		
<b>Refusal HA (I)</b>						2			0	2	2	1				1	1			1	2	1		
<b>Disagree SM</b>	3	2	3		9	7	17	8	8	41	33	2	3	6		4	4	12		11	20	9		
<b>Disagree HA (D)</b>			1				1		1	1	0					1	3			0	4	4		
<b>Disagree HA (I)</b>			10				22		10	22	12		12				24			12	24	12		
<b>Non categorised</b>						1	3		0	4	4	2					2	1		2	3	1		
<b>Total</b>	0	10	14	4	10	19	50	11	28	90	62	0	11	16	8	0	13	39	14	35	66	31		

## Appendix Z: Overall Improvement of Participants' Pragmatic Ability

