

The role and effect of explicit form-focused instruction
on the syntactic complexity development of
advanced ESL learners in Hong Kong

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Abstract

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This thesis reports a research project in the area of form focused instruction (FFI) focusing on its role and effect on one aspect of grammatical competence namely syntactic complexity development of a group of advanced ESL learners in Hong Kong. The study aims to find out (i) the syntactic complexity profile of this group of learners, (ii) the effect of FFI on the development of metalinguistic knowledge, syntactic complexity, and the acquisition of some target advanced forms, and (iii) the perception of learners of the role and effect of their FFI experience. The explicit FFI treatment involved was a 13 week long course called Structure of English offered to a group of students of Associate Degree of Translation and Interpretation of a community college in Hong Kong. Three studies were designed to collect the necessary data. Study 1 and Study 3 were questionnaire surveys to collect data regarding learners' perceptions of grammar learning and their grammar learning experience. Study 2, the main study, was a one group time-series quasi-experiment and data collection was done in three phases: pretest1, pretest 2 and posttest. Each test consisted of three test tasks: the term recognition task, the error correction task and the production task. ANOVA results indicate that explicit FFI has a substantial and evident effect on metalinguistic knowledge development but no significant effect on explaining errors, and on most of the syntactic complexity measures. The effect on acquisition of some target forms was differential. Perception data largely support the statistical findings and confirm a facilitating role of FFI. Perception data also reveal that grammar as a subject with contents and the preference for a transmission model were deep-seated values in learners. The implications of the findings for FFI research and syntactic development research were discussed.

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Chapter 1 Introduction

1.0 Overview

There has been a resurgence of interest in grammar learning and teaching in the field of second language acquisition (SLA) in the recent years, especially on the role of explicit grammar instruction or 'form focused instruction'. The term form focused instruction (FFI) is now commonly accepted as a more general and neutral term to refer to all approaches that draw learner attention to any formal aspect of language so as to avoid the many theoretical and polemical connotations of the term 'grammar instruction' (see further discussion in 1.2 and 2.1). In this study, the term FFI is formally adopted, though in many cases, the terms 'grammar instruction' and 'FFI' are used synonymously. This thesis reports on a research project in the area of explicit FFI. The research aims to address several theoretical and empirical questions concerning the role and effect of explicit FFI on SLA for a group of English as a second language (ESL) advanced learners, namely a group of first year students of an Associate of Arts in Translation and Interpretation (AATI) programme in a community college of Hong Kong. The instruction mode is described as 'explicit' in three major senses. Firstly, the acquisition of explicit knowledge of specific grammar structures is clearly spelt out as learning

outcomes in the course document rather than a focus on meaning. Secondly, grammar structures are pre-selected and systematically taught rather than taught on an ad hoc basis or only reactively to learners' needs. Lastly, in terms of pedagogy, grammar structures and explicit grammar rules are explicitly taught in lectures rather than through natural exposure, or by using communicative tasks.

This chapter introduces the thesis as a whole. It offers an overview of the research project conducted for the thesis by presenting the research problem and the aims of the study, the theoretical and contextual background of the study as well as the significance of the study. Finally the contents of the thesis and their organization are delineated at the end of this chapter.

1.1 The research problem and aims of the study

The explicit FFI treatment in this study is a grammar course called Structure of English. Being the module tutor of a grammar course, like any grammar teacher this researcher very often has to face mistrust and address queries raised by learners regarding the value of grammar learning. For example, 'why should we learn grammar

in a translation course? Or 'is grammar really useful in helping us improve our English apart from learning all the confusing grammar terms?' As a student of a similar course when I did my postgraduate degree a few years ago, this researcher personally did find a systematic training in learning sentence analyses and advanced forms beneficial to his own language development. It was found that more complicated structures and forms taught in class, which were likely to be overlooked or avoided in the past, were 'suddenly noticed' and were ready to be put into use. As a result, the researcher witnessed improvement in his accuracy as well as overall writing skill. However, when this researcher has to convince students of the usefulness of a grammar course, he found himself seriously lacking in a sound theoretical or empirical base to address the issues of the role and effect of a grammar course or explicit FFI. This study, therefore, is motivated by and has a direct link to the professional setting of this researcher. It is concerned with a thorough reflection and reexamination of the role and effect of explicit FFI on the grammatical development of a group of advanced learners in Hong Kong.

In exposing learners to a treatment of explicit FFI, two outcomes are of particular interest. One is the gains in grammar knowledge, which is usually referred to as

metalinguistic knowledge, or explicit knowledge¹. Another outcome is the potential enhanced performance in output. As expounded on later in this chapter, under the influence of Krashen's input hypothesis (e.g. 1982, 1989), FFI research seems to have been at pains to emphasize the role of FFI in drawing learners' attention to and enhancing their 'noticing' of 'input' rather than the later stages of intake and output. The control of metalinguistic knowledge by the learner and the relation of metalinguistic knowledge and the use of the knowledge in performance are usually either taken for granted or oversimplified and hence very often under-researched. As a result, knowledge in these aspects is still largely unknown. The study to be reported on in this thesis is designed to contribute towards filling this research gap. It attempts to investigate into the relation of these two outcomes of exposure to an explicit FFI with special reference to the later stages of intake and output. There may be several possibilities of this exposure to treatment in terms of these two outcomes. There may be no effect on both metalinguistic knowledge and performance; or there may be effect on only one of them; or there may be effects on both, and effects can also be of various degrees. By the same token, the relation between the two outcomes may also have different strengths ranging from not related, weakly related to strongly related. It seems therefore these effect relations would be more effectively ascertained by statistical

¹ Metalinguistic knowledge is defined as 'knowledge of the forms, structure and other aspects of a language, which a learner arrives at through reflecting on and analyzing the language' (Richards et al, 1998, p.285). In this research, it refers more specifically to explicit knowledge about sentence structures and sentence complexity strategies.

means rather than qualitative means.

Apart from gains in metalinguistic knowledge and improved performance, an explicit FFI may also aim at other learning outcomes, for example, stimulating the interest and motivation in grammar learning, helping learners to solve their own grammar problems by promoting autonomy in learning and effective use of grammar resources. In FFI research, these potential gains from an explicit FFI are very often overlooked. Therefore, this study also focuses on two aspects: the extent to which learners may benefit from these other outcomes, and their evaluation of the usefulness of the learning activities/ tasks which they have been exposed to. It seems these perceptual data are more effectively elicited by means of opinion surveys using questionnaires.

However, the notions of explicit knowledge and linguistic performance are too broad to be investigated in this single study. It is essential that this study focus on one aspect of explicit knowledge and selected aspects of performance so that the scope of the research is kept manageable. An important aspect of grammatical competence, syntactic complexity, is chosen for this study. Two major aspects of syntactic complexity are explored. The first one is the various syntactic complexity measures, and

the second one is the acquisition of some target advanced structures. These will be discussed in more detail in Chapter 5. There are several reasons for this focus on syntactic complexity. Firstly, the treatment is a grammar course with sentence structures and sentence analyses constituting its core syllabus. Secondly, syntactic complexity has special relevance and significance for this group of advanced learners. As translation students, to write with accuracy, though essential, is insufficient. Unlike other advanced English users, whose communication needs may be more focused and structured, translators need to have a good command of a much wider repertoire of grammatical structures and stylistic resources to deal with the myriad of authentic texts in their future career, the styles and complexity of which are largely out of their control. Training in sentence manipulation thus is important for translation students. Thirdly, syntactic complexity involves written data and they are preferred to spoken data because learners can pay more conscious attention to and monitor the metalinguistic knowledge already gained, and this allows more room for explicit FFI to manifest its role and effect on both metalinguistic knowledge and performance. Lastly, a review of the literature indicates that studies in FFI are largely interested in performance data of either overall proficiency or error reduction. This study aims to fill the gap in this aspect of research.

This group of translation students is also befitting for the above discussed purposes

for several reasons. Firstly, being graduates of Form 7 with good passes in English public examinations, these students are typical advanced English learners in Hong Kong, a level comparable to university year one students. This level could be considered the end point of formal English learning for most Hong Kong students including most of the non-English major tertiary students. Secondly, being students of a translation programme, they are assumed to be more motivated to further develop their English proficiency from an advanced level to an expert user level, and thus provide a good experimental ground for an FFI effect study. Thirdly, they are among the very few students in Hong Kong who have explicit FFI following the structural and linguistic approach. Fourthly, for translation students, both performance and metalinguistic knowledge are equally relevant and significant. Metalinguistic knowledge has a special relevance because contrastive linguistics is still an important frame of reference for translation studies. Students need this knowledge to understand translation problems and to be engaged in quality discussion of interlingual transfer problems. This study therefore may fill the gap in the present FFI research, which usually focuses on the intermediate and upper intermediate learners and communication-based FFI courses rather than a more linguistically and structurally oriented FFI course involving advanced learners.

Based on the foregoing discussion, the key issue investigated by this study is the role and effect of explicit FFI on the syntactic complexity development of this group of ESL advanced learners in Hong Kong. Within the specific research context, the study examines what this group of students have already achieved regarding syntactic complexity and what some sources of this syntactic complexity are. The study also seeks to find out whether explicit FFI will lead to improved metalinguistic knowledge and/or syntactic complexity performance in terms of various syntactic measures and some target advanced forms, and the relation between metalinguistic knowledge and syntactic complexity development. Lastly, the study explores how this group of learners perceive the role and effect of their FFI experience and what activities/tasks they think can promote their leaning.

To address these research questions, a review of relevant theoretical and empirical works in the literature regarding the notions of FFI, the role of FFI in SLA, and syntactic complexity research was conducted and the relevance to the Hong Kong context discussed. Informed by literature, the methodology and measuring instruments were developed, and data were elicited through various tasks and surveys.

1.2 The role of form-focused instruction in SLA: A critical historical overview

1.2.1 The decline of grammar instruction

Grammar used to be considered the core of second language learning. However, in the late 1970s and peaking in the late 1980s, the relevance of grammar to language acquisition was severely challenged (Rutherford, 1987). This drastic shift in paradigm can be attributed to the combined influences of four major developments in learning theories, linguistics and L2 teaching approaches, viz. (a) Chomskyan linguistics, (b) the immersion programmes, (c) communicative language teaching and (d) Krashen's natural approach. They are discussed in more detail below.

(a) Chomskyan linguistics and grammar instruction

Chomsky (1965, 1957) considers that the language system is too complex to be learned with such effectiveness and ultimate attainment by simple exposure to incomplete and degenerate performance data. Therefore, he posits that children must be biologically programmed to learn a language with a special innate 'Language

Acquisition Device' (LAD), and exposure to input would trigger the 'parameter setting' of the universal features (hence Universal Grammar or UG) of the LAD resulting in the 'acquisition' of an internalized grammar, i.e. the native speaker's competence. Under this UG tradition, L2 grammar is considered to be acquired similar to L1 processes².

Rules are presented to learners either deductively or inductively for the learners to process on their own (Newark & Reibel, 1970a, 1970b) and to develop their 'analytical linguistic skills' (Hinkel & Fotos, 2002). Error judgment tasks, peer and self error corrections, sentence transformations undertaken with teacher facilitation were common class activities (Richards & Rogers, 1986).

(b) The immersion programmes and grammar instruction

The immersion programme originated in St. Lambert, Montreal in 1965 as a response to the demand of English speaking parents who wanted their children to become highly proficient in French (L2). Immersion programmes aim at developing true bilingual proficiency by using the L2 as medium of instruction/communication to teach curriculum content areas for all pupils (Baker, 1993). It was reported that while the academic achievements as well as L1 of these immersion students performed as well

² Hypotheses may range from a shared UG for L1 and L2, partial access to L1 UG via L2, to a separate and independent L2 UG (White, 2003).

or even better than their English-taught comparison groups, their L2 proficiency far surpassed them (Lambert & Tucker, 1972). Hereafter immersion programmes were seen as a promising solution to SLA and were emulated in various bilingual settings with largely successful but varied results (Baker, 1993). As far as grammar teaching is concerned, there is very little formal teaching of grammar or rules and learning is supposed to result from exposure and use.

(c) Communicative language teaching and grammar instruction

Not satisfied with the narrowness of Chomskyan linguistics, Hymes (1972) proposed that other kinds of knowledge, or rule of use, should also be equally important for effective language use and communication, which lead to his formulation of the notion 'communicative competence' (Hymes, 1972). The concept 'communicative competence' was further developed by Canale and Swain (1980a, 1980b) and Canale (1983) as a basis for their principles of the 'communicative approaches'³ (Canale and Swain, 1980b). Communication-based courses can be varied and may be based on a continuum of a strong or weak understanding, ranging from 'learning to use English' to 'using English to learn' (Howatt, 1984, p. 286). Generally, it is thought that language

³ There are differences in the dimensions of communicative competence (5 in Canale and Swain 1980a, and 3 in Canale and Swain 1980b), but Canale's (1983) four dimensions, namely, grammatical competence, sociological competence, strategic competence and discourse competence, are widely recognized as standard components.

teaching should be based on learners' real communication needs (Canale and Swain, 1980a), 'be content-based, meaningful, contextualized and discourse-based, rather than sentence-based' (Celce-Murcia, 1991, p. 462). Teaching is usually organized around language functions or notions (Wilkins, 1976) such as greetings, requests, and complaints. Communicative activities are usually task-based and include activities such as role plays, simulations, discussions, improvisations, debates, and information sharing tasks (Richards & Rodgers, 1986, Richards, 2002). Grammar thus assumes only a very supplementary role and learners are usually provided with the 'grammar' only when absolutely required. The Communicative Approach or Communicative Language Teaching (CLT) is presently one of the most popular and widely practiced syllabuses in the world.

(d) Krashen's natural approach and grammar instruction

Inspired by CLT and immersion programmes, Krashen and his colleagues put forth several revolutionary postulations regarding L2 language learning, generally under the umbrella terms 'the Monitor Hypothesis' or 'the Natural Approach' (Krashen, 1982, 1989, Krashen & Terrell, 1983). Krashen proposes that acquisition and learning are two distinct and independent ways of developing competence in a second language (Krashen,

1982). Acquisition is an unconscious process while learning is a conscious one. He believes that most SLA is unconscious implicit acquisition (the Acquisition Hypothesis) and exposure to comprehensible input from natural communication situations is a necessary (but not sufficient) condition of acquisition (the Input Hypothesis). Progress is made if teacher-input is tuned to the learner's present level of competence (i^0) plus elements representing the next stage of competence ($+1$) following a natural order (the Natural Order Hypothesis). Learners also need the right affect for acquisition to take place (the Affective filter hypothesis). Explicit learning of grammar rules would only be useful in monitoring the well-formedness of the language used (the Monitor Hypothesis), would be of limited use for access in real communication and could never turn into acquisition. Hence the role of formal grammar instruction would be very minimal, only to provide comprehensible input, to facilitate acquisition of simple rules or to satisfy learners' expectation (Krashen, 1982).

In summary, the four tenets reviewed above either consider the early internalization of grammar by native speakers as an innate ability or a natural process, or that language should be acquired through interaction in communication not by learning about rules. In this view, grammar teaching at best only helps trigger parameter setting or provide input to learners. Focusing on forms is futile and even detrimental to the learning process.

Since the 1980s, there has been an enormous decline in grammar teaching. As Williams suggests, grammar teaching 'has nearly been taboo or taught surreptitiously' (Williams, 2005, p. 671), and there has clearly been a divide between theory and practice (Ellis, 2001b) which has resulted in great confusion in the field (Doughty & Williams, 1998b).

1.2.2 The revival of interest in grammar instruction

The shift of teaching paradigm from a grammar-based syllabus to a communication-based syllabus was once considered a panacea in the SLA brave new world. However, as the wave of enthusiasm has subsided and inadequacies surfaced, the unequivocal effectiveness of these approaches has become less conclusive, if not equally problematic.

Krashen's theories have been criticized as 'sweeping statements on the basis of weak empirical data' (McLaughlin, 1987, p. 57). Krashen may also have stereotyped both L1 acquisition and L2 classroom learning. It is common experience that when one attempts to master a language in whatever environment, one will be doing a bit of learning and a bit of acquisition (e.g. Johnson, 2001, DeBot et al, 2005, Lightbown

1991). Scholars also query whether input alone could be sufficient for acquisition (e.g. Swain 1985).

Regarding immersion programmes, later reviews (e.g. Swain, 1985, 1998, Harley & Swain, 1984, Swain & Lapkin, 1981, 1982) show that an input-rich, communicatively oriented classroom may not provide all that is needed for the development of target like proficiency as students at intermediate and higher grade levels often consist of non-target like morphology and syntax, though most immersion students 'have little difficulty in conveying what they want to say' (Swain & Lapkin, 1982, p.82). Long and Robinson think that what these students need may not be more exposure but 'additional salience for the problematic features through positive or negative evidence' (Long & Robinson, 1998, p. 20-21).

As regards CLT, some query the adequacy of using communication to cover all learning contexts (e.g. Rutherford, 1987, Mulroy, 2003); others such as Ellis, G. (1996) and Carless (1999) challenge the universal relevance of the culturally embedded teaching practices of the approach especially in the EFL and Asian contexts. Fotos also adds that factors such as large classes, students' expectation, the examination-driven culture and limited use of English outside class, which are still common in many

teaching contexts worldwide, may mitigate against the purely communicative methodology (Fotos, 2002). However, the strongest criticism of CLT is it being a major cause of a drastic decline in accuracy (Richards, 2002). For example, the approach is criticized for its poverty in actual language used (Gass & Selinker, 2008, Samuda, 2001). The focus on communication and communication strategies rather than language competence has been taken as producing fossilization and non-proficiency and fragmented users (Skehan, 1996b).

In the early 80s, there has been hot debate on the role of grammar instruction (see 2.2.1). SLA researchers are now more inclined to believe that instruction does have a definite role in the SLA process, and that the role of exposure is exaggerated (see discussion in 2.2.1). Hence, there has been an evident resurgence of interest in grammar instruction and a strong call for re-integrating grammar into the communicative syllabus in the late 80s and 90s (Pica, 2000, Mulroy, 2003).

1.2.3 From grammar instruction to form-focused instruction

An early proposal for a new theoretical base for grammar instruction is

`consciousness raising' (CR) (Rutherford, 1987, Rutherford & Sharwood-Smith, 1988a, Schmidt 1990). Rutherford and Sharwood-Smith define CR as `a deliberate attempt to draw the learner's attention specifically to the formal properties of the target language' (Rutherford & Sharwood-Smith, 1988b, p.107). CR, however, is different from traditional grammar teaching in that it does not involve teaching an exhaustive set of `discrete formal entities' or `simplified rules' (Rutherford, 1987, p.17). CR may not be for immediate use, but is rather an aid to facilitate acquisition by providing input for hypothesis testing and self discovery and by enabling comparison of L1 and L2 universal principles and processes (Rutherford & Sharwood-Smith, 1988a).

CR activities are quite flexible and could take in a continuum ranging from minimal error correction, focus on some forms to full form of explicit teaching about structure, with or without metalanguage (Sharwood-Smith, 1988, 1991). In contrast to Krashen's theory, which perceives acquisition as an unconscious process, CR proposes that paying conscious attention or `noticing' is a necessary condition for input to become intake (Schmidt, 1990). During the late 80s to late 90s, various pedagogic innovations emerged and were tested to enhance this `noticing of input' (Pica, 2000, Ellis 2001b, 2002, Fotos, 2002, Doughty & Williams, 1998c) such as `Input flood' (Ellis, 2001b), `Input enhancement' (Sharwood-Smith, 1993), `focused communicative tasks'

(Ellis, 2001b) , `input-processing tasks' (VanPatten, 1996, 2004), and `grammar consciousness-raising tasks' (Fotos & Ellis, 1991, Fotos, 1994, Fotos, 2002).

In 1991, Long (1991) published a seminal paper in which he formally proposed the term `focus on form' to refer to `attention to form' in the new era of communication-based syllabus. Hereafter, `focus on form' or `form-focused instruction' has emerged as an important sub field in SLA research. It seems that `form-focused instruction' is currently the most widely used term (e.g. Spada, 1997, Ellis, 2001a, 2006, Fotos & Nassaji, 2007), and it is adopted in this thesis. However, `instructed second language learning', `grammar teaching', or `grammar instruction' are also commonly used by different researchers.

1.3 The research context

1.3.1 Overview

The subjects of this study was a group of ESL advanced learners in Hong Kong, namely a group of year 1 students of an Associate degree of Translation and

Interpretation programme (AATI) at a community college of a government funded university. The treatment or explicit FFI is a semester long (13 week) English grammar course called Structure of English. It was a course offered to students in Semester B (Sem B) of the first year of the two-year AATI programme in 2007. Under the present mission stipulated by the Education Bureau of the Hong Kong Government, the associate degree level should emphasize 'generic skills' as well as 'practical skills in career developments' (Education Bureau, 2009). Most students now take the associate degree as an alternative route to re-enter universities and get an undergraduate degree. Other language related associate degrees run by the community college are Applied Chinese Studies, Applied Japanese Studies, English for Professional Communication and Bilingual Communication Studies.

1.3.2 The treatment course

(a) The AATI programme

AATI was restructured several times at different stages of the development of the tertiary education of Hong Kong and the University, for example, the development of a

credit unit system in 1994, and the restructuring from a three- year higher diploma course to a two-year associate degree course in 2000. Although, in these restructuring processes, many of the linguistic modules have been removed, its linguistic orientation inherited from its higher diploma precursor is still evident in the present structure of the programme. The course Structure of English is an example.

The students are mainly form-seven graduates falling in the 19-20 age group. To be eligible to the AATI programme, applicants must obtain either C at School Certificate Level or D at A-level English, in both English and Chinese, in addition to the general entrance requirements for Associate degree, which are five passes in the Hong Kong Certificate of Education Examination (HKCEE) including English and Chinese and 1 Hong Kong Advanced Level (HKAL) subject. Thus, AATI students usually have higher language results than other programmes.

To qualify for the award of AATI, students need to obtain 60 credits, 54 from the core subjects and 6 for electives. The average credits per course are 2 credits which are roughly equivalent to two contact hours per week. Generally speaking, modules of the AATI programme fall into four major categories: (1) the English language and linguistics modules; (2) Chinese language modules, including Putonghua; (3) translation

modules; and (4) cultural modules. The treatment in this research, the Structure of English course, is under the English language and linguistics category, which consists of subjects like English Stylistics, Language and Society, Phonetics and Phonology, Discourse Analysis and Advanced English Language Enrichment. A detailed course structure of AATI can be found in Appendix 1.

(b) Syllabus and course design

The syllabus is designed according to the 'learning outcomes' prescribed in the course document, and they are given below:

On completion of the course, students will be able to:

- 1 Describe some basic principles of grammatical analyses and apply them to their own grammar learning;
- 2 Analyze English sentences using both functional and formal analyses;
- 3 Develop sensitivity towards grammatical forms and meaning of English;
- 4 Identify and demonstrate the ability to use more complex grammatical forms such as relative clauses, subordination, coordination, participle clauses;
- 5 Identify, explain, and correct common English errors in Hong Kong;
- 6 Develop lifelong learning skills in English learning such as the ability to identify, categorize and solve their own grammar problems using various resources such as dictionaries and Cobuild on-line concordancer.
- 7 Reflect and identify the weaknesses and strengths of your own learning strategies in English and grammar learning.

(source: LS22454 course documents, 2007)

Structure of English is thus one of the most important core courses aiming to help students further develop their English skills to an expert user level for employment or further study with special emphasis on developing life-long learning skills such as analytical skills, problem-solving skills and learning to learn skills. These objectives are in accord with the spirit of the generic skill descriptors of the Education Bureau, the mission of the community college and learning outcomes of the AATI Programme.

Students spend the first two weeks learning the basic approaches to grammatical analysis. Then the descriptive approach to grammar and important resources such as internet resources and dictionaries are introduced. Students spend the next three weeks learning sentence analyses and the features of different sentence types. The rest of the lectures are organized around the more core phrase structures such as the verb phrase, the noun phrase and the adjectives phrase. Moreover, students are alerted to the common errors of the various structures throughout the course and specifically in the tutorials. The course also has a bias towards contrastive analysis, drawing student's attention to difficult grammatical areas in translation and errors induced by their first language. In this aspect, the course is one in focus on forms rather than focus on form (Long, 1991, see discussion in 2.1). The weekly teaching schedule is attached in Appendix 2.

(c) Teaching and evaluation

The teaching of the course is largely dictated by the traditional college teaching practice using lectures and tutorials. The course consists of one one-hour lecture and one one-hour tutorial per week. Altogether there are 26 contact hours per semester. In the year of data collection, the class size for lecture is 71 students and there are three tutorial classes, each having 21-25 students.

The grammar course has a good balance of teacher-centered and student centered approaches. In the lectures, the teacher plays a major role as source of knowledge and organizer of learning, but discussion, participation and application of course concepts are highly encouraged in the tutorials, where the tutor usually assumes the role of a mentor and facilitator.

As the course also aims at helping students broaden their exposure to English, develop effective studying skills and to apply course concepts to authentic texts, a portfolio assignment is designed as the main course work assessment. Students are requested to submit a portfolio of documents as evidence of their learning. This includes

a studying plan (1 document), a review of their studying plan (1 document), concept maps (2-4 documents), analyses of authentic texts (2 documents), long sentence imitation (2 documents), evidence of solving one's own grammatical problems (2 documents), and any other evidence of their grammar learning (3 documents). The term-end two hour written examination is a multiple choice test mainly on concepts they have learned and on common errors to consolidate their learning. The weighting of the assessments are: portfolio assignment 50%, participation, 10% and MC examination 40%.

(d) Teaching activities

Because FFI can take many forms and teaching agendas, it would be useful to provide details of the teaching activities the explicit grammar teaching actually took, i.e. what students actually did in the class and outside class.

In the one hour weekly lectures, target structures were introduced, and their meaning and forms were explained with highlights on common errors in English writing and/or translation. The activities in the tutorials were more varied and they included a range of in-class exercises such as questions for discussion, error correction, sentence imitation,

sentence combining, sentence analysis, text analysis and translation (see the detailed weekly teaching schedule in Appendix 2). Besides grammar knowledge, the course also equally stressed the experiential dimension of grammar learning. The portfolio assessment task as discussed above was designed to draw students' attention to grammatical forms in their daily life. It required students to document the planning for their grammar study, reading and analyses of authentic texts, actual use of advanced forms in their writing or translation, and the use of various references for grammar learning.

1.4 Significance of the study

As noted in 1.2, FFI has emerged as one of the most burgeoning branches of SLA research in recent years. This study will contribute original empirical evidence as well as insights to the field of FFI by focusing on new contexts and some less researched areas, for example, in an ESL context of Hong Kong, on advanced learners, in a non-communication based explicit FFI course, and using syntactic complexity measures and target advanced features as dependent variables. This study thus can offer a basis for extending the scope of research on FFI and syntactic complexity development.

Furthermore, it also contributes to the broader SLA research by providing insights into the language acquisition processes especially the intake and output stage by exploring the relation of effect of the FFI on metalinguistic knowledge and performance and the relation between these two outcomes. In addition, by tapping into the perceptions of learners about their learning experience and learning outcomes other than explicit knowledge, it also provides a perceptual dimension to effect studies in FFI. The focus on advanced learners has a special significance and relevance to FFI studies. Firstly, for advanced learners, they may have already managed to handle most of their daily communication needs in English. As suggested, natural exposure may not be adequate for the acquisition of advanced proficiency and some advanced professional skills (Hinkel & Fotos, 2002). Secondly, the cognitive processes and strategies of young adults may be different from those of teenagers (Sigelman & Rider, 2009). FFI may have special relevance at this stage of development.

This study is also important in that it addresses an area which is of considerable current interest and relevance to Hong Kong. As reviewed in Chapter 4, grammar teaching has always been the core of English education in Hong Kong and is always involved in the lively debate on the decline of English standards in local education circles. It is noted that complaints are actually mainly about the prevalence of errors in

written work rather than about oral proficiency. A common belief of the public is that the introduction of the communicative approach in Hong Kong in the 80s, which deprived students of 'proper' grammar training, is one of the major causes of the decline. Presently, effect studies of FFI in Hong Kong are still few. Therefore, this study aims to provide further insights into this area of controversy. Furthermore, it cannot be denied that a majority of learners of English in either second language or foreign language contexts have achieved and will continue to achieve their language proficiency mainly through formal instruction. This is especially true for countries where access to English speakers and English resources in society is limited. Therefore research in FFI will have a broader relevance to the ELT world, not only restricted to a local interest.

Lastly, this study has a direct relevance to the professional setting of this researcher. It may provide both theoretical and empirical justification for taking a grammar course. Results hopefully can shed light on the general frustration of grammar learning or the generally perceived inefficiency and failures of formal grammar instruction. The research-informed insights together with the perceptual dimension from learners on their learning experience could provide useful reference not only for the future development of the treatment course but also for general course design for upper intermediate and advanced learners in Hong Kong.

1.5 Organization of thesis

This study investigates the role and effect of explicit form-focused instruction on the syntactic complexity development and the acquisition of advanced structures of advanced ESL learners. The thesis contains eight chapters. The first, i.e. the present chapter, introduces the thesis and the study as a whole. It describes the development of the research interest, outlines the research problem and aims of this research, presents the theoretical background and the contextual background, discusses the significance of the present research and provides an overview of the organization of the thesis. The rest of this thesis serves to achieve the aims and answer the key research questions as stated above.

The next three chapters form a literature review section. They help to inform and establish the research framework and methodology through review of relevant literature.

Chapter 2 examines one of the two major key concepts in the study, namely explicit form focused instruction. It reviews the theoretical and empirical bases for form-focused instruction and its relevance to SLA. It starts by discussing the meaning

and development of the concept of form-focused instruction and then outlines the ensuing realignment of taxonomies of pedagogical methods. Then the issue of effect of FFI on SLA is examined to allow understanding of the FFI research in terms of empirical evidence. Finally some key theoretical issues concerning FFI, which mainly informed the present research, are explored, namely the relation of explicit knowledge and implicit knowledge, and the two major models of FFI.

Chapter 3 reviews another key concept of the study, i.e. syntactic complexity development. It reviews the scope of syntactic complexity and the various measurements employed. The purpose of this chapter is to inform the choice of 'objective measures' to be used as dependent variables for the study.

Chapter 4 draws together insights from the previous chapters on the role of grammar development in SLA, FFI and syntactic development research, and aims at contextualizing the various issues/concepts to the local ESL and SLA contexts. The chapter starts with a brief highlight of the most updated linguistic profiles and English use in Hong Kong and an overview of the role of FFI in the English education context of Hong Kong in light of official documents, classroom research and attitude surveys. Finally, it provides a selected review of research on FFI/grammar and syntactic

complexity in Hong Kong.

Chapter 5 presents a detailed description of the research design. It starts by a discussion of the initial conclusions and assumptions informed by the literature review. It then sets out the specific research questions to be addressed by the study, questions arising from the theoretical framework and the series of initial hypotheses and assumptions. Finally, it describes, explains and justifies the selection of procedures and instruments for data collection adopted in the research design.

Chapter 6 reports on the procedures for data preparation and presents elementary analyses of the data collected from the three studies.

Chapter 7 discusses and interprets the results, answers the main research questions in light of the data presented in chapter 6. It offers conclusions and discusses the practical and theoretical implications of the study.

The final chapter, Chapter 8, concludes the thesis by reviewing what has been achieved in this thesis. It briefly summaries the major findings of the present study, enumerates the contributions of the study, points out the limitations and makes a number

of recommendations for further research.

Chapter 2 The role of form focused instruction in SLA

2.0 Introduction

This chapter examines both the theoretical and empirical bases of the role of FFI in SLA. Firstly, the development of the construct FFI is traced. Then in 2.2, two significant issues underpinning the theorizing of the role of FFI are explored. One is the much debated issue of the effect of instruction, and the other is the representations of knowledge and their interface. These two issues provide both the theoretical and empirical background necessary for the discussion in the last section. The last section, section 2.3, reviews the perception of the role of FFI in various SLA theories in general, and then discusses two specific models in detail: Johnson's 'skill model' and Ellis' 'theory of instructed SLA' model. It is hoped that these discussions could provide a solid theoretical and empirical foundation for the present study and put all seemingly divergent but relevant scholarship in SLA research into a proper perspective.

2.1 Conceptualization and taxonomies of FFI

Long's 1991 paper is usually taken as the starting point for discussion on FFI.

Long proposes 'focus on form' (FonF) in contrast to focus on forms (FonFs) as a new term to be used in the new era of communication-based SLA. FonFs is based on structural and synthetic approaches to language teaching in which 'isolated linguistic structures' are presented to the learners in an isolated and decontextualized manner (Long, 1991, p. 44). FonF, on the other hand, involves drawing the learner's attention overtly 'to linguistic forms as they arise incidentally in lessons whose overriding focus is on meaning or communication' (Long, 1991, p. 46). Long (1991) proposes that FonF can be done in teaching other things or when the teacher turns to brief interruptions to focus on form (i.e. incidental and reactive, using FFI technical terms). It can be seen that there are three important criteria in Long's definitions namely, (a) communication of meaning is the priority, (b) intervention is brief and occasional, and (c) the diversion to form is problem-based and incidentally triggered (Long and Robinson, 1998). Long believes that FonF instruction is advantageous over FonFs instruction because the learner's attention is drawn precisely to a linguistic feature motivated by a communicative need (Long, 1991).

Long's dichotomy of FonF and FonFs and his rejection of FonFs are understandably strategic for proponents of formal teaching in the 1990s when grammar teaching was nearly a taboo. However, as pointed out by Williams (2005) and others (e.g. Fotos, 2002), in both theory and reality, a categorically pure situation of FonF, FonFs or Focus on meaning rarely occurs. Ellis also queries that 'it may be premature to reject a focus on forms approach' (1994a, p. 641). This is echoed by Sheen (2003, 2005) who argues that Long's bias towards FonF is 'a myth in the making' and 'lacks credibility in terms of the empirical evidence available' (Sheen, 2003, p. 225) as the supposed FonF instruction actually entailed the contributive use of FonFs.

Spada (1997) uses the term Form Focused Instruction (FFI) as well and proposes a formal definition referring to FFI as 'any pedagogical effort which is used to draw the learners' attention to language form either implicitly or explicitly. This can include the direct teaching of language (e.g. through grammatical rules and/or reactions to learners' errors (e.g. corrective feedback)' (Spada, 1997, p. 73). Spada's definition is very near to 'conscious-raising' as discussed in 1.2.3. While situating FFI in meaning-based teaching, Spada also accepts both spontaneous and predetermined focus on language. However, the latter is queried whether it should be rather considered 'FonFs' (Ellis, 2001b).

Doughty and Williams (1998b) basically accept Long's distinction. But they stress that FonFs and FonF are a continuum rather than polar opposites in the way that form and meaning have often been considered to be. 'Rather focus on form entails a focus on formal elements of language, whereas focus on forms is limited to such a focus, and focus on meaning excludes it' (Doughty & Williams, 1998b, p. 4). While Long (1991) conceptualizes FonF mainly as 'reactive responses' (i.e. unplanned and incidental), Doughty and Williams (1998c) suggest that FonF can also be 'proactive', i.e. can be planned in advance and need not begin with a real-time problem as long as the focus 'is triggered by an analysis of learner need rather than being imposed externally by a linguistic syllabus' (Doughty & Williams, 1998b, p. 5). They also think that although the term form focused instruction can refer to both FonF and FonFs, it should be avoided. Rather writers should specify either focus-on-form instruction, or forms-focused instruction. Spada's and Doughty and Williams' extended definitions are essential or otherwise many experimental studies would be excluded from discussions on FonF, as forms in these experiments are always pre-planned and pre-selected, but not 'arise incidentally' as stipulated in Long's definition of FonF (Long, 1991).

Ellis (2001b) proposes the term form-focused instruction (FFI) as an umbrella term

for all approaches that draw learner attention to formal aspects of language. He defines FFI as ‘any planned or incidental instructional activity that is intended to induce language learners to pay attention to linguistic form’ (Ellis, 2001b, p.1-2). This is the most accommodating definition, which may be applied to FonF or/and FonFs, and to all forms: lexical, phonological, grammatical and pragmatic forms.

Noting the confusion of using FonF to include cases involving pre-selecting a form for treatment (i.e. proactively) rather than attending to form incidentally and reactively as used in Long’s original definition, Ellis (2001b) proposes a new taxonomy (see Table 2. 1) based on Long’s original binary distinction, and on whether the instructional attention to target forms is intensive (limited to target forms) or extensive (i.e. attention to a wide range of forms that have not been pre-selected).

Table 2.1: Types of Form-Focused Instruction (Source: Ellis, 2001b, p.17)

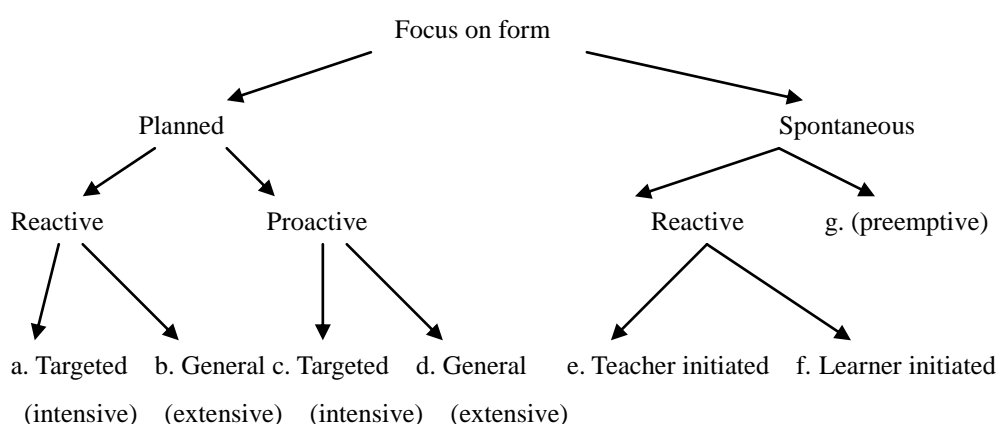
Type of FFI	Primary Focus	Distribution
1. Focus-on-forms	Form	Intensive
2. Planned focus-on-form	Meaning	Intensive
3. Incidental focus-on-form ⁴	Meaning	Extensive

Developed further from Ellis (2001b) and others, Williams’ main concern

⁴ According to Ellis (2001b), incidental focus-on-form can be either ‘pre-emptive’ (i.e. focus on forms which are perceived to be problematic), or ‘reactive’ (i.e. focus on forms in response to learners’ actual problems). Type 1 and Type 2 are ‘proactive’ (Ellis, 2001b).

(Williams, 2005) is on further classifying FonF. She posits four parameters (i) problematicity, (ii) planning (i.e. proactive [pre-planned] vs. reactive, targeted vs. general), (iii) obtrusive vs. unobtrusive, and (iv) teacher vs. learner responsibility, and establishes a new framework for classifying FFI options (see Fig. 2.1 below).

Fig. 2.1 Planning in FonF activities and techniques



Examples of activities/instructional sequences with these features:

- a. narrow recasting of preselected forms
- b. general recasting of learner error
- c. enhanced input, focused communicative tasks
- d. increased planning time for task; negotiation tasks
- e. scattershot response to learner error, e.g. “mini-lessons” in response to learner problems
- f. learner-initiated FonF, e.g. learner requests for assistance
- g. (mini-lessons in anticipation of learner problems)

(Source: Williams, 2005, p. 677)

It seems at the present stage, it may be more fitting to be more encompassing rather than limiting. Therefore, it may be well advised to adopt more flexible and inclusive definitions. For example, ‘problematicity’ can take the broadest sense to include both interlanguage (IL) profile and real time based ‘problems’, or teacher or

student initiated problems, and to include proactive as well as preemptive FonF. As discussed in 1.2.3, there is a tendency to use the term ‘form-focused instruction’ or ‘focus on form’ to include both FonF and FonFs in the recent literature (e.g. Ellis, 2006, Fotos and Nassaji, 2007). Basically, Ellis’s classification is followed in this thesis. It may be rather more important that the researchers expound the details of their conceptualizations and operationalizations more clearly and rigorously.

2.2 Empirical and theoretical issues underpinning FFI theorizing

2.2.1 Effect of instruction

Query over the role of instruction (which is usually taken as synonymous to grammar instruction in the literature) is mainly a response to challenges from non-interventionists that grammar teaching is unnecessary, useless and even harmful (e.g. Krashen, 1982, Dulay & Burt, 1973). There was a considerable amount of research in SLA in the 80s & 90s, the main purpose of which was to confirm or refute the role of instruction. This section surveys empirical data accumulated to date, and discusses how they shed light on the role of FFI in SLA. It is not possible to go over the hundreds of

individual studies due to limited space. In addition, a drawback of focusing on individual studies is, as Norris and Ortega suggest, that 'individual study findings are too easily attributable to chance variability as well as idiosyncrasies in design, analysis, sampling error, research setting, etc.' (2000, p. 423). There are however a few comprehensive reviews of the issue published from early 80s to the present. These secondary analyses can` serve as a kind of watershed pinpointing cumulative scientific endeavour, summarizing what has come before and indicating what remains to be done' (Norris and Ortega, 2000, p. 423). This section mainly draws from works of Long 1983a, Long, 1988, Ellis, 1984, 1990, 1994a, 1997a, Spada, 1997, and Norris & Ortega, 2000. They all include original, detailed and critical discussions of individual empirical studies available around the time of their publication, and are widely cited in the field.

(a) Long (1983a, 1988)

Long's seminal article (1983a) addresses the question in many people's heart during the 80s: 'Does second language instruction make a difference?'. He reviews a total of 12 studies from the 60s to the early 80s that examined the effect of formal instruction on the rate and ultimate attainment in SLA. All the studies reviewed use designs involving comparisons between learners experiencing exposure with or without

instruction. Hence, Long's research question is a crude one, only to ascertain whether instruction helps exposure, or their 'relative utility' in his own words. In the 12 studies reviewed, 6 show that instruction helps; 3 show that instruction does not help; 1 shows exposure helps; and 2 are ambiguous. Long concludes that the answer to his research question is 'a not-so-tentative "Yes"' (1983, p.380), and 'there is considerable evidence to indicate that SL instruction does make a difference' (1983, p. 374). He further concludes that instruction is beneficial (1) for children as well as adults, (2) for intermediate and advanced students, not just beginners, (3) irrespective of testing tools (e.g. integrative or discrete-point tests), and (4) in acquisition-rich as well as acquisition-poor environments (Long, 1983, p. 374). All these are counter arguments to Krashen's monitory theory. There is considerable debate and feedback from Krashen, who maintains that Long's findings can also be interpreted as a result of more input for students as a result of instruction (Krashen, 1985, 1992, and 1994).

In Long, 1988, Long refines his review to address four questions: (1) the effect of instruction on acquisition processes, (2) the effect of instruction on acquisition sequences, (3) the effect of instruction on rate of acquisition, and (4) the effect of instruction on the level of ultimate SL attainment. Drawing on more recent research available, he maintains his 1983 stance and draws four conclusions: (1) Formal SL

instruction has positive effects on SLA processes (e.g. transfer, overgeneralization, decreolization), on the rate of acquisition, and on learners' ultimate level of attainment and instruction may be needed to reach full native speaker competence. However, instruction does not seem able to alter acquisition sequences, except temporarily, and in trivial ways, which may even hinder subsequent development (e.g. over- generalization errors of `ing' form, cf. Lightbown, 1983). (2) There still has been insufficient research to warrant firm conclusions in any area. (3) That formal instruction in a second language is of limited use is obviously premature and almost certainly wrong. (4) Further research on this issue must be conducted with more vigor in terms of conceptualization and operationalization of instruction.

(b) Ellis, 1984, 1994a

Ellis' several reviews on the issue were impressive for their wide coverage of the major empirical studies, his meticulous and critical discussions and his insightful theorizing based on available empirical data. In his 1984 work, Ellis points out there are three problems with Long's 1983 conclusions. Firstly, there are biases from test instruments in favour of modeled data i.e. language taught in classrooms, rather than communicative data. Secondly, instruction cannot be controlled for factors such as

learner variables. Thirdly, conceptualization and operationalization of the concept of instruction in the studies reviewed are unclear and inconsistent. Based on available empirical evidence, his conclusion in 1984 about effects of instruction in was that formal instruction failed to alter the order of grammatical development in second language development (SLD), and he cautiously agreed with its role in improving proficiency and speeding up the rate of acquisition.

Ellis (1994a) discusses the effects of instruction on four aspects: (1) on general language proficiency, (2) on production accuracy, (3) on sequence/route of acquisition, (4) durability of effects. There is evidence supporting and refuting effects of instruction on nearly all these aspects. Despite this, Ellis agrees that there is support for the claim that formal instruction helps learners to develop greater L2 proficiency (research Q 1). Citing research for effects of a mixed mode (e.g. Spada, 1986), he suggests FFI may be particularly effective if it is linked with opportunities for natural exposure. He also notes that there might be a delayed effect. For example, in Ellis & Rathbone (1987 quoted in Ellis, 1994a), students' improvement was observed 3 months after instruction.

Regarding effects on accuracy (research Q2), research findings range from no effect, positive effect, effective for some tasks (e.g. for planned tasks but not for unplanned),

short-lived effects, delayed effects, to deleterious effect. Ellis concludes that 'there is sufficient evidence to show that form-focused instruction can result in definite gains in accuracy' (Ellis, 1994a, p. 623). FFI is likely to work if instruction is extensive and well planned and the form is simple, and clearly related to a specific function.

As regards effects on sequence of acquisition (research Q3), Ellis agrees that effects of instruction are limited in altering route of acquisition but he thinks that works on German word order (e.g. Pienemann, 1988, 1989, Ellis, 1989) and relative clauses (e.g. Pavesi, 1986) are more convincing evidence than the morpheme studies as morpheme studies still have a lot of methodological and theoretical problems of their own. However, FFI may be effective in enabling learners to acquire variational features (i.e. features that are not developmentally constrained, cf. Lightbown, 1983). He also notes the improved accuracy, the delayed effect and accelerating effect of instruction.

In regard to durability of effects of instruction (research Q4), research results are more divergent. Ellis concludes that 'few definite conclusions are available but there is sufficient evidence to show that learners retain at least some of the grammatical structures they have been taught' (Ellis, 1994a, p.640). Ellis suggests that follow up practice may be required to achieve acquisition (e.g. Lightbown, 1991) for effects of

instruction to be lasting. Learners' perception, communicative need and motivation may be important factors.

All in all, it is clear that in 1994 Ellis is much more reassured and confident about the role of instruction in terms of empirical evidence than in his 1984 conclusion discussed above. He concludes that 'fully successful classroom language learning requires formal instruction' (Ellis, 1994a, p.612). Ellis' biggest contribution is that he reveals the complexity of the issue and that effectiveness of FFI may involve various factors such as variability of formal instruction details, the nature of grammatical rule (e.g. complexity, saliency, frequency), learner variables (e.g. age, developmental stage, motivation, personality), and measurement methods (e.g. modeled data vs. communicative data).

(c) Spada (1997)

Spada reviews 30 studies between 1990-96, including both classroom and laboratory (i.e. experimental) research. There are five 'finely-tuned' research questions in her review: (1) Is form focused instruction beneficial to SLA; (2) Are particular types of form-focused instruction more beneficial than others? (3) Is there an optimal time to

provide form focused instruction? (4) Are particular linguistic features more affected by form focused instruction? (5) Do particular students benefit more from form-focused instruction?

Her five research questions largely reflect the prevalent sentiments of the field that the role of instruction has been confirmed to a certain extent and interests begin to shift to more specific aspects of FFI, namely the learner, the timing and the form (Doughty & Williams, 1998a). Spada's answers to most of the research questions are both yes and no as there is evidence to support both, and she finds it hard to arrive at definite conclusions. Despite criticisms on problems of confusion of terminology and compatibility of research settings and methodology, she nevertheless agrees that 'this review of classroom and laboratory research on the effects of FFI in SLA supports the view that FFI is beneficial to SLA' (Spada, 1997, p. 82). She also proposes that 'a combination of form and meaning was more beneficial than the exclusive use of either one' (Spada, 1997, p. 75). Advanced learners may particularly benefit from FFI as beginners may be overloaded by a simultaneous focus on form and meaning. She also notes that explicit methods of correction are more effective than implicit methods. Generally, taken into consideration teachability constraints posited by Pienemann (1988), she thinks that learners benefit most from instruction which is targeted to their

next stage of development (Spada, 1997).

(d) Norris and Ortega (2000)

Norris and Ortega (2000) is another widely cited review of research. They use the synthesis and meta-analysis technique and effect size analyses to investigate and compare all the experimental and quasi-experimental investigations published between 1980 and 1998. Their review includes 77 relevant studies of which 49 unique sample studies are chosen for statistical analysis. This is the most comprehensive and convincing review so far in terms of coverage and scope of research.

Their six research questions cover the previous interests in the effectiveness of instruction over natural exposure, success of ultimate attainment, effects on rate and sequence, length of instruction, durability of effect, and also include new research questions such as the relative effectiveness of different types of L2 instruction (e.g. implicit vs. explicit), effect of the operationalization of outcome measures, and the value of primary research (i.e. treatment construct and sample size).

They conclude that focused L2 instruction results in large target-oriented gains,

that explicit types of instruction are more effective than implicit types, and that focus on form and focus on forms interventions result in equivalent and large effects. Their findings suggest that the effectiveness of L2 instruction is durable and that the type of outcome measures (e.g. biased towards implicit instruction or explicit instruction) used by individual studies likely affects the magnitude of observed instructional effectiveness. They also attribute inadequacies and insufficiency of primary research to study design, data analysis and reporting and recommend 9 practices to improve future research design such as simpler design, fewer variables, inclusion of a control group, possibility of replication, more relevant statistical data (effect size, significance tests, as well as estimates of error), more rigorous empirical operationalization and replication of its central research constructs.

Given the great diversity of effect studies in terms of operationalization of constructs, research purposes, emphases, subjects, teaching contexts, measurement tools, and methodology, categorical and definite conclusions are difficult to obtain and results must remain controversial and tentative. The four intrinsic problems in research will always be difficult to overcome: (1) controlling/isolating variables, (2) extrapolation and generalizability of results, (3) measurement problems, (4) charting long term effects. The body of knowledge and empirical evidence accumulated so far have shown that the

role of natural exposure has been oversimplified and exaggerated. FFI has a definite role to play in SLA and has positive effects in improving accuracy, in accelerating acquisition, but these are constrained by conditions such as cognitive constraints, the developmental status of learner, the nature of form, the learning environment, and delayed effects. Providing a mixture of meaningful input and some explicit or implicit instruction on form may be most effective in teaching an L2. There has been no more large scale review since Norris and Ortega, 2000.

2.2.2 Knowledge representations and their interface

A common distinction of knowledge types, which is associated with Anderson's Adaptive Control of Thought (ACT) model (e.g. Anderson, 1982, 1983), is the distinction of declarative knowledge and procedural knowledge. Declarative knowledge is concerned with 'knowing that' (i.e. about facts and information) and is accessible to conscious awareness. On the other hand, procedural knowledge refers to 'knowing how' (i.e. relating to motor and cognitive skills), and is relatively inaccessible to the conscious mind (Ellis, 1997b). According to Anderson's theory, knowledge is initiated as declarative knowledge and then proceduralized or automatized to procedural

knowledge through practice. The model is criticized as limited in not recognizing the fact that most learning is done incidentally, implicitly and naturally (Ellis, 1994b, Johnson, 1996). However, Johnson argues that there might be a possibility that the automatization process is extremely transient and the initial declarative knowledge disappears and is no longer accessible after automatization (Johnson, 1996).

Another common classification of knowledge types is implicit and explicit knowledge (Bialystok, 1981, 1982, 1988). Explicit knowledge refers to knowledge that is analyzed, abstract and explanatory (Bialystok, 1981). Explicit knowledge can be conscious but need not be and is independent of its articulation, though this can be facilitated by metalinguistic knowledge. On the contrary, implicit knowledge is intuitive, unanalyzed, and learners are unlikely to be aware of having ever learnt it and are probably unaware of its existence (Ellis, 1994b). Bialystok, positing an analyzed dimension, and a controlled vs. automatic processing dimension, proposes a bi-dimensional model of language proficiency (see Fig. 2.2).

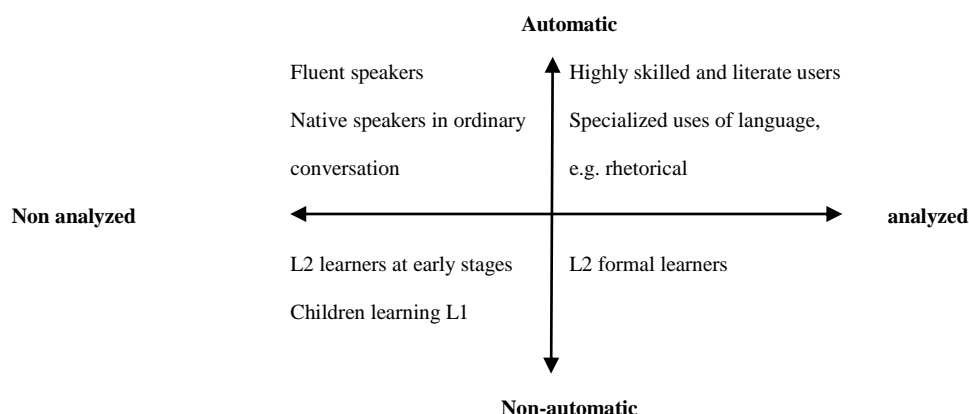


Fig. 2.2 Bialystok's bi-dimensional model (Source: Bialystok, 1988, p37)

Bialystok's model raises several interesting issues regarding the initiation of implicit knowledge, and the interface of implicit and explicit knowledge. The initiation and representation of implicit knowledge is a theoretically complex issue⁵. It involves, for example, whether the language learning process is separate or similar to other skills acquisition (e.g. the UG-Piaget debate reviewed in Johnson, 1966 and Mitchell and Myles, 2004), and whether implicit knowledge (unanalyzed by definition) is the same as its corresponding explicit knowledge (Ellis, 1994b). As a result, Ellis (1984, 1997b) thinks that it is actually quite difficult to decide what kind of knowledge a learners is using considering the fact that learners (and native speakers) have access to a variety of forms at the same time. While implicit knowledge is always defined with reference to

⁵ Models of initiation of implicit knowledge range from rule-based model, exemplar-based model, as well as schema theories, or direct-access retrieval of past solutions from memory. A comprehensive review can be found in DeKeyser, 2007.

lack of consciousness or awareness, 'absence of awareness is not a requirement for automaticity' (DeKeyser, 2007, p. 4). Ellis thus develops a new intersect, which results in four types of knowledge (see Table 2. 2). This model is useful to account for empirical findings and our daily experiences that both explicit/implicit and declarative/procedural knowledge can have variant degrees of control (Ellis, 1993, 1997b).

Type of knowledge	Controlled processing (Declarative)	Automatic processing (Procedural)
Explicit	A A new explicit rule is used consciously and with deliberate effort	B An old explicit rule is used consciously but with relative speed
Implicit	C A new implicit rule is used without awareness but is accessed slowly and inconsistently. Intuitive knowledge of L2 items	D A fully learnt implicit rule is used without awareness and without effort

Table 2.2: Types of L2 Knowledge (Source: Ellis 1997b, p. 112)

The second issue raised in Bialystok's bi-dimensional model is the interface between implicit and explicit knowledge. A non-interface position (e.g. Krashen, 1982, Dulay and Burt, 1973, Newmart and Reibel, 1970a, 1970b) claims that the two knowledge types are initiated separately, stored separately and are activated for use for different purposes. Using Ellis model as shown in Table 2.2, the non-interface position posits that it is impossible to lead learners from Type A to Type D through practicing

declarative or explicit knowledge. But Type D can derive from proceduralizing Type C knowledge. Type A or Type B will be used for monitoring only (Krashen, 1982). On the other hand, a strong version of interface position claims that Type A can be converted into Type D through practice and there is no constraint.

Ellis (1994b) argues that the non-interface stance cannot explain why instruction results in faster learning and higher levels of L2 grammatical accuracy. The non-interface position is also challenged for a few reasons: (i) that fluent learners do result from poor acquisition environments; (ii) that language learning may not be totally different from other learning; and (iii) that explicit and implicit knowledge are subject to variant control and are not homogeneous (Ellis, 1994b). The strong version, on the other hand cannot explain interlanguage variability and limitation in effectiveness of instruction.

Ellis (Ellis, 1994b, 1990) therefore is in favor of a weak interface position, which only claims that type A knowledge may develop into type C knowledge under specific conditions and factors such as learner's readiness to accommodate the knowledge into their interlanguage systems, specific forms involved, learner's attention, and learner personal variables. Opportunities for formally practicing the new knowledge or for

communicating naturally in contexts that call for its use will be needed before Type D knowledge develops. Indeed the direction need not be one way, it can also start from Type D to Type A (Ellis, 1993). This weak interface stance constitutes the core of Ellis's theory/model of instructed second language acquisition (see discussion in 2.3.3).

2.3 Theorizing the role of FFI in SLA

2.3.1 SLA theories and FFI –an overview

A theory is 'a more or less abstract set of claims about the units that are significant within the phenomenon under study, the relationships that exist between them and the processes that bring about change' (Mitchell and Myles, 2004, p. 7). Many comprehensive reviews of 'theories' in SLA⁶ are already in existence (e.g. McLaughlin, 1987, Johnson, 2001, Ellis, 1994a, Larsen-Freeman and Long, 1991, Mitchell and Myles, 2004, Block, 2005, VanPatten & Williams, 2007). The following table from Ortega (2007) summarizes the position of nine common theories in SLA on the role of FFI in terms of effects, optimal features, and instruction design (see Table 2.3):

⁶ Words like models, theories, approaches are used differently by different scholars. For discussion see Rogers and Richards (1998), and Mitchell and Myles (2004). These terms are used very loosely in this thesis.

The theory	Effects	Optimal features	Instructional design
1. Universal Grammar Theory	No effect possible on subconscious core knowledge	None offered	None offered
2. Autonomous Induction Theory		Beneficial if incidental processing is carefully flooded with opportunities for the L1 parser to fail	None offered
3. Associative-Cognitive Creed Framework	Beneficial	Explicit instruction that summons consciousness and fosters implicit (bottom up) and explicit (top down) learning interfaces	Non offered
4. Skill Acquisition Theory		Helping explicit knowledge to become proceduralised	Cycles of carefully sequenced explanation and deliberate practice
5. Input Processing Theory		Comprehensive exercises designed to short-circuit unproductive parsing strategies and replace them with productive ones.	Processing instruction
6. Processability Theory	Limited effects, cannot override universal forces	Consider development learner readiness when choosing targets (the 'what' of instruction)	None offered
7. Concept-Oriented Approach (functional)		None offered	None offered
8. Interaction Framework	Beneficial	Attention attracted to language form in the course of meaning task performance	Focus on form, task-based language teaching
9. Vygotskian Sociocultural Theory		Learning environment should foster meaningful events and other assistance, aligned to Zone of Proximal Development	None offered

Table 2.3 Role of FFI in SLA theories (source: Ortega, 2007, p. 241)

It is beyond the scope of this thesis to present detailed discussions of these theories. As proposed by Mitchell and Myles (2004), all theories can be roughly grouped into three main sets: psycholinguistic, linguistic and sociolinguistic. It can be seen from Ortega's summary that it is the cognitive theories (e.g. 3, 4, 5, 6, 7, 8) which play a central theorizing part in regard to the role of FFI. The linguistic theories (e.g. 1, 2) are more interested in language knowledge representation and the unconscious and implicit processes while the social theories (e.g. 9) are more concerned with the origin of the L2 processes. Both of them are not much interested in the internal processes which involve the cognitive mechanisms, the activation of knowledge and the role of individual factors. It is not surprising that the two models reviewed in the next section, which are most directly related to FFI, are both from the cognitive perspectives.

2.3.2 Models of FFI

In this section, two relevant models of SLA are reviewed: (i) Johnson's skill theory model (Johnson, 1994,1996) and (ii) Ellis' integrated theory of instruction model (Ellis, 1990, 1994b, 1997b). As pointed out in the 2.3.1, it is the cognitive theorists who have the keenest interest in the initiation, representation and use of explicit knowledge

derived from FFI. These two models are chosen because they can provide a general framework where all FFI related discussions in the previous sections can be linked up and put into proper perspective, and because they offer insights into pedagogical issues. Again, discussion of these models is limited to the role of FFI rather than a full survey of the underpinning theories.

2.3.2.1 Johnson's skill model

Johnson (1994, 1996) treats language learning as similar to other cognitive skill acquisition. The core of his model are (i) knowledge (declarative and procedural) and (ii) control (proceduralization and automatization). While Anderson proposes that knowledge develops from declarative knowledge (DEC) to Procedural knowledge (PRO), i.e. $DEC \rightarrow PRO$ through automatization and proceduralization, Johnson posits that knowledge can be initially represented in either the DEC path or PRO path or both. It is thus compatible with Krashen's learning and acquisition distinction, and yet can accommodate empirical evidence and learners' experience that implicit and explicit knowledge can be subject to various degrees of control and internal variability, and that acquisition and learning are not mutually exclusive.

According to Johnson, both DEC and PRO have their own advantages and disadvantages, uses and challenges. DEC has the advantages of being 'generative' (abstract, rule-based, shared with other routines, applicable to new situation), 'economical' (available to all necessary operations), and 'low risk' (conscious attention needed and easy to abandon or modify when proved faulty), but has the disadvantages of being 'slow' (frequent retrievals from long term memory into working memory) and 'high on channel capacity' (taking up conscious attention, which is limited). PRO, on the other hand, is 'fast', 'low on channel capacity', but 'non-generative', 'uneconomical' (exemplar-based, retained separately in different routines) and 'high risk' (difficult to modify once proceduralised). Nevertheless, both knowledge types are equally important for meeting different task needs, and for further language development. For example, PRO is important for unplanned, spontaneous conversation, and DEC is important for high level development such as for written, planned, and accuracy demanding tasks (Johnson, 1996). By the same token, both DEC and PRO have their own risks and challenges. Johnson emphasizes that knowledge initiated via the DEC path can develop to PRO through automatization and proceduralization, but there is a danger of losing DEC once PRO is developed. Therefore, it is equally important to maintain the DEC representation for use after proceduralization. In regard to the PRO path, knowledge

directly proceduralised may never develop into the corresponding DEC, is difficult to correct, incomplete, and in high risk of fossilization.

As far as FFI is concerned, the central role of FFI is to facilitate 'declarativization' through instruction (i) to develop the initial declarative representation, (ii) to provide appropriate DEC for effective proceduralization, (iii) to maintain DEC after the PRO is developed, and (vi) to develop a declarative representation from a PRO directly acquired. Johnson notes that there may be a conflicting demand for DEC as input for proceduralization, and as a data base useful for language use in general. The former should be simple, uncluttered, concrete and easily convertible into a plan for action while the latter needs to be accurate, and as generalizable as possible. Thus Johnson suggests that they should be dealt with separately at different stages, and a useful declarativization stage be considered, i.e. DEC-PRO-DEC. Therefore, Johnson recognizes a special role for FFI for consciousness raising at this stage. He suggests that 'declarative knowledge as data base occurs best after proceduralization has occurred---at a point when complexities may be presented to the learner without fear of obstructing the proceduralization process' (Johnson, 1996, p. 104). However, Johnson thinks that declarativization is natural for human beings and therefore instruction may not be absolutely necessary (Johnson, 1996, p. 112). Ellis shares similar views and

suggests that FFI can help learners to have greater control over their explicit and/or implicit knowledge that they already possess, as many formal language lessons are directed at features learners have already partly acquired (Ellis, 1993).

Johnson's model is easy to understand and fits in with both empirical evidence and the familiar learning experiences of many learners and teachers such as the interface of PRO and DEC, the internal variability of IL representation due to variability of control, fossilization due to premature proceduralization, constraints in effectiveness of instruction (e.g. calling up the wrong path to achieve tasks with different demands), and the role of FFI in speeding up learning through proceduralization. However, it suffers the same criticism as skill theory in general that the developmental constraints have not been accounted for (Ellis, 1993).

2.3.2.2 Ellis' theory of instructed SLA

Ellis' model (Ellis, 1994b, 1997b) is a dual competence model based on a distinction of implicit vs. explicit second language knowledge, and a weak interface position as discussed in 2.2.2.

Similar to Johnson, he also acknowledges the fact that information can be initiated as implicit or/and explicit knowledge at the same time. For example, routines, formulas, frequent items may be directly acquired as implicit knowledge, not necessarily as explicit knowledge first as some suggest. Ellis also believes that the two knowledge representations result from two different learning processes with different purposes. Explicit learning is intentional, conscious, or analyzed, and relies on general cognitive mechanisms similar to other skill learning such as memorization and problem-solving . On the other hand, implicit learning is incidental, subconscious, attention minimal, non-analyzed, and awareness minimal. Implicit knowledge may be acquired through exposure to comprehensible input, or through interaction⁷. The effectiveness of automatization of both knowledge types call for different forms of practice. Implicit knowledge needs practice that requires learners to make use of interlanguage knowledge under real operating conditions to produce unplanned spoken communication while explicit knowledge automatization can be achieved through more traditional controlled grammar exercises.

Ellis' model regarding the role of FFI is represented in Fig. 2.3. The influence of Gass's 'interaction-input' model (1988, 1997), which proposes five stages to account for

⁷ However, Ellis also acknowledges the role of other knowledges, thus providing possible links to L1 knowledge, for example, the knowledge of the world, UG by way of internally derived hypotheses.

the conversion of input to output: (I) apperceived input, (II) comprehended input, (III) intake, (IV) integration and (V) output, is evident.

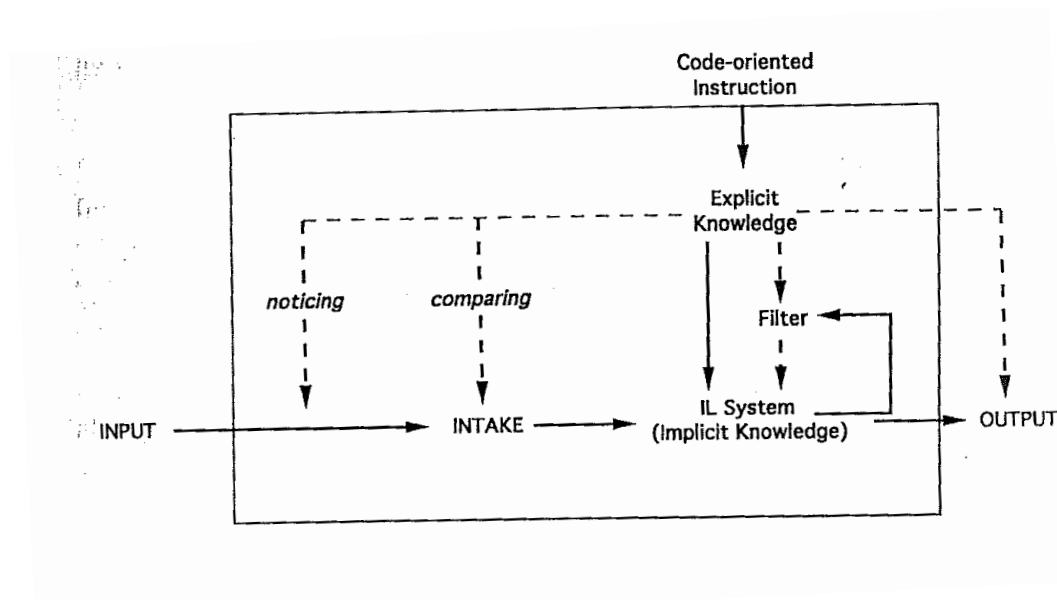


Fig. 2.3 The role of explicit knowledge in L2 acquisition (Source: Ellis, 1997b, p 123)

As far as FFI is concerned, FFI contributes at various stages of the acquisition process:

- (i) FFI helps learners notice features in **input** that would otherwise be ignored, e.g. non-salient features of low communicative value. The various ways of drawing learners' attention to input such as input enhancement, structure input, consciousness raising, input processing have been discussed in 1.2.
- (ii) Noticed input may convert directly into implicit knowledge through internalizing of rules if the item/rule is not developmental, or if it is developmental, it will be stored for use when the learner is ready to accommodate it.

- (iii) FFI facilitates intake⁸ through noticing, comparing and integrating. The explicit knowledge may facilitate retrieval of rules, reinforce existing rules, or through restructuring, be stored for immediate output or for future use, for example, for monitoring output, or facilitating further intake (Ellis, 1994b). Hence there may be a delayed effect.
- (iv) Explicit knowledge helps learners develop greater control of both implicit and explicit L2 knowledge by re-organizing existing grammar knowledge or provide 'hooks' on which to hang subsequent implicit knowledge.
- (v) FFI enables learners to notice the gap between their output and input, which is important for restructuring and improved performance in terms of repertoire and accuracy.

In short, the role of FFI is at best seen 'as facilitating natural language development rather than offering an alternative mode of learning' (Ellis, 1994a, p.659). However FFI also indirectly contributes to improve performance (accuracy or fluency) through processes such as automatization, restructuring, instances or exemplars creation (Skehan, 1998, Johnson, 1996), or provision of positive or negative feedback (Long,

⁸ In Gass's (1997) model, 'comprehended input' may not become 'intake' as it may only be used for immediate communication and may not incorporate into a learner's grammar. Intake is a significant stage as it is where psycholinguistic processing such as hypothesis formation, comparing with existing knowledge, reforming rules, establishing memory and fossilization take place. The intake process is mediated by the level of analysis such as focus on meaning or focus on form, noticing the gap, and comparing of positive or negative evidence.

2007). There is a special role of FFI in triggering restructuring/or integration, which is considered an important aspect of acquisition, as Skehan suggests 'it is to achieve such development that the various pedagogic devices which contrive a focus on form are so important' (Skehan, 1998, p. 60).

Ellis' integrated theory is by far the most elaborated model specifically developed for FFI based on the empirical evidence that instruction can contribute to proficiency and rate of acquisition, but subject to variability of IL as well as developmental and other constraints. In his model, variability can be accounted for by the filtering which involves intervening factors such as personal, environmental and social factors, grammar practice activities, and complexity of rules. Learners with more well-developed explicit knowledge and who can access to communicative input would proceed more rapidly, speeding up the acquisition process. Ellis' model draws on cognitive learning theory but also incorporates aspects of language learning theories such as language processing models, the social cultural approach, UG constraints and processability and teachability theories.

Chapter 3 Researching syntactic complexity

3.0 Introduction

Syntactic development has long been a topic in developmental psychology or psycholinguistics, focusing on language development of L1 children usually with an interest in clinical diagnosis (Schlichting & Spelberg, 2003). Brown, for example, in his study of pre-school child language development, proposes that mean length of utterance (MLU) in terms of grammatical morphemes is a more sensitive measure of grammatical development of preschool children than words per utterance. A child of 3 years of age might be expected to exhibit an MLU of 3.0 (Brown, 1973, quoted in McLaughlin, 1998). It is estimated that most major language structures have been mastered by approximately 5 years of age (McLaughlin, 1998, Nippold et al, 2005). This chapter starts with a discussion on the meaning and significance of the concept syntactic complexity in 3.1. Then in 3.2, some established measurements are examined. Lastly, some important research is reviewed and discussed in 3.3.

3.1 Conceptualizing syntactic complexity

3.1.1 Meaning of syntactic complexity

It is intuitive that the more mature sentences written by adults should differ not just in vocabulary or topic but in syntax in terms of length and complexity (Hunt, 1970). It is however interesting to note that in most of the studies reviewed, terms like 'syntactic structures' and 'syntactic complexity' have very often been taken for granted, and used without any clear definition. Different names have been commonly used to describe this 'ability to produce increasingly complex syntactic structures' (Yau, 1991, p. 266) such as 'syntactic maturity', 'syntactic fluency', 'syntactic complexity', and 'syntactic growth', and each has its own theoretical interests, assumptions, implications and limitations (Faigley, 1980). For example, 'syntactic maturity', which implies a process of development and an end stage in the development, may not take into account the variability across genres or within an individual (Faigley, 1980), what Ellis refers to as 'vertical variability' (Ellis, 1984). 'Syntactic fluency', which emphasizes the diversity of sentence types, would also depend on factors such as nature of tasks and genres. 'Syntactic growth', a term 'loaded with many indefinite connotations', may imply

`quantity as well as quality aspects' (Faigley, 1980, p. 296). Faigley (1980) concludes that syntactic complexity seems the most neutral and widely used term. Thus the term syntactic complexity is adopted in this research.

Foster and Skehan define development in grammatical complexity as `progressively more elaborate language' and `a greater variety of syntactic patterning.' (1996, p.303). Wolfe-Quintero et al perceive syntactic complexity as `a manifest in writing primarily in terms of grammatical variation and sophistication' (1998, p. 69). According to Ortega, syntactic complexity refers to `the range of forms that surface in language production and the degree of sophistication of such forms' (Ortega, 2003, p. 492). Based on these definitions, it is noted that there are three important dimensions of grammatical complexity: (1) the `elaborateness' dimension, which is conceptualized as the quantitative aspect of complexity such as longer sentences, phrases, or other `production units'; (2) the `variation' dimension, which refers to the range of structures available to the writer; and (3) the `sophistication' dimension, of which no clear explanation is given.

In a recent in-depth discussion on the concept of syntactic complexity, Rimmer (2006) points out that there are two difficulties in defining grammatical complexity.

Firstly, there is no non-subjective and commonly agreed standard of complexity. The commonly used intuitive indicators such as sentence length and T-unit length (see discussion in 3.2) are problematic in that length can only be one among several other factors of complexity such as 'embedding, ellipsis, markedness and register' (Rimmer, 2006, p.505). Secondly, syntactic complexity may also involve processes that are below the clausal level such as reduction of clauses into phrases, which may make sentences shorter. Therefore, he warns the danger of over-emphasizing quantitative data, and proposes that complexity should be subject to empirical and corpus-informed evidence rather than taken as given. For example, sentence length may be irrelevant to the perception of a structure as being difficult or easy.

In short, grammatical complexity means that a writer writes longer production units, has access to and makes use of a wide variety of syntactic patterns, including basic as well as advanced structures, and is able to use forms considered sophisticated in the speech community, whereas a lack of complexity means that a writer usually writes shorter production units and only has access to and makes use of a narrow range of basic structures. In that regard, studies in perceptions of difficulty in learning syntactic structures (e.g. Ren, 1988) and corpus-linguistics (e.g. Biber et al, 1988) are relevant and necessary.

Lastly, it has to be clarified at the outset that syntactic complexity should not be equated to language proficiency or writing proficiency. It is evident that language proficiency involves dimensions more than simply syntactic complexity. For example, writing proficiency may involve stylistic features which are not easily quantifiable such as coherence, organization, idiom, diction, tone, and relevance (Perkins, 1983), not to mention qualities commonly mentioned by literature critics such as wit, wisdom, humour or scholarship. Faigley reports that in one of his studies, he finds that Hunt's three indices of maturity (see 3.3) only predicted less than 2% of the variance in holistic scores (Faigley, 1980, p. 292). On the contrary Homburg (1984) finds that objective measures can account for 84% of the variance of subjective holistic grades. Anyway, syntactic complexity has long been perceived as a 'developmental measure' rather than a direct measure of language proficiency (Wolfe-Quintero et al, 1998), though there has always been a keen interest in establishing a correlation between the two. There is no implication in this research that a work more grammatically complex is superior to or richer or more valuable than one with less grammatical complexity.

3.1.2 Syntactic complexity studies in the ESL context

Generally speaking, it is found that L1 English speaking writers and ESL L2 writers follow the same development patterns but the latter at a much lower level in all aspects (Leki et al, 2008). For example, Yau (1991) finds that ESL Grade 13 learners are only roughly comparable to Grade 9 L1 speakers in some syntactic measures in her study. Furthermore, ESL learners' ability to use syntax is expected to be subject to greater variation.

In the ESL context, there are two major purposes to research on syntactic complexity measures. Firstly it is the theoretical interest in searching and establishing 'revealing', 'quantitative', and 'objective' measures (Hunt, 1970, p. 1) to chart syntactic development like the L1 studies carried out by Hunt (1965, 1970). These 'objective measures' once validated may be used as predictors of proficiency of ESL learners at various stages (Wolfe-Quintero et al, 1998). One practical application of this is for placement of new students (e.g. Larsen-Freeman and Strom, 1977, Homburg, 1984). Secondly, such measures can be used as instruments for comparing pretest and posttest results in experimental studies to study the effect of a particular treatment such as the

effect of programmes, teaching methods, classroom practices or grammar instruction (Wolfe-Quintero et al, 1998). For example, Pica and Doughty (1985) used T-units to compare the effect of input of teacher fronted and group activities in the communicative classroom. Tsang (1996a) used these objective measures to compare the effect of input-based and output-based teaching (see discussion in 4.3.2). In this research, the interest is to use these measures to find out the effect of FFI in enhancing syntactic development, especially the acquisition of advanced structures.

3.2 Measuring syntactic complexity

Based on the three dimensions of syntactic complexity discussed earlier, i.e. elaboration, variation and sophistication, various measures, from crude measures such as sentence length to complicated ratios and indexes, have been developed to chart syntactic complexity development. From a survey of literature (e.g. Hunt, 1965, 1970, Cooper, 1976, Larsen-Freeman and Strom, 1977, O'Donnell et al, 1967, Kameen, 1979, Van, 1979, Arthur, 1979, Perkins, & Leahy, 1980, Perkins and Homburg, 1980, Sharma, 1980, Larsen-Freeman, 1983, Perkins, 1983, Lim, 1983, Homburg, 1984, Yau, 1991, Casanave, 1994, Ishikawa, 1995, Wolfe-Quintero et al, 1998, Ortega, 2003, Leki et al.

2008) these grammatical complexity measures can roughly be categorized into four major groups:

(a) Measurements based on elaborateness of production units:

This refers to measuring the length of various production units such as passages, utterance, sentences, clauses, and 'T-units'. The T-unit warrants discussion in greater detail.

The 'minimal terminable unit' or 'T-unit' is a new production unit first used by Hunt (1965, 1970), who thinks that the traditional length of sentence is a misleading measurement of complexity because the subjects of his studies (young school children) tend to use a lot of run-on sentences. Another problem with sentence length Hunt notes is that more advanced writers actually write shorter sentences as they mature by using more reduced forms of clauses (Hunt, 1965, 1970). Hunt defines the T-unit as 'one main clause plus any subordinate clause or nonclausal structure that is attached to or embedded in it' (Hunt, 1970, p.4). It is called a 'minimal terminable unit' because they are 'the shortest units which it is grammatically allowable to punctuate as sentences' (Hunt, 1970, p. 4).

Since its proposal, the T-unit has attracted the attention of many researchers in the 1980s and 1990s. The T-unit has the obvious advantage over sentence length in that T-unit length does not depend on punctuation marks a writer uses rightly or wrongly. While many conclude that it is a useful indicator to chart syntactic development (e.g. O'Donnell et al, 1967, Cooper, 1976, Larsen-Freeman and Strom, 1977, Kameen, 1980, Flahive and Snow, 1980, Casanave, 1994, Wolfe-Quintero et al, 1998, Ortega, 2003), some also find that it has no direct correlation with overall proficiency, and suggest it is the correctness of T-units (i.e. error free T-units) rather than their number or length that is more revealing of the quality of writing (e.g. Vann, 79, Sharma, 1979, Perkins, 1980, Perkins and Homburg, 1980, Lim, 1983, Yau, 1991, Tsang, 1996a). The T-unit is also criticized for not being able to reflect the writers' view of English structure including the use of coordination as the 'T-unit analysis artificially divides sentences that were intended to be units by the language learner, imposing uniformity of length and complexity on output that is not present in the original language sample' (Bardovi-Harlig, 1992, p. 391). Bardovi-Harlig (1992) thinks that coordination, which serves various sophisticated and high-level semantic and rhetorical functions, should not be discounted. Littlewood and Liu (1996) points out that the T-unit cannot handle multiple coordination within a sentence. Ishikawa (1995) finds that for low level learners, units in the clause and sub-clause level may discriminate better. Despite these

criticisms, the T-unit however has become an indispensable member of the 'objective syntactic measures'.

(b) Measurements based on frequency of specific grammatical structures

These are grammatical complexity measures in the form of ratios which measure the frequencies of specific structures (e.g. reduced clauses, dependent clauses, passives, adverbial clauses, nominal clauses, articles, connectors, prepositional phrases, and preposed adjectives) per specific production units (e.g. sentence, clause, or T-unit). It is found that the frequency ratios of adjective clauses, reduced relative clauses (e.g. Hunt, 1965, 1970, Kameen, 1980), and passives (Kameen, 1980) are significant predictors of proficiency while other structures are inconclusive (e.g. Hunt, 1970, Kameen, 1980, Leki et al, 2008).

(c) Measurements based on ratios of various production units among themselves

These measures measure the relative relationship between clauses⁹, sentences, and T-units. Common examples are clauses/sentence (c/s), or clauses/T-unit (c/t),

⁹ It is noted (e.g. Wolfe-Quintero et al, 1998) that scholars may define 'clauses' differently. For example, Hunt (1965) defines a clause as 'a clause with a subject and a finite verb', others may include non-finite clauses such as participle clauses and infinite clauses following Quirk et al (1985)'s definitions.

T-units/sentence (t/s), coordinate clauses/T-unit, dependent clauses/T-unit or /clause and, complex T-unit/T-unit. Clauses/T-unit(c/t) is very often taken as the measurement of use of subordination. Hunt uses T-units/sentence (t/s) as a measurement of use of coordination. Bardovi-Harlig (1992) proposes an alternative 'coordination index' as a measure of coordination, which equals the number of coordinated independent clauses divided by total number of combined clauses (total number of clauses minus no. of sentences).

(d) Measurements based on composite grammatical complexity formula or indices

The grammatical complexity indices or formula assign weightings to different structures and use a composite score per T-unit or per clause to indicate the overall grammatical complexity of a piece of writing (e.g. Botel et al, 1973, Flahive & Snow, 1980, Perkins, 1980).

Botel et al (1973) attempt to find an indicator score for measuring difficulties of reading for children. In their index, various grammatical structures are weighted as 0, 1, 2, or 3 according to their syntactic complexity. For example, simple sentences less than four words are assigned 0; noun modifiers (e.g. the big man ate here) are assigned 1;

passive sentences are assigned 2; noun clauses used as subjects (e.g. that he eats is important) and other advanced structures are assigned 3. Botel et al (1973) has given the following illustration. The sentence 'His vacation over, the tired doctor drove home' has a complexity count of 4. The calculations are as follows:

The doctor drove home	0	(basic structure)
The tired doctor	1	(modified noun)
His vacation over	3	(absolute structure)

The overall rating for the entire passage can be obtained by averaging the complexity rating of all sentences.

Flahive and Snow (1980) try to evaluate the usefulness of four objective measures of syntactic maturity in evaluating compositions written by ESL students. In order to take into consideration the morphological and transformational complexity, they design a complexity index to supplement other measures. The index is calculated as follows (Flahive & Snow, 1980, p. 173):

$$\text{Complex Index} = \frac{(\text{complexity score of weighted structures} + \text{no. of words in T-unit})}{\text{T-unit length}}$$

In their scoring scheme, T-units without any embedding or complex, morphological forms are assigned 1. Each derivational morpheme and each adjective gets a weight of 1. A weight of 2 is assigned to relative clauses, passive sentences, embedded questions, possessive, and comparatives and a weight of 3 is assigned to noun clauses. The following example is provided by Flahive and Snow (1980). The complexity index of the following sentence is $7+15/15=1.47$.

	1		1		1		2							2	
John	carelessly	hit	the	red	ball	which	his	father	bought	him	over	the	neighbor's	fence.	
1	1		1	1	1	1	1	1	1	1	1	1	1	1	1

Flahive and Snow (1980) however find that only T-unit length and clause/T-unit are significant discriminators, not the complexity index. They ascribe the lack of relation to the fact that various structures are not accurately weighted (Flahive and Snow, 1980). The issue seems not easily to be solved as while there are established validated vocabulary tests which can serve as indicators of proficiency level (e.g. Nation, 2001), there is no research-informed and commonly accepted list of 'advanced structures' to date (Rimmer, 2006). The composite indices also cannot differentiate the relative proportions of different structures used by the writer, i.e. the variation dimension of syntactic complexity.

3.3 Research on syntactic complexity

Though syntactic complexity studies can be traced back to the 1930s (Hunt, 1970), it is the studies of Hunt (1965, 1970), and O'Donnell et al (1967) on the syntactic development of American English speaking school children which have laid the foundation of the field, and have inspired a series of studies on syntactic complexity in the 1980s and 90s, first to native speakers and then to second language learners. Because of its importance, Hunt's studies are reviewed in greater detail.

Hunt's 1965 and 1970 studies mainly concern the syntactic complexity development of American English speaking school children. Hunt uses five ratios, which he calls 'a synopsis of clause to sentence length factors' to study the syntactic development of his subjects. They are (1) mean words per sentence (w/s), (2) mean words per clause (w/c), (3) mean words per T-unit (w/t), (4) mean T-units per sentence (t/s), and (5) mean clauses per T-unit (c/t). Hunt's 1970 study (Hunt, 1970) is similar in design with his 1965 study but is expanded to a much larger scale, including 1000 school children of grades 4, 6, 8, 10, one group of skilled adults (contributors of the Harper's Magazine and the Atlantic) and one group of average adults (working firemen

of median age of 29). Students in each group are divided into high, mid, low ability according to IQ tests. The data elicitation method is also changed from free writing in class to rewriting a passage of short sentences (the aluminum passage) to control the content of writing.

In his two studies, Hunt finds that as school children mature, they tend to write longer clauses, longer T-units, more clauses per T-unit (i.e. more use of subordination), but fewer T-units per sentence, which implies decreasing use of coordination or run-on sentences. The best developmental index is words/T-unit (w/t), second best is words/clause (w/c), and third clauses/T-unit (c/t). Regarding the correlation of maturity with individual structures, only relative clauses per T-unit show significant results. The results of his 1970 study are as follows (Table 3.1):

Table 3.1: Synopsis scores for school children and adults for Hunt's 1970 study

Item	G4	G6	G8	G10	G12	Average adults	Skilled adults
w/c	5.19	5.76	6.79	7.35	7.85	8.40	9.95
c/t	1.043	1.182	1.430	1.419	1.441	1.47	1.51
w/t	5.42	6.84	9.84	10.44	11.30	11.85	14.78
t/s	1.739	1.342	1.245	1.131	1.082	1.06	1.05
w/s	9.21	8.78	11.73	11.68	12.17	12.51	15.22

(Source: adapted from Hunt, 1970, p. 20)

Hunt cautiously concludes that 'the average twelfth grader at the time of his graduation is about as mature syntactically as he will ever be, at least unless he gets further training or goes into an occupation requiring special language skill' (Hunt, 1970, p. 21). He also remarks that 'if the average high school graduate is ever to write like a skilled adult, he has nearly as much yet to learn about how to embed more clauses as he learned in all of his public school years' (Hunt, 1970, p. 21).

Hunt also observes that the fourth graders already use all the phrase structure rules. The major structural sources of maturity which contribute to increasing clause length are the use of various sentence-combining transformations and the more complex nominal structures. Students tend to pack more independent clauses into subordinate clauses (hence longer T-units), and write longer clauses per sentences. The longer clauses are from reduction, extensive use of premodifications and postmodifications, especially relative clauses and appositives, and non-finite clauses. Hunt notices that the topic may affect the production of different clauses types. For example, in his 1970 study, no noun clauses are observed.

O'Donnell et al (1967) uses T-unit length as one of their measures in studying syntactic development in both the speech (recap of children movies of stories) and

writing of 30 American English speaking kindergarten children and 250 elementary schoolchildren of grades 1, 2, 3, 5, and 7. Their findings are very close to Hunt's 1965 study that w/c, w/t, c/t increase gradually across the grades, and the mean length of T-units 'has special claim to consideration as a simple, objective, valid indicator of development in syntactic control' (O'Connell et al, 1967, p. 97). They also find a gradual increase in the number of sentence-combining transformations at each grade level both in speech and writing. But as only elementary grade students are involved, the transformations are very simple.

Hunt's and O'Connell et al's studies inspired an interest in syntactic complexity studies of native children in the 80s and 90s. Some attempts have been made to extend the studies to 'later language development' (reviewed in Nippold et al, 2005). Nippold et al (2005) also report on their recent investigation of syntactic development in conversation discourse versus expository discourse of 120 children, adolescents, and adults age 7 to 49 years. The results show greater syntactic complexity in expository discourse than in conversational for all age groups, supporting the view that complex thought is driving the development of complex language. They find that for both genres, growth in syntax continues throughout childhood and adolescence and into early adulthood (age 20-29) and remains stable into middle age (age 40-49). The two best

indicators of growth were mean length of T-unit and relative clause production. The results of the expository discourse are presented in Table 3.2:

measure	Age 8	Age 11	Age 13	Age 17	Age 25	Age 44
Total T-units	33.05	35.30	36.15	44	51.55	60.55
Mean length of T-unit	8.59	9.29	8.68	10.59	11.04	11.46
Relative clause use	6.50%	6.14%	5.20%	11.27%	11.60%	14.44%
Adverbial clause use	25.62%	22.61%	23.50%	27.22%	22.51%	25.60%
Nominal clause use	10.24%	16.67%	13.11%	17.85%	19.79%	19.06%
Clausal density (c/t)	1.42	1.45	1.42	1.56	1.54	1.59

Table 3.2 Syntactic measures of different age groups (adapted from Nippold et al, 2005, p. 1053)

In the ESL context, however, it seems the interest of most research is on the validation of the so called 'objective measures', and the T-unit in particular. Arthur (1979) studies short term (8 weeks) changes in EFL composition skills of 14 ESL pre-U students of low-intermediate proficiency and finds no significant relation of complexity measures with objective tests of proficiency. He warns of the danger of relying on single compositions. Kameen (1979) compares 25 good and poor college ESL writers and tests 40 syntactic factors. Kameen finds that T-unit, clause length, and incidence of passives and contractions are significantly related to holistic rating. Vann (1979) compares five 'indices of synthetic maturity' of the oral and written language of 28 adult male Arab subjects enrolled for postgraduate course in the US, and correlates the measures with TOEFL scores. He also finds no significant correlation of the objective scores to holistic

grading, and doubts the value of them. Instead, he points out that error is a more significant factor. Flahive and Snow (1980) study 300 compositions written by ESL students at six levels of proficiency at Centre for English at Southern Illinois University and finds that only w/t and c/t have discriminant power. Their colleagues, Perkins and Homburg (1980), however find that most measures do not correlate except errors/t, and total errors but the two measures are not sensitive with adjacent levels. They also find that the Botel et al's (1973) and Flahive and Snow's indices (1980) (cf. section 2.2.1) do not correlate. Perkins and Leahy (1980) find similar results, i.e. no correlation. However, Homburg (1984), in a study four years later, finds that the objective measures are good predictors and can account for 84% variance of holistic grading. Best predictors are the number of second degree errors/t-unit, and dependent clause/composition. Homburg posits that the measures are only good for intermediate levels. As proficiency advances, factors such as discourse structure may become more important.

Apart from holistic grading, researchers also try to study the validity of these objective measures in other contexts. Casanave (1994) charts syntactic development with journal writing of 16 college students. While he confirms overall development, he raises caution on individual fluctuations and the use of quantitative data alone. Ishikawa (1995) establishes the validity of 24 measures with low-proficiency level learners at the

Japanese Women College and finds that best discriminatory measures for low-level students are length of error free clauses, and error-free clauses per composition.

As can be anticipated, with such wide-ranging variations in testing contexts, periods of study, subjects, sample sizes, measuring instruments, and even definitions of basic terms like clause and phrase, results would be mixed and any comparison should be treated with caution. For this purpose, it seems comprehensive synthesis reviews like Wolfe-Quintero et al (1998), and Ortega (2003) are more revealing. As Ortega remarks, one advantage of a research synthesis is that it 'can provide information that is not available in any single study' (2003, p. 515).

Wolfe-Quintero et al's review (1998) examines over 21 studies (including both L1 and L2 contexts, but mainly L2) with the aim to find out the best developmental measures of grammatical complexity. They conclude that measures of the depth of clauses (c/t) and clause types (dependent clauses /clause or /T-unit) appear to have construct validity as measures of complexity in language development despite the fact that there may be adjacent levels which are undifferentiated by this measure (Wolfe-Quintero et al, 1998). They feel that school level proves to be more reliable contexts for developmental differences than holistic ratings, standardized test scores, or

short-term changes. Their review also suggests that passives, articles, relative clauses, and complex nominals may be significant structures related to developmental level (Wolfe-Quintero et al, 1998).

Ortega (2003) reviews 25 studies (16 from Wolfe-Quintero et al, 1998, and 5 new studies) of college-level second or foreign language instructional contexts on the use of syntactic complexity measures as indices of overall proficiency of learners. Ortega criticizes 'the limited usefulness' of Wolfe-Quintero et al's approach of only considering whether the results are statistically significant or not but ignoring other factors such as 'sample size, effect size, and research design' (Ortega, 2003, p. 494). Based on the synthesis technique, Ortega finds that ESL learners tend to produce writing of higher syntactic complexity than do FL learners, as ESL usually involves students of higher proficiency. Secondly studies on the basis of holistic rating tend to yield narrower ranges of observed complexity values and more homogeneous results across compared groups. He suggests that the critical magnitudes for between-group differences in syntactic complexity for college level writing in a second or foreign language are: 4.5 or more words per sentence (w/s), 2 or more words per T-unit (w/t), slightly over 1 word per clause (w/c), and at least a 0.20 positive or negative difference in number of clauses per T-unit (c/t). Finally it is suggested that two to three months of university-level

instruction may only result in very small changes in ESL samples and an even smaller change in FL samples. A one-year observation period may be more appropriate for substantial changes in syntactic complexity. The small critical values may explain the many statistically non-significant observations for this kind of study noted by Wolfe-Quintero et al (1998). At the end, he raises two parameters to be considered for future research in the area: (i) reassessing the assumed linearity in development as it is found advanced development may occur at the phrase level rather than clause level (ii) cross- rhetorical transfer from L1 norms.

To conclude this chapter, the literature indicates that while it is generally accepted that T-unit length and clause length are useful measures of syntactic complexity development for both L1 and ESL contexts, there are researchers who have strong reservations about the usefulness of these objective measures as they may not have necessary connection with the 'effective communication of the writer meanings or other aspects of good writing' (Perkins, 1983, p. 662). A survey of the marking scales for writing in different international examinations and university placement tests (e.g. Weigle, 2002, Purpura, 2004) shows that syntactic complexity actually has a minor weighting compared to vocabulary, grammatical errors, cohesion and coherence and organization. Hence, not a few researchers have also suggested the importance of

including an error free component in the measures, e.g. error-free T-units, and points out the inadequacy of a pure quantitative approach (e.g. Ortega, 2003). Therefore, the different processes that have led to complexity and the situation that has led to the production are equally important (Hunt, 1970). By far, syntactic complexity research has to overcome the challenges of the following limitations: (i) too short a period of study¹⁰; (ii) homogeneity of subjects; (iii) small sample sizes¹¹; (iv) insensitivity of these measures to adjacent groups; (v) internal fluctuations of written samples and across genres¹²; and (vi) the assumption of linear development¹³.

¹⁰ However, Faigley (1980) reports his research in which w/T-units increase by 4 words and w/c by 3 words within 6 weeks, practicing sentence-combining exercises.

¹¹ For example, some groups of Larsen Freeman, 1978, Perkins and Homburg, 1980, have only 4 to 6 subjects.

¹² However, White & Davis (1983) based on their variance analysis show that mean T-unit length is a stable trait within individual and discourse modes (i.e. expository essays).

¹³ Casanave (1994) has traced the syntactic development of his subjects individually and finds that individual learning can take different curves such as V-shape and Ω - shape. Quintero et al (1998), Flahive and Snow (1980) also share similar views.

Chapter 4: FFI/grammar and syntactic complexity research in Hong Kong

4.0 Introduction

This chapter presents an overview of the linguistic and educational background and a review of relevant local research with the aim to contextualize the various issues of FFI and syntactic complexity research discussed in the previous chapters to Hong Kong, where this study is conducted. The chapter starts with a concise description of the most updated linguistic profiles of Hong Kong and the functions and status of English in various domains. Then in 4.2, the role of FFI /grammar in English education of Hong Kong is examined in light of official documents, classroom research and attitude surveys. Finally, 4.3 presents a review of research on FFI / grammar and syntactic complexity in Hong Kong.

4.1 English and English education in Hong Kong

4.1.1 Linguistic profiles of Hong Kong

According to the 2006 by-census, Hong Kong has a population of 6,963,100, of which 95% are Chinese and 5% are non-Chinese. Among the non-Chinese population, 0.5 % are white people, the rest are Pilipino (1.6%), Indonesians (1.3%) and other Asians (Hong Kong Annual Report, 2007). Three aspects are of particular interest and relevance here, namely the L1 profiles, the self-perceived English proficiency and the linguistic identity of the Hong Kong population.

In 2003¹⁴, 90.4% of people report having Cantonese as their mother tongue. The others claim to be native speakers of Putonghua (5.6%), Chiu Chau dialect (1.0%), Hakka dialect (0.7%), Fukien dialect ¹⁵(0.6%), English (0.05%) and other languages (1.2 %) (see Table 4.1).

¹⁴ While the 2001 Census and 2006 bi-census provide the most reliable demographic data of Hong Kong, no details of sociolinguistic significance are provided. The data provided by the three large scale sociolinguistic surveys commissioned to Social Sciences Research Centre of University of Hong Kong in 1983 (1240 respondents), 1993 (884 respondents) and 2002 (1060 respondents) reported in Bacon-Shone & Bolton, 2008 are more relevant and illuminating for research purposes.

¹⁵ Putonghua is the official language of Mainland China; Chiu Chau, Hakka, Fukien are some more important regional dialects of Chinese. The data show a significant decline in number of native speakers of these dialects in Hong Kong due to language shift towards Cantonese.

Language	Year		
	1983	1993	2003
Cantonese	76.5%	81.6%	90.4%
Chinese ¹⁶	8.0%	10.5%	--
Chiu Chau	2.9%	1.0%	1.0%
Putonghua	2.5%	2.6%	5.6%
Hakka	2.3%	0.6%	0.7%
Fukien	1.6%	0.7%	0.6%
Shanghainese	1.5%	0.2%	--
Sze Yap	1.2%	0.1%	--
English	0.1%	1.3%	0.5%
Others	3.4%	1.4%	1.2%

Table 4.1: Reported Mother Tongue, 1983-2003 (Source: Bacon-Shone & Bolton, 2008, p.37)

With regard to the self-judgment on English proficiency, according to the 2003 survey (Bacon-Shone & Bolton, 2008), 11% claim they 'cannot use it at all', 12% claim 'only can use a few sentences', 31% claim 'a little', 31% claim 'to be quite well', 10% 'well' and 4% 'very well'. A comparison with the 1983 figures (Fig. 4.1) shows that there has been a significant spread of English proficiency over the past two decades, contrary to the alleged decline in English standards.

¹⁶ According to Bacon-Shone & Bolton (2008), the confusing use of Chinese in the surveys is due to the open-ended nature of questionnaires. Chinese usually means Cantonese in the Hong Kong context.

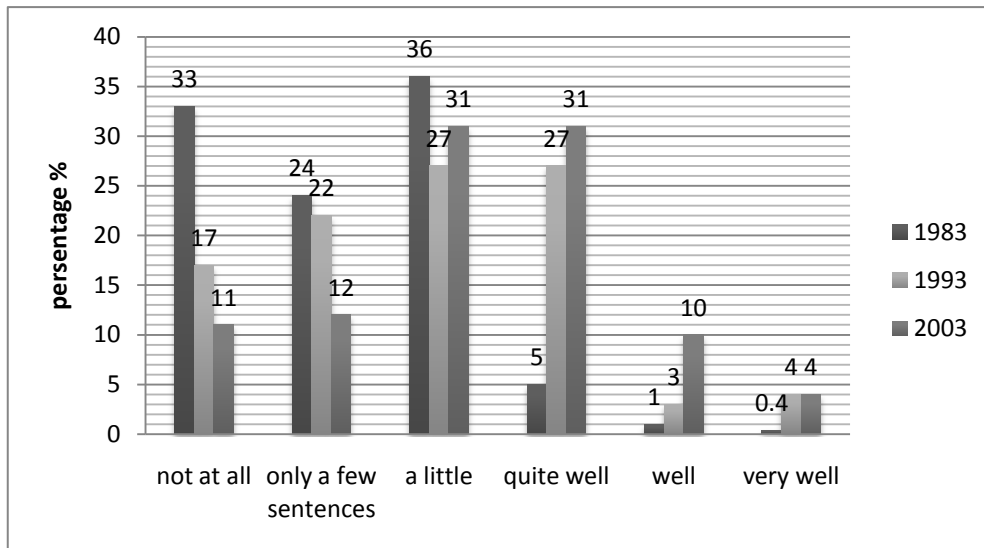


Fig. 4.1 Claimed proficiency in English, 1983-2003 (Bacon-Shone & Bolton, 2008, p.37)

In the surveys reported, respondents are also asked to place themselves into 5 mutually exclusive language user groups (Fig. 4.2). In the 2003 survey, 63% consider themselves 'Cantonese-English -Putonghua trilinguals', 17% as Cantonese-Putonghua bilinguals, 9% as Cantonese monolinguals', 9% as 'English-Cantonese bilinguals', and 1% as home-dialect- Cantonese bilinguals'.

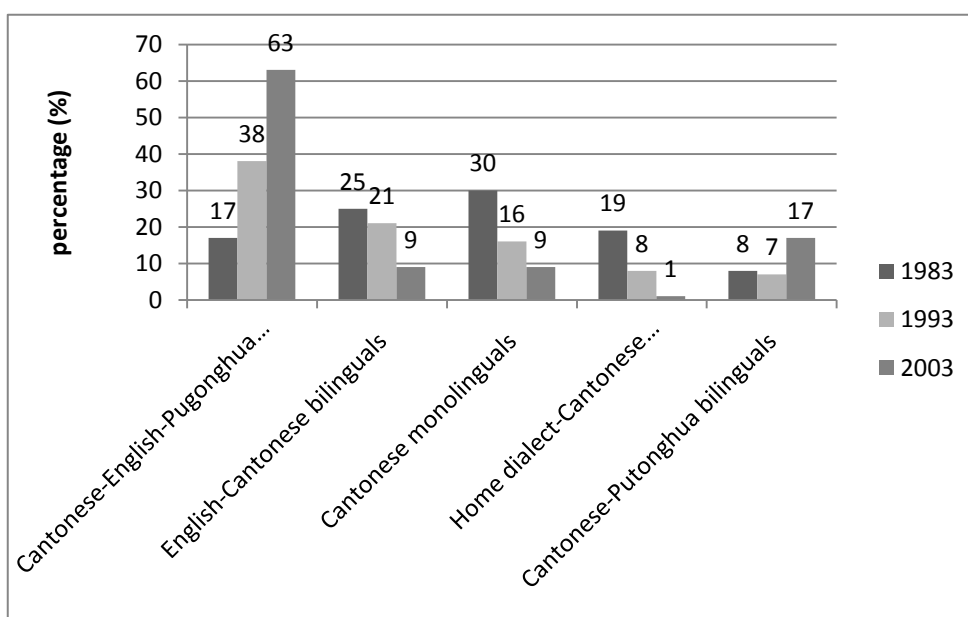


Fig. 4.2: Language groups, 1983-2003 (source: Bacon-Shone & Bolton, 2008)

While these figures confirm the belief that Hong Kong today is predominately a Chinese society and Cantonese speaking, they also show that Hong Kong is not as monolingual and monoethnic as it is believed to be (Bacon-Shone & Bolton, 2008). The 9% Cantonese-Putonghua group and 9% English-Cantonese bilingual group are especially noteworthy. The former may reflect the impact of the newly-arrived immigrants from Mainland China¹⁷ and the latter the returning immigrants who left Hong Kong in the 1980s due to the 1997 issue. The impact of these two speech communities on the linguistic profiles and language attitude of Hong Kong has so far not been adequately explored.

4.1.2 The functions and status of English in Hong Kong

Since the signing of the Joint Declaration in 1984, there have been subtle realignments of Chinese and English in the various domains, notably an anticipated expansion of Chinese and a shrinking role of English in administration, education and work domains. The general picture today is that English is still widely used in Hong Kong in the education, administration and work domains particularly in written communication, but it is not commonly used in the domains of friendship, family and

¹⁷ Since 1997, the quota for these recent immigrants (usually the wives and children of Hong Kong citizens) is 150 per day. Over the past decade, there have been over 55,000 of them already.

entertainment (Luke & Richards, 1982, Li, 2008).

For administration, English was the only official language and hence 'the' important language in the colonial years. This remained so despite the fact that Chinese gained its official status in 1974. The language policy of HKSAR as spelt out officially is 'biliteracy and trilingualism' (Hong Kong Annual Report, 1997). Biliteracy refers to English and standard written Chinese, and trilingualism refers to English, Cantonese and Putonghua. After 1997 and up to now, English remains an important language in the SARHK, though Chinese has taken up a wider and an increasingly important role. For example, all civil servants are required to pass bilingual recruitment examinations since 1997. It is observed that nearly all public speeches of officials are delivered in Cantonese (cf. Yau, 1997). Bilingual legislation has been completed, and in law courts of all levels, either or both English and Chinese can be used (HKSAR, Department of Justice, 2009).

In education, English is the medium of instruction (MOI) for English medium (EM) secondary schools and a very small number of primary schools. The Government tried to force the implementation of 'mother tongue education policy' in 1998 (Hong Kong Annual Report, 1997) but met with strong repercussions from the public. Finally 114 of

the 411 government and subsidized secondary schools succeeded in keeping their EM status (Hong Kong Annual Report, 1997). Since then the education system has been haunted by the MOI issue and the administration is under unrelenting popular pressure to open up access to 'English education'. Recently, in January 2009, the newly appointed Secretary for Education, Michael Suen, announced the 'proposed framework for fine-tuning MOI for secondary schools', which will allow schools the flexibility and autonomy to decide on the best MOI policy for their students by running various 'flexible classes' starting from October, 2011. The policy, according to official explanation, is to allow for more EM classes within CM schools and more English exposure at least for CM classrooms (Education Bureau, 2009b). An obvious advantage of the policy is that it will bring an end to the much criticized labeling effect since schools will no longer be classified as EM or CM schools.

In the workplace, despite the competition of Putonghua and the ever-burgeoning China trade world-wide, it seems English still assumes an important role as a language of mobility, professional development and wider communication as Hong Kong has been transforming itself into an international financial centre, a knowledge-oriented and services-based economy since the late 90s. Intermittently there have been severe criticism and complaints regarding English standards from employees, teachers, and the

public.

For media and entertainment, the trend is that Chinese translations are usually available for most films, movies, popular magazines and books. Hence one sees a further waning of English in the entertainment and media domain, although presently all international media and TV programmes are easily assessable locally (Li, 2008). Having said that, non-Chinese speaking groups can get by in Hong Kong without difficulties as bilingual versions are provided in most public domains and sizable institutions, and a lot of Hong Kong people are able to communicate in English to a certain extent.

In family and friendship domains, it used to be believed that English performed a very limited role (Luke & Richards, 1982, Fu, 1987, So, 1992, Yau, 1993, Li, 2008) since Hong Kong is predominantly a Chinese speaking community. It was posited that Chinese people would avoid using English for intra-group communication as far as possible because they find it embarrassing and immodest to use a code of power (Fu, 1987). Code-mixing is often used as 'a strategy of neutrality' (Gibbons, 1987). However, there is evidence that English has taken up a somewhat wider role in these private domains as the next generation becomes more and more bilingual. According to

Afendras' survey on choice of meal time language at home among Chinese primary students (Afendras, 1998), Cantonese dominance is nearly 86.6%, and Cantonese mixed with various bilingual combinations reaches 88.6%, much lower than the often quoted figure of 95%. Pure English and pure Putonghua are negligible for families of students of conventional schools. However, for Chinese ethnic students attending international schools, English becomes one of their principal spoken media, used alone (24%) or used with Cantonese, Putonghua or other languages (68%). Hence, Bolton argues that Hong Kong being a monolingual and monoethnic community is only a myth (Bolton, 2008). Afendras (1998) notes the shift may be due to the effect of intermarriage, expatriates, Chinese returnee groups and Filipino domestic helpers.

English will remain a language of utmost importance in Hong Kong, being an international language, a language for wider-communication and a language of mobility and professional development. However, it is perceived by the majority just as a language for its practical or instrumental value rather than its integrative or cultural worth as reflected in the many attitude surveys in different contexts over the years (e.g. Pierson, 1987, Lin et al, 1991, Pennington & Yue, 1994, Lin & Detaramani, 1998, Axler et al, 1998). English being a 'value-added language' (Li, 2008) and a language of power and success will be treated with ambivalence (Tsui, 1996), and is unlikely to become a

neutral language which Hong Kong people can learn and use at ease like other foreign languages for the foreseeable future.

4.2 FFI and grammar teaching in Hong Kong

4.2.1 The role of FFI and grammar in the English curriculum

In early colonial days, English education was only for a small elite. The teaching methods from the early colonial period to the post war period were largely grammar-translation modelled on British training for native speakers (Sweeting, 1990). Grammar was one of the major subjects, among other subjects like Reading, Dictation, Translation, Writing, Parsing, and Colloquial English (Bickley, 1991, p. 21).

In the period following World War II, two ELT methods predominated in Hong Kong: the grammar-translation method and the direct method mostly used in schools with expatriate teachers such as the Catholic schools (Bickley, 1987, p. 192). The 12 periods of English per week in primary schools were divided into Reading, Grammar, Conversation and Dictation. Translation was often taught as a separate topic (Bickley, 1987). In the 50s, a model of Oxford English course for Malaya was adopted, which

incorporated features of the direct method with a focus on four language skills rather than information about forms of language (Bickley, 1987).

The 1970s and 1980s saw years of rapid social and economic development in Hong Kong. The economy started to take off and was gradually transforming from a secondary economy to a tertiary economy. The 6 year primary compulsory education introduced in 1971 extended to 9 years in 1978. There was a need for the English curriculum to be revamped regularly to address new needs and challenges. Researchers generally propose that there are three significant shifts in the English curriculum: the introduction of the oral-structural approach in 1975¹⁸, the introduction of the communicative approach in 1983, and the Target Oriented Curriculum (TOC) in 1999 (Walker, 1999, Walker et al, 1999, Wong & Pang, 1999, Pang & Wong, 1999, Chow & Cheung, 2004).

The oral-structural syllabus introduced in the mid 70s stressed oral proficiency and functional competence. Materials were form-focused and structure-based. Language skills were taught in the order of listening, speaking, reading and writing with oral drills and practice (Pang & Wong, 1999). The attitude towards grammar teaching in the

¹⁸ To be exact, the three syllabuses were introduced as primary school syllabuses in 1976, 1981 and 1997, and as secondary school syllabuses in 1975, 1983 and 1999. The years of the secondary school syllabuses are used here for convenience of reference (Curriculum Development Committee, 1975, 1983, Curriculum Development Council, 1999).

syllabus was that 'systematic practice in the use of patterns is in itself grammar teaching.

Grammar teaching in the traditional sense is merely labeling and is largely a waste of time' (Curriculum Development Committee, 1975, p. 156).

The communicative syllabus introduced in the mid 80s aims at preparing learners to use English as a medium of communication throughout the various stages of their schooling and their social and working life, by providing the student with the 'opportunity to use the language he is learning in a meaningful way to carry out acts of purposeful communication' (Curriculum Development Committee, 1981, p.20).

However, it is commented (e.g. Evans 1996) that the approach as implemented in Hong Kong corresponds only broadly to 'a weak version of CLT' (cf. discussion in 1.2.1). It provided a communicative dimension but 'old techniques for presenting and practicing structures are largely retained' (Evans, 1996, p. 33). In principle, the communicative syllabus is the syllabus in force at secondary level today.

The TOC Syllabus (for core subjects English, Chinese and Mathematics) was introduced in 1997 as part of the education reform recommended by Commission Report, No. 4 (Education Commission, 1990). The syllabus is an ambitious one aiming at developing capabilities in whole person development promoting life-long learning,

problem-solving, creativity, information skills, as a response to the education needs of globalization and the information based 21 century education (Education Commission, 1999). There are three important dimensions of English learning in the syllabus: the interpersonal dimension, the knowledge dimension, and the experiential dimension. Task-based learning (TBL) was recommended as a learning mode in the communicative syllabus, and hence the subsequent task-based approach guidelines (e.g. Curriculum Development Institute , 2000a, 2000b, Education and Manpower Bureau, 2005 Curriculum Development Council-Hong Kong Examination & Assessment Authority, 2007) only further consolidate and supplement the TOC syllabus in providing exemplars and assessment guidelines for the task-based approach.

It can be seen that the role of grammar in the Hong Kong English syllabus is largely a reflection of the changes in second language pedagogy and methodology in a broader global context as discussed in 1.2, i.e. from grammar-translation to audiolingual to communicative approach and task based teaching. Under the communicative syllabus, grammar is to be taught as 'language items' in order to fulfil communicative needs in the lower forms. In the upper forms, language learning mainly focuses on the 'experiential component' and 'genre' through the prescribed 'selective modules' such as drama, narratives, poems and songs, popular culture, debating, social issues, sports

communication and workplace communication rather than accuracy (Curriculum Development Council, 2002, Education Bureau, 2007). In terms of feedback and assessment, grammar and mechanics are only two among many other criteria such as organization, task requirements, language and style for writing, and they are even less significant in oral performance which is assessed on fluency, pronunciation, genre and task requirements, communication strategies, language and style (Education and Manpower Bureau, 2005). Hence, it can be said that grammar only performs a supplementary and secondary role in English education in Hong Kong since the 80s, at least at the policy level. According to the latest task-based approach guideline, 'grammar is seen as a means to the end and is not taught as a system of rules or a stand alone body of knowledge' (Education Bureau, 2007, p. 75). However, 'grammar exercise and activities can be used at different stages of a task, depending on the needs of learners' (Education Bureau, 2007, p. 74). In this respect, the approach towards grammar is very near to the FonF approach as discussed in section 2.1.

4.2.2 The role of FFI and grammar in classroom practice

The above depicts the changes in the role of FFI / grammar teaching in the English

curriculum at the policy level. At the practice level, however, it has been repeatedly pointed out that traditional grammar teaching appears to have played a significant part in the everyday practices of English classrooms, irrespective of the official changes in approach (Andrews, 1999, Evans, 1996, 1997). It has been observed that the English classroom has largely remained resistant to CLT, being characterized by the examination-driven and textbook-oriented culture, large classes, teacher-centred transmissional style of teaching, and the lack of competent and properly-trained teachers (e.g. Tam, 1980, Richards et al, 1992, Wu, 1993, Pennington, 1995, Evans, 1996, 1997, Nunan, 1999). The visiting panel of the Llewellyn Report, for example, noted that 'schools have still not embraced the communicative approach, preferring to concentrate on the formal features of the language at the expense of encouraging students to use the language' (Education Commission, 1984, p. 25).

Results of the surveys on the English classroom learning experiences of senior forms as recalled by first year undergraduates (e.g. Littlewood & Liu, 1996, Evans, 1997) also confirm these observations. For example, Evans finds that the areas ranked as receiving the greatest emphasis in English classes e.g. 'preparing for the HKCEE', 'mastering English grammar', and 'speaking and writing in correct English' are all traditional concerns (Evans, 1997, p. 43-44). Both Evans and Littlewood and Liu's

reports reveal that English classrooms are largely doing non-interactive examination-oriented activities with examination oriented materials, while the students' main classroom role is listening to the teacher and working on individual exercises (Evans, 1997, Littlewood & Liu, 1996). CLT concerns such as interaction, authentic materials, learner needs, and real world communication only play a negligible role (Evans, 1997). However, Evans admits that a quarter of the subjects in good schools may use some communicative practices 'within a generally eclectic instruction repertoire' (Evans, 1997, p. 51).

The special preference for traditional grammar teaching by both teachers and students in the local context is also evident in the many attitude surveys, and it actually forms part of the 'culture of learning' (e.g. Peacock, 1998, Cortazzi & Jin, 1996, Flowerdew & Miller, 1996, Watkins & Biggs, 1996, Richards et al, 1992) of Chinese students and teachers in Hong Kong. For example, Peacock (1999) finds in his survey of 157 year 1 university ESL learners that 63% think that learning a foreign language is mostly a matter of learning a lot of grammar rules. According to Richards et al's survey on the culture of 249 Hong Kong secondary English language teachers, whether teachers claim themselves to be adopting a functional approach or grammar-based approach, the classroom activities teachers most frequently employ are traditional in

nature such as reading and writing activities from the textbook, and doing written grammar exercises (Richards et al, 1992).

Three major reasons have been proposed to account for such a strong preference for a didactic, transmission style of grammar teaching. Firstly, Evans thinks that this is partly due to untrained teachers, who may feel more secure in keeping power, authority and control in their hand (Evans, 1996, 1997). Secondly, many local students may simply take English as a subject rather than cultural enrichment or whole person development as stipulated in official syllabuses. The fact that there seems to be no 'content' for the English subject apart from a list of suggested grammatical items may make students think studying grammar means learning English (Walker, 2000). Thirdly, the lack of success of many students (Johnson & Lee, 1987) may also result in a more passive role in classroom interaction and rote-learning of grammar. Hence, it is posited that the grammar teaching class may be a comprised outcome. It is boring but is an effective way of satisfying students' expectations of obtaining good examinations results (Evans, 1996, 1997).

4.3 FFI /grammar research and syntactic complexity research in Hong Kong

4.3.1 FFI/grammar research in Hong Kong

Earlier grammar research in Hong Kong was mainly concerned with the acquisition of specific grammar structures, usually from an error analysis or contrastive perspective (e.g. Bolton & Nelson, 2002, James 2001). There is a substantial body of earlier work on commonly occurring errors in Hong Kong (e.g. Webster et al, 1987, Webster & Lam, 1991, Bunton, 1989, 1994, Boyle & Boyle, 1991, Potter 1992). It seems this strand of interest is still popular to date. Some recent examples are research on the acquisition of the nominal and relative clauses in Hong Kong (So, 2001), research on the acquisition of English subject-verb agreement by Cantonese speakers (Law, 2005), research on error profiles (Chu, 2005), and research on errors and syntactic transfer in English relative clause formation (Gisborne, 2002, Leung, 2005).

Another major interest in grammar teaching in Hong Kong is teachers' beliefs and the role of metalinguistic knowledge. Berry (1997) investigates the knowledge of metalinguistic terminology of 50 grammar items of a group of 372 first-year university

undergraduates in Lingnan University in Hong Kong and compares this to that of their English teachers' (10 Business English teachers). It is found that the wide differences in knowledge between the two groups could lead to serious difficulties in the classroom. Andrews (1999) explores the usefulness of the construct 'teacher metalinguistic awareness' (TMA), which consists of a declarative dimension (i.e. explicit knowledge about grammar) and a procedural dimension (i.e. application of the knowledge in the course of professional activity). On the same lines, Wu (2006) also examines the relation of teacher beliefs and grammar teaching practices using in-depth interview with 4 English teachers. The studies of Andrews and Wu ascertain the decisive influences of teachers' professional training and career experiences in shaping classroom practices regarding grammar teaching.

A formal attempt to chart grammar competence from a developmental perspective can be found in Coniam (1999), who investigates the development in grammatical competence in the English of 2348 Hong Kong students over 14 schools for the years 96-99 in junior forms (F1-F3) by charting the TeleNex¹⁹ Average Ability Score, which is a set of validated MC questions available on TeleNex to be used by secondary school

¹⁹ TeleNex (Teachers of English Language Education Nexus) is an internet network launched and managed by the Teachers of English Language Education Centre of the Department of Curriculum Studies at the University of Hong Kong. TeleNex enables teachers to access and share teaching materials and information about English grammar, and experiences and problems related to English language teaching. Teachers are also able to send in any questions they have about the English language or English language teaching for academic staff in the Centre (TeleNex Website, 2009).

teachers. The average score for the schools in the baseline measure is 62.56 representing average ability in the scale. It is also found that students progressed steadily every year with an average score of 3.45-3.89. Coniam observes that while high performance schools have obtained the highest absolute gains, some low performance schools also show impressive improvements. However, the report is of limited value in that it did not explore the factors that have led to such improvement. Brief interviews with school coordinators lead Coniam to postulate that the school culture, the schools' eagerness in promoting English, and the students' experience of and familiarity with examination formats and test items may be some major contributing factors.

Undoubtedly the area of grammar research which has attracted most attention in Hong Kong is error correction. This is not unexpected considering the long tradition of preference for grammar learning in the ESL classroom and the strong local interest in getting good examination results. Tsang (2000) compares the effects of three kinds of feedback (grammar feedback, content feedback, and grammar and content feedback) on the quality of re-writes by comparing the pre-treatment writing and post-treatment rewriting of an expository essay of 38 year one English major undergraduates. Statistical analyses of various scores suggest that (1) to improve content or the overall impression, feedback may not be necessary; (2) to improve the grammar score, feedback

focusing on content only, or on both grammar and content, is effective; and (3) to reduce error ratio, feedback on grammar is necessary. She concludes that de-emphasizing grammar accuracy in the initial stages of writing in the process approach seems justified. Locating errors on the other hand may focus the writer's attention on the correctness of language form only, which reduces the number of mistakes without necessarily improving the overall grammar score, the content score, or overall impression score. In the same line of interest, Ng (2002) examines the role of corrective feedback on error reduction of Form 1 students' composition writing. Three treatments are studied: indirect explicit negative evidence group (feedback with codes), direct explicit negative evidence group (feedback with models), and content-based commentary group. She finds that both content-based and error-triggered feedback help reduce errors, although the latter shows a slightly higher correlation. Similar to Tsang's (2000) research, it seems feedback on content alone would lead to reduction of error. Ng thinks that by focusing on the content, students would be encouraged to write more and write better.

Perhaps more directly related to the theme of this study is research on consciousness-raising and corrective feedback on errors. Chiu (1999) investigates the effectiveness of grammatical consciousness-raising tasks in the acquisition of

grammatical knowledge as well as the possible effect on the production of grammatical structures in the context of minute writing. The performance of four different treatment groups, i.e. the control group, the grammar task group, the teacher fronted instruction group and the communicative tasks group are compared. Results indicate that grammar tasks are as effective as grammar instruction in helping students acquire grammatical knowledge and produce grammatical sentences, and both are superior to communicative tasks without explicit attention to grammar (Chiu, 1999). Li (1999) explores the relationship between linguistic consciousness (i.e. a set of specific knowledge) and the performance of one specific genre, i.e. marketing letter writing. Consciousness data are solicited through judgment tasks of error identification and performance data are collected from grades awarded to written scripts. Li finds that the more linguistically conscious the learner is, the better she/he performs in writing for his four subjects. Chiu and Li's studies seem to confirm the usefulness of conscious knowledge and explicit instruction. However, Ellis' concern (Ellis, 1984) about measurement favouring 'modelled data' as discussed in 2.2.1 should be kept in mind.

The several studies of Li and his colleagues on form-focused remedial instruction (Chan & Li, 2002, Li & Chan, 1999, 2000, 2001) are the only local studies in which the term form-focused instruction is formally employed. The studies attempt to explore the

effectiveness of a model of proceduralised remedial instruction in helping learners to correct some targeted high frequency lexico- grammatical anomalies from the consciousness raising and form-focused negative feedback perspective. The exploratory study (Li & Chan, 2000) focuses on two common errors, namely the confusion between -ing and -ed adjectives and the misuse of the too+Adj+to VP structure and, according to the authours, encouraging results are obtained²⁰.

All in all, grammar research in Hong Kong has been approached from a very traditional view of grammar teaching, mainly FonFs rather than FonF, and is predominantly preoccupied with error identification and error correction. Although as discussed in 4.2, grammar has always been an important element in English learning in Hong Kong, serious theoretical exploration of the construct of FFI and its role in the present CLT syllabus are completely missing. For example, there has not been any discussion of the many options and innovative approaches of integrating FFI into the communicative syllabus as discussed in 1.2.3. The four strands of research discussed above reflect an ambivalent feeling about grammar teaching. On the one hand, there is an enormous concern about errors (which is very often taken as a significant indication of English standards locally), and on the other hand, an earnest quest for confirming the

²⁰ Chan and Li's expanded 2002 study is not reviewed here as there seems to be a major methodological problem in their studies. The authours report that due to pressure from learners, a mild version of consciousness raising and teacher instruction is also delivered to both the control and experiment groups.

role of grammar teaching in language acquisition. This may explain the special interest in the role of metalinguistic knowledge and teachers' and learners' perceptions of grammar teaching. Recently there has been serious concern about the decline of English standards in Hong Kong by employers and education practitioners and many have ascribed this to the communicative syllabus, which does not teach grammar. Therefore, it is anticipated that there will also be a resurgence of interest in grammar teaching and keen debates in this controversial area in the upcoming years. The Hong Kong context as an exemplar of the weak version of CLT may be a good experimental ground for grammar research.

4.3.2 Syntactic complexity research in Hong Kong

There is even less interest in syntactic complexity research in Hong Kong than in FFI research. A survey of literature indicates that there are three main strands of syntactic complexity research in Hong Kong, largely matching those discussed in 3.1.2: the profiles of 'objective measures', testing the validity of these objective measures as predictors of proficiency, and applying these objective measures in experimental studies.

Littlewood and Liu's (1996) Learning Experience, Attitudes and Proficiency Project (LEAP Project) consists of several separate surveys on various aspects of English learning of first year university students as well as senior secondary school students (form 4-7). One section of their report is on the profiles of syntactic complexity of university students, in which 40 essays of first year students of Hong Kong University and the Chinese University across 6 disciplines are analyzed. Littlewood and Liu (1996) do not use T-units in their measurement because of the many problems of the unit (see discussion in 3.2). Instead they use clause as the unit of production. The correlations of five syntactic measures and the HK AL exam results are calculated. Results are presented in Table 4.2.

HK A-level exam results	% of error free clauses	% of error-free complex sentences	No. of error-free clauses/essay	No. of error free clauses/300 words	No. of clauses/300 words
NS ⁺	82	90	(25)	(18)	21
A/B*	(57)	38	(20)	(16)	(28)
C	(46)	(18)	(15)	(13)	(27)
D	(40)	(26)	(14)	(12)	(28)
E	21	6	8	6	(29)
p	.0001	.0001	.0005	.005	.05
⁺ NS=native speaker (only 5 in the survey who are HKU undergraduates) [*] A/B merged to give the enough number. () indicates differences between two groups are not statistically significant. (N=40)					

Table 4.2: ANOVA results of student's written work (source: Littlewood & Liu, 1996, p. 49)

Littlewood and Liu consider that the high correlation between the results of the

measures and learner's proficiency level suggests that the measures themselves have a good degree of validity, percentage of error-free clauses being the best predictor. The measures show weak discriminative power between adjacent groups, which largely parallel our conclusions in 3.3. A major problem in their study is the small number involved (only 40 students in 5 grades), which raises concern of statistical validity. They conclude that even A grade students have some difficulty with grammar and vocabulary while many E-grade students have a lot of difficulty.

In the same line of research interest is the attempt motivated by corpus linguistics to establish corpora of learners' English, especially regarding data on syntactic measures. This represents a significant step forward in research methodology and analysis in FFI and syntactic complexity studies. A more systematic attempt can be found in Milton (2001).

Milton's report (Milton, 2001) uses several L1 and L2 corpora.²¹ but the 1400 scripts of the 94 Use of English Examination (A-U grades) and the 110 A and B grade scripts of the 94 General Studies Examination in UK, taken as a comparable native corpus, are the main focus of comparison. The main purpose of Milton's study is to

²¹ L1 corpora include SCMP, Hong Kong newspaper, British National Corpus, UK GS examination scripts of A and B grades, Hong Kong secondary and undergraduate textbooks, and L2 corpora include 92 Hong Kong Use of English scripts A-U grades, Longman learners' corpus, written assignments from EFL courses at the Hong Kong University of Science and Technology (Milton, 2001, p. xiii).

identify the distributional profile of the 'idiosyncratic features' of the interlanguage of Hong Kong learners. Based on his data, Milton challenges the natural order hypothesis and speculates that in the case of HKIL, L1 and institutional influences such as local textbooks, classroom teaching, examination-oriented practices, and materials from tuition schools are more instrumental. He ascribes features of HKIL to limited access and exposure to standard English and a lack of awareness of authentic genre and register features.

Milton's data should be treated with caution in that they were only generalized from examination scripts. Another limitation of Milton's research is its heavy reliance on automatic tagging, which can be quite limited in its function, e.g. effective in tagging parts of speech but not other aspects. Moreover, it may not be convincing to judge learners' performance based on native speaker corpus alone. A comparison of other L2 learner corpuses may be more revealing. As its main purpose is not on syntactic complexity, no statistics on syntactic measurements are provided. Only the short discussions on subordination and coordination and the use of post- modifiers are more relevant to the present research. According to Milton's report, the sentence length increases from an average of about 15 words in E grade scripts to 18 words in A grade scripts. In contrast, the scripts of the UK students have an average sentence length of

about 25 words. Subordination is overall more frequent in HKIL than coordination. However, there is a very narrow range of subordination type. Better writers show no increase in the trend. Students also tend to resort to lexical choice instead of grammatical means to express adverbial function of subordination (e.g. besides, moreover). Coordination is overused for paraphrasing (e.g. greedy and money minded), in set phrases (e.g. advantages and disadvantages), and as intensifiers (e.g. more and more). Lastly, there is an under-use of relative clauses but overuse (14% more) of participle clauses, which are used as noun phrases for topic reference. Milton notes the influence of Chinese topic-comment structure. Following Milton's findings, it seems T-units may not be the most relevant unit of measurement for Hong Kong students at this level as subordination rather than coordination is an outstanding feature.

There are two studies which are directly related to the developmental aspect of syntactic complexity. One is Yau (1991), which has been included in our discussion in 2.2.1. Another is Tsang (1996a) which uses syntactic measures to test effectiveness of treatments.

Yau (1991) compares L1 and L2 writing of Chinese ESL learners of English at Form 3 (Grade 9) and Form 7 (Grade 13) secondary schools in Hong Kong. She also

uses a comparable L1 group in Toronto for comparison. The research is to study the relation of syntactic complexity to cognitive complexity. The former is conceptualized as objective syntactic measures such as T-units, mean clause length, mean length of complex nominals/ T-units, mean length of complex nominals / clause, and the latter as idea coordination score per logic unit. It is found that grade 9 (i.e. Form 3) Hong Kong students' ability to manipulate conceptually complex content is significantly inferior to students of grade 13 (i.e. Form 7) and even to that of a comparable group of native English speakers (see Table 4.3). Comparing their L1 and L2 writing, she postulates that ESL grade 9 students' conceptual performance is seriously constrained by their limited L2 linguistic ability rather than a slower cognitive development.

	T-unit length	Clause length	Mean length of nominals per T-unit	Mean length of nominals per clause
ESL G9	10.82	7.62	2.37	1.72
L1 G9	17.00	9.63	6.71	3.80
ESL G13	15.54	10.48	6.00	4.09

Table 4.3 Syntactic measures of different groups (adapted from Yau, 1991, p. 273)

Tsang (1996a, 1996b) compares the effects of an input-based (extensive reading) and an output based (frequent writing assignments with limited feedback) programme on English descriptive writing performance of 144 Form 1 to Form 4 (36 in each form) Hong Kong students for a period of about 18 weeks. Essays are marked on an

impression score and 5 criteria (content, organization, vocabulary, language use, and mechanics). By applying multiple analysis of covariance, she finds that the input based programme is significantly more effective than the output based programme showing significant gains in content and language use and in overall improvement of quality of writing. However, it illustrates no statistically significant gain in organization, vocabulary, or mechanic, which according to Tsang, may require instruction. She concludes that the advantage for the reading group supports Krashen's Input Hypothesis, and that output without detailed feedback or consultation is not as effective as input for lower proficiency students

Tsang's 1996a study is particular relevant to the present research as one of her research questions is the usefulness of T-units in measuring grammatical development in second language writing. In her study, she correlates 10 objective syntactic measures (viz. total number of words, correctly spelled words/no. of words, average sentence length, average clause length, clause/T-unit, T-unit /sentence, rate of error free clauses/sentence, rate of error free T-units, rate of error free sentences) to the overall impression score. It is noted that the majority of the objective measures, when applied to the written data, has low reliability and validity as measures of writing skill or development. The correlations of length measures (e.g. average clause length, average

T-unit length, and average sentence length) with impression total score drop from pre-test to post-test, and from a level of significance to non-significance and negative relation. Regarding the usefulness of T-units, Tsang posits that while the T-unit may be a better measure for low proficiency learners, it may not be able to chart further development as students progress. She also reports a lot of limitations and difficulties in applying the T-unit to non-native immature writers. Indeed Tsang finds that measures involving syntactic accuracy (e.g. error-free sentences) may be a better predictor of overall score. She raises doubts in using average T-unit length as a valid and reliable measure of syntactic maturity or complexity. At least it should not be used as a single measurement. She also warns that the notions of syntactic maturity/growth, syntactic complexity, and quality of writing should not be taken as the same. From the discussion in 3.2, it should be noted that syntactic complexity may not be directly related to length measures as reduction of dependent and independent clauses into modifying elements are characteristic of more advanced users.

Chapter 5 Research methodology and research design

5.0 Introduction

This chapter presents the details of a study on the role of explicit FFI in the syntactic complexity development and the acquisition of advanced syntactic structures of a group of ESL advanced learners in Hong Kong, namely a group of year 1 students (06-07 cohort) of the Associate Degree in Translation and Interpretation programme (AATI) at a community college in Hong Kong. The treatment, explicit FFI, was a grammar course called Structure of English taught to the said students in Semester B (Sem B) of their first year in 2007. The immediate context of the study has already been presented in 1.3. Section 5.1 discusses the rationale of the present research in light of the literature reviewed in Chapter 2 to Chapter 4. Section 5.2 sets out the specific research questions to be addressed by the study. Section 5.3 gives the details of the research design, explains and justifies the selection of the procedures adopted for the research.

5.1 Initial conclusions and assumptions from the literature

This section highlights some initial conclusions and assumptions from the literature reviewed in Chapter 2 to Chapter 4, which have influenced the design and the conceptualization and operationalization of key constructs of the present study.

Firstly, it can be concluded that the facilitating role of FFI in SLA has largely been justified both empirically and theoretically. This research is based on the assumption that FFI provides explicit knowledge of grammar, which can speed up the learning process and enhance the acquisition of new forms (cf. Ch. 2). For example, Johnson (1996) stresses the role of FFI in providing appropriate declarative knowledge for effective proceduralization as well as for the representation of the already proceduralised knowledge (cf. 2.3.2.1). It is hoped that this research would provide further empirical evidence for these claims. Apart from this declarative dimension, however, it seems the role of the experiential dimension of FFI as a process has often been neglected. In other words, apart from the metalinguistic aspects, what other aspects can learners benefit from the FFI process? What activities or approaches in the FFI process are really contributory to learning and acquisition? This study also hopes to

shed light on these issues from the learners' perspectives.

Secondly, it can be assumed that our subjects share characteristics and learning experiences of the advanced learners in Hong Kong in their secondary school years (cf. Ch. 4). Most of them have experienced some forms of grammar learning, and also have the kind of ambivalent feeling about grammar instruction already discussed (cf.4.3). As pointed out in 1.1, Form 7 marks the end point of formal English learning for the majority of students. Most learners would then stick to the golden rule of writing short and simple sentences to avoid errors as advised by their secondary teachers and by most ESP programmes. Hence most English users have very weak motivation for any further syntactic development. This study's focusing on a group of purportedly motivated advanced learners may provide insights into this aspect.

Thirdly, since Long (1991), there has been a bias towards FonF. The present treatment is a type I FFI according to Ellis' typology (cf. 2.1). Treatment of forms is intensive and the primary focus is on form rather than communication. This research would hope to fill the gap on FonFs studies. It is postulated that FonFs should also have a role in enhancing acquisition, especially for advanced learners. As Long and Robinson (1998) have commented, for advanced learners who can cope with their daily

communication in English already, what they need may not be more exposure but
`additional salience for the problematic features' (Long & Robinson, 1998, p. 20-21).

Lastly, it is about the choice of `objective measures' and `advanced structures'. It should be clarified that the purpose of this research is not to validate objective measures like most of the research reviewed (cf. Ch. 3) but rather to employ some validated measures as informed by literature for an effect study. In this research altogether 18 variables in three major categories (elaborate measures, complexity strategy measures, and target advanced forms) were used as dependent variables. Details will be expounded on section 6.2.

5.2 Research Questions

There are five research questions to be addressed in this study:

1. What are the general profiles of syntactic complexity of this group of advanced Hong Kong ESL learners in terms of the objective measures?

2. How is syntactic complexity achieved in this genre of writing? What syntactic complexity strategies have been employed and what room is there for further development?
3. Can explicit FFI promote syntactic complexity development and the acquisition of advanced syntactic forms? What is the role of explicit FFI in the acquisition process in regard to some target advanced forms??
4. What is the role of explicit FFI in the development of metalinguistic knowledge, and how is it related to FFI and syntactic complexity development?
5. What are the perceptions of these advanced learners on the role of explicit FFI in their overall grammar learning experience, and specifically in syntactic complexity development and acquisition of advanced syntactic structures?

5. 3 Research Design

To collect the necessary data, three major studies were designed. Firstly, a questionnaire survey (Study 1) was conducted in early Sem A, (September, 06) to collect students' language profiles and their perceptions on and attitudes towards grammar learning in general. Then a quasi-experiment (Study 2) was designed and conducted in Sem B (i.e. Jan-April, 07) to examine the effect of explicit FFI on the development of syntactic complexity, metalinguistic knowledge and the acquisition of advanced structures. Finally a year-end (May, 07) questionnaire survey (Study 3) was conducted to collect data regarding students' perceptions of the role of explicit FFI in grammar learning and in the acquisition of advanced structures. Students' perceptions of the various learning activities/tasks were also elicited. This section presents the details of the designs of these three studies such as objectives, subjects, and administration details. It outlines the methodological procedures used and the justifications for their selection.

5.3.1 Study 1: Survey on language background and perceptions of grammar

learning

5.3.1.1 Objective and design of Study 1

A short questionnaire (see Appendix 3) was designed to collect data regarding the language background of students and their general perceptions of grammar learning. For convenience and to ensure higher return rate, the questionnaire was administered together with Study 2, as Task 1 and Task 4 of Pretest 1 (see 5.3). Task 1 collected data regarding students' language background such as examination results, English use in their daily life and their evaluation of their own language skills. Task 4 elicited data regarding students' attitudes and beliefs about the role of grammar learning in an AATI programme and in second language learning.

5.3.1.2 Subjects and administration of Study 1

The details of administration procedures and subjects were the same as Study 2,

which are detailed in 5.3.2.2 and 5.3.2.3.

5.3.2 Study 2: A quasi-experiment

5.3.2.1 Objective and design of Study 2

The main purpose of the quasi-experiment was to investigate the effect of explicit FFI on the syntactic complexity development and metalinguistic knowledge of students, following the tradition of quasi-experimental approach employed by the many studies as reviewed in section 2.2 and Chapter 3.

The quasi-experiment was divided into three main phases: Pretest 1, Pretest 2 and Posttest. Each phase consisted of three core tasks: (1) terminology recognition task, (2) error correction task, and (3) production task. The whole set of tests can be found in Appendices 3, 4, 5. The details of the three core tasks are given below.

Task1: Terminology recognition task

This was a 10 minute test aiming at measuring subjects' metalinguistic knowledge of the formal and functional sentence elements and related terminology rather than grammar terms in general (e.g. Andrews, 1999, Berry, 1997, Li, 1999). There were 15 items, and subjects needed to indicate whether they thought they knew the term and then gave one example to illustrate their understanding. This task was all marked by the researcher. Each correct illustration scored 1 mark. The total mark was called Terminology Recognition Score (S_Term) and the maximum score was 15. This format was preferred to other testing formats such as naming some underlined parts or matching (e.g. Alderson et al, 1997, Andrews, 1999) in order to reduce guessing. Anticipating that the definitions learned by students in secondary school may not be very precise and accurate, the scoring was on the lenient side and the broadest general definitions of the terms were adopted. The problem should not be serious as subjects were asked to illustrate their understanding by giving annotated examples instead of giving rigorous definitions.

Task2: Error correction task

This was a 15 minute task testing subjects' ability to identify and correct errors and the ability to relate their corrections to some grammatical rules. The purpose of this task was to measure students' competence in terms of metalinguistic knowledge and their ability in correcting errors. There were 10 questions and there were two parts for each question: students needed (i) to rewrite the faulty part of the sentence correctly, and then (ii) explain the error by relating it to some grammatical rules which had been violated. The errors were all pertinent to the sentence errors as proposed in Dr. Mark Newbrook's textbooks (Newbrook, 1991a, 1991b). The errors in his books were based on his research on common errors made by students of Higher Diploma of Translation and Interpretation when he worked at this university.

All the tests were marked by the researcher to achieve consistency. The two parts were firstly scored separately into two scores: Correction Score (S_Corr) and Rule Explanation Score (S_Rule). For each question, it was possible to score 0, 1 or 2 for each of the two scores. Hence the maximum mark for each question was four marks. It is thought that the flexibility of giving 1 mark for partially correct answers would reflect better the metalinguistic knowledge of the subjects considering that partially correct

answers should be rewarded somehow with a higher mark than those who did not answer or gave totally irrelevant answers. The three scores, i.e. S_Term, S_Corr and S_Rule were added up to a single Metalinguistic Knowledge Score (S_MK), which was used as the general indicator for metalinguistic knowledge. The maximum mark for S_MK thus was 55 for each subject.

Task 3: Production task

Students were asked to write a composition of 200-250 words on a specific topic to provide written data for the quantitative analyses.

The topics of the production tasks for the three phases (see 5.3.2.3) were:

Pretest 1: Select three items from a list which students find most important or useful in learning new grammar forms.

Pretest 2: The first 250 words of students' answer of the first essay question of their examination script of the subject 'Language and Society'.

Posttest: Comment on three approaches/tasks/activities which students find most useful to acquire 'advanced syntactic structures'.

The reason for using examination scripts in lieu of composition for the production task of Pretest 2 is explained in 5.3.2.3 below.

5.3.2.2 Subjects of Study 2

All the subjects were year one students of the 06-07 cohort of the AATI programme. Their background is discussed in 1.3. There were 71 year one students in total in the year of data collection. The researcher was only able to recruit 57 students who volunteered to help out for pretest1 and pretest 2. In the final posttest at the end of Sem B, only 41 of the 57 students turned up for the test. As a result, it was decided that only these 41 students (57.7% of whole population) would be used as the subjects for this quasi-experiment since they were the only students who had completed all the three core tasks of Pretest 1, Pretest 2 and the Posttest. The administration details and time line of Study 2 is presented in greater detail in the next section.

5.3.2.3 Administration of tests of Study 2

Data collection for Study 2 was planned to take place over a 6 month period, beginning with pretest 1 in Week 4 Sem A (i.e. October, 06), and ending with posttest in Week 14 Sem B (i.e. May, 07).

There were two major problems for the experimental design of Study 2. One was the lack of a comparable control group. Since AATI students have very unique entrance requirements regarding language proficiencies, it was very difficult to find a comparable control group in the college. Another problem was that it may involve practical teaching problems as well as ethical concerns should different groups be given different treatments since students would have to take the same examination and assessments.

In view of the above difficulties, the researcher decided to adopt a one group time-series quasi-experimental design (Babbie, 2001). Data collection was done in three phases. The period between the first phase and the second phase was taken as the control phase, when no treatment was administered. The period between the second phase and the third phase was taken as the treatment period, when students received

explicit FFI. It was hypothesized that there would be no change in the dependent variables in the control period, and changes in the treatment period would be attributed to the treatment. The three tests thus were conducted for the same group of students. For convenience, the three tests were referred to as Pretest 1, Pretest 2 and Posttest. The details of the administration of the three tests are given below:

Pretest 1

As the researcher did not teach the target subjects in Sem A, 06 yet, there was no direct access to the potential subjects. With the help of colleagues, emails were sent out and class visits were made to invite year one AATI students to participate in the pre-test on a voluntary basis. Finally 57 out of 71 students replied via email that they were interested in the test. Then students were invited via email to attend any one of the six one-hour long testing sessions scheduled for Week 4, 27 and 29 September, 06 from 3:00-4:00, 4:00-5:00, or 5:00-6:00 p.m. in a pre- booked classroom. Finally 57 students attended and completed all tasks of pretest 1. All test papers were collected back and subjects were requested not to disclose the contents of the tests to other students.

As discussed in 5.3.1, for convenience, besides the three core tasks, subjects were also requested to fill in two questionnaires for Study 1. Therefore, altogether there were

5 tasks in Pretest 1. The whole set of test tasks was given in Appendix 3.

Pretest 2

For some reason, the research missed the best timing to contact students before the semester broke. Thus, there was practical difficulty to recruit subjects to take part in a formal test like Pretest 1 at end of Semester A in 2006. Nonetheless, it was imperative that Pretest 2 had to be administered before the treatment period started, i.e. in first week of Sem A the latest. With the view that the researcher could have full access to all students as their tutor in Sem B, the researcher thus decided as a contingency arrangement that Pretest 2 could take place in the first week of Sem B after class times (classes were dismissed 10 minutes earlier) to ensure availability and participation of subjects. Hence the 57 students were invited to stay behind their respective tutorial classes for 10 minutes (18-19 Jan) to complete the terminology recognition task and stay behind the lecture for 15 minutes (18 Jan, 07) to complete the error correction task. However, students who were interested were also welcome to complete the tests. Finally all students present (the 57 students included) were interested in the tests and stayed to complete the two tasks. Nevertheless, there remained a practical difficulty in organizing the production task. Therefore, as a contingency arrangement, it was decided that the

essay examination answers²² of the subject LS12490 Language and Society of the 41 students would be used in lieu of the formal composition task. Since the examination time fell between Sem A and Sem B i.e. mid December, it was thus a suitable time for data collection. The scripts also paralleled the composition task in terms of genre and task setting. The arrangement was approved by the module examiner of LS12490 and the programme leader of AATI under the conditions that only gross figures on syntactic complexity measures should be compiled and that no individual script should be cited. It was finally decided that the first 250 words of the answer of the essay question of their examination script would be used as the production data for Pretest 2. The two core tasks, the terminology recognition task and error correction tasks can be found in Appendix 4.

Posttest

The 57 students who had taken part in Pretest 1 in Sem A were invited in class and through email to participate in the final Posttest in Week 14 of Sem B, 07, which was the one week term break period before the Sem B examination. Students were invited to attend one of the three one-hour testing sessions scheduled for 3 and 4 May, 07 in a

²² A typical examination question was like 'Select a concept, or a lecture, or a tutorial presentation, which you find most impressive. Describe the concept or the lecture or the presentation, and then explain how it has changed your perception of the use of language in the social world'.

pre-booked classroom. Besides the three core tasks, the posttest also included a short questionnaire survey of Study 3 (see 5.3.3 below). Finally, only 41 students turned up for the posttest. It was therefore decided that only these 41 students' data (57.7% of whole class) would be used for analysis as they were the only students who had completed Pretest 1, Pretest 2 and Posttest 3. The whole set of tests of Posttest can be found in Appendix 5.

5.3.3 Study 3: Survey on students' perceptions of their grammar learning experience

5.3.3.1 Objective and design of Study 3

The objective of Study 3 was to collect data regarding students' perceptions of the role of explicit FFI in their syntactic complexity development, and the relevance and usefulness of various learning activities/tasks they experienced during the treatment period to their development of syntactic complexity and acquisition of advanced syntactic forms.

A questionnaire, which included both Likert scale options and open ended questions (see task 3 of Appendix 5), was designed to elicit students' perceptions about the usefulness of explicit FFI (Q1) and its impact on their attitudes towards grammar learning (Q2). Question 3 explored students' perceptions of various parameters or factors in grammar learning and Question 4 looked for students' perceptions on the various learning tasks or activities in the course. Twelve items were selected, which included in-class activities as well as the assessment tasks of the portfolio assignment.

5.3.3.2 Administration of Study 3

The questionnaire was done as task 3 of the posttest (see Appendix 5). The subjects and administration procedure were the same as the Posttest of Study 2, as discussed in 5.3.2.3.

5.3.4 Summary of the three studies

The three data collection phases, the time line and the measuring instruments of the

three studies are summarized in the following Table (Table 5.1):

Table 5.1 The time line and measuring instruments of the 3 phases in Study 2

phases	Phase 1	----->	Phase 2	-----treatment----->	Phase 3
tests	Pretest 1	No treatment	Posttest 1 =Pretest 2	Treatment (explicit FFI)	Posttest =posttest 2
time	Week 4 Sem A (27-29 Sept, 06)	Week 4 Sem A to date before Week 1 Sem B (14 Jan, 07)	Week 1 Sem B (15-19 Jan, 07)	Week 1-Week 13 Sem B (15, Jan- 28April,07)	W14 Sem B (3-4 May, 07)
measuring tools	terminology task, error correction task, production task, 2 question- naires of Study 1		terminology task, error correction task		terminology task, error correction task, production task, questionnaire of Study 3

5.3.5 Pilot studies

Pilot tests of the various tools were conducted one or two weeks before they were actually used. Small groups of students from another programme were invited after class to complete different tasks and comment on the tests and questionnaires. One main objective of the pilot tests was to ensure that students would have enough time to complete the tasks. Based on their comments, some wordings and questions were

modified.

5.3.6 Reliability and validity

5.3.6.1 Reliability considerations

Reliability refers to 'the consistency and replicability of research' (Nunan, 1992, p. 14). Replicability is not easily achievable in the social world as strictly speaking, all events are historical and therefore are unique and non-replicable. The main concerns of reliability therefore are the 'stability' and 'consistency' when human beings are involved as measuring agent (e.g. counting people), data provider (e.g. reporting self experiences) or data interpreter (e.g. interpreting people's behavior in an observation) (VanDalen, 1979).

As Study 1 and Study 3 were small-scale opinion questionnaire surveys, a lot of potential hazards of reliability were avoided. For example, mostly factual and low

inference data were involved. No complicated coding or rating was required. The major important step in ensuring reliability thus was the quality of the questionnaire questions and clarity of instructions. Questions were set with utmost care to ensure they were non-biased, clear, unambiguous, and within the subject's capability to provide reliable and consistent answers. Pilot tests were conducted to obtain initial feedback on various aspects and especially to ensure sufficient time was given for the different tasks.

More sophisticated coding was involved for Study 2. Consistency in coding was enhanced by keeping a detailed coding guide for reference throughout the coding process. Firstly a tentative coding system was developed and then put to trial with the coding of pretest 1 scripts. After several revisions, the final version of the coding system was used for coding all scripts. All pretest 1 scripts were re-coded again using the final version. Since only the researcher was doing the coding task, there was no problem of multiple rating. To achieve accuracy in counting and calculating, the figures were checked by a colleague, who kindly offered to help out. Lastly, the three metalinguistic tests were basically the same tests largely testing the same grammar terms and errors only with the wordings of the question changed.

5.3.6.2 Validity considerations

Validity refers to 'the extent to which a piece of research actually investigates what the researcher purports to investigate' (Nunan, 1992, p. 14). Validity is far more complicated than reliability as in social sciences, most constructs are not real out there which can be observed or examined directly. Validity therefore may rely heavily on the theoretical stance of individual researcher and the research community (Babbie, 2001).

Study 1 and Study 3 had face validity and content validity, as they mostly asked for low inference data and opinion data and no complicated theoretical constructs were involved. For study 2, the validity of the 'objective measures' was informed and supported by the literature and therefore had face validity, content validity, and criterion-related validity. Regarding the metalinguistic tests in Study 2, grammaticality judgment and error correction tests are commonly accepted ways of charting metalinguistic competence (e.g. Andrews, 1999, Li, 1999). Therefore, they have face validity and content validity. However, as a unique and new design, it is difficult to establish criterion validity since there is no comparable scale. Predicative validity can

be examined by correlating the metalinguistic score with the overall grammar competence but the latter was not available from students. Moreover, the researcher was also aware of some threats to internal validity of research (Cohen et al, 2000) which were inherent in the design such as maturation and selection. These problems will be addressed to in 8.3.

5.3.7 Ethical concerns

Ethical problems concern the potential threatening of the rights and values of the subjects (Cohen et al, 2000). It seems the various ethical issues commonly suggested (e.g. Cohen et al, 2000) were not involved in this research. For example, there was no sensitive issue involved in the choice of research problem and nature of research. All subjects were young adults and no children or special group were involved. Moreover, the method of data collection did not require any covert observation and the procedures adopted would not impose any apparent physical or psychological harm to subjects. Besides, no individual data would be published in a manner that would cause embarrassment to the participants or was there any interview transcription required to be

endorsed. The major ethical concerns in this study, therefore, are (i) obtaining subjects' informed consent, (ii) getting approval by the authority, and (iii) making sure the research would not affect subjects' studies, especially on teaching and assessment.

Firstly, participation was on a voluntary basis. The researcher visited respective classes personally and sent out email explaining the nature of research, the tasks involved and use of data to students. It was felt that students were very supportive and were happy to help out. Although students needed to put down their names on the questionnaires, the principle of anonymity and confidentiality were made known to students and were adhered to. Actually only assigned numbers and no names were used throughout the coding and data analysis process. After the research all scripts would be destroyed. Secondly, the community college has always been very supportive to research activities. The research was reported to and approved by the programme leader of AATI. The programme leader of AATI and the module tutor of LS12490 also approved the use of the examination scripts of LS 12490 under the conditions of anonymity and non-citation (cf. 5.3.2.3). Lastly, as the research was done at the time when the researcher was also tutor of the course Structure of English, utmost care was taken to ensure fairness to all students in teaching activities as well as assessment. For example, the research was designed in a way that did not involve different treatment

groups which may give rise to complaints from students (cf. Chan and Li's 2002 study, see footnote 20 in 4.3.1). All tests were also done outside class time and on a voluntary basis. Students were also reassured that participating in the research or not would not affect their assessments. There was no checking of answers for the tasks in the research and indeed the tasks were not related to any assessment in the treatment course.

5.3.8 Data Analysis

The data were mainly quantitative in nature and were subject to a range of statistical analyses, with the aid of SPSS 15.0. For the quasi-experiment, one way ANOVA repeated measures were used. The analysis techniques are discussed in detail in Chapter 6.

Chapter 6 Data Analysis and findings

6.0 Introduction

The main focus of this study, as outlined in Chapter 5, is to examine the effect of explicit FFI on syntactic complexity development, on metalinguistic knowledge and on the acquisition of some target advanced syntactic structures. This chapter provides the necessary data and analyses, and reports findings related to these issues. In light of these findings and analyses, the research questions will be addressed and discussed, which is done in the next chapter. There were three major sources of data: (i) the questionnaire survey of Study 1, (ii) the three core tests of the quasi-experiment (Study 2), and (iii) the questionnaire survey of Study 3. Firstly in 6.1, a general profile of students regarding their language background and perceptions of grammar learning in general are presented based on the data of Study 1. Section 6.2 reports on the findings of the three core tasks of pretest 1, pretest 2 and posttest of the quasi-experiment (Study 2). The findings would shed light on the effect of an explicit FFI treatment on syntactic complexity development, metalinguistic knowledge development and acquisition of target advanced syntactic structures by means of a quantitative and statistical approach.

Lastly, 6.3 reports the findings on the perception of these advanced learners of the role of explicit FFI and the various grammar learning activities/tasks based on the data of the questionnaire survey of Study 3.

6.1 Findings of Study1: Student profiles and their perceptions of grammar learning

6.1.1 Gender and school background

Of the 41 subjects, 14.6% (n=6) were males and 85.4% (n=35) were females. This is comparable to the population composition of 11 males (15.49%) and 60 females (84.5%). This composition is not uncommon as the AATI programme is traditionally dominated by female students. Students joining the programme are mainly from English medium schools (Table 6.1).

Table 6.1 Q8b MOI of students

	English Medium Schools	Chinese Medium Schools	
F1-F3	75.6% 31	24.4% 10	100% N= 41
F4-F5	85.4% 35	14.6% 6	100% N= 41
F.5-F.7	85.4% 35	14.6% 6	100% N= 41

The Form 5 (Hong Kong Certificate of Education Examination or HKCEE) and Form 7 (Hong Kong Advanced Level, or HKAL) English examination results are shown in Table 6.2 and 6.3 below (next page). It is not common to have students with C grade or above enter Associate Degrees as most of these students would be good enough to be accepted by funded bachelor degree programmes. However, every year AATI is able to recruit some students with quite good English results in HKCEE and HKAL examinations. These students may obtain good English language results but fail in other subjects. It also gives justifications that these subjects can be considered advanced learners of English, comparable to year 1 university level.

Table 6.2. HKCEE (Form 5) English results

Grade	Students distribution
A	2.4% 1
B	9.8% 4
C	34.1% 14
D	51.2% 21
E	2.4% 1
	100% N= 41

Table 6.3: HKAL (Form 7) English results

Grade	Students distribution
A	0% 0
B	2.4% 1
C	31.7% 13
D	53.7% 22
E	12.2% 5
	100% N= 41

6.1.2 English use in daily life

Subjects were asked how often they used English in their daily life (Task 1, Q6).

The results are shown in Table 6.4.:

Table 6.4 Q6 (task 1) How often do you use English in your daily life?

	Very often	often	sometimes	seldom	total
Reading English materials	12.2% 5	63.4% 26	24.4% 10	0% 0	100% N=41
Listening to English	14.6% 6	51.2% 21	34.1% 14	0% 0	100% N=41
Writing in English	4.9% 2	39% 16	64.3% 19	9.8% 4	100% N=41
Speaking in English	9.8% 4	19.5% 8	53.7% 22	17.1% 7	100% N=41

The results seem to reflect reasonably the actual use of English in Hong Kong in general as discussed in 4.1. Most students used English often or quite often in reading (75.6%) and listening (65.8%) but seldom or only sometimes in writing (74%) and speaking (71%). It shows that receptive skills of reading and listening were used more often than the production skills of writing and speaking. The results largely confirm the classroom surveys of Littlewood and Nga (1996) and Evans (1997) as discussed in 4.2.2.

6.1.3 Self evaluation of English proficiency

Students were asked to evaluate their various English language skills on a scale of 1-6 (1 excellent, 6 poor, task1, Q7). The results are shown in Table 6.5, in ascending order of the mean:

6.5 Q7 (task 1) How do you rate your own English level?

	1 (excellent)	2	3	4	5	6 (Poor)	total N= 41	mean	std. Deviation
Reading level	2.4% 1	17.1% 7	63.4% 26	17.1% 7	0% 0	0% 0	100% N= 41	2.95	0.669
Listening level	0% 0	17.1% 7	56.1% 23	24.4% 10	2.4% 1	0% 0	100% N= 41	3.12	0.714
Speaking level	2.4% 1	14.6% 6	39% 16	29.3% 12	12.2% 5	2.4% 1	100% N= 41	3.41	1.048
Writing level	0% 0	2.4% 1	36.6% 15	43.9% 18	17.1% 7	0% 0	100% N= 41	3.76	0.767

If 3.5 is taken as the mean, most students considered themselves slightly higher than an 'average user', except in writing. There seems to be a close relation of confidence in language skills with the actual language use in daily life (cf. 6.1.2). Results indicate that students were least confident with their writing skill. Over 61% actually rated themselves lower than the average on this aspect. This can be interpreted as either that writing skill was still a great concern even for these advanced learners or that these advanced learners may have a greater aspiration to improve their writing skills when they join a professional language course in their tertiary study.

6.1.4 Attitudes and motivation of grammar learning

Students acknowledged predominantly the importance of grammar in both foreign language learning (task 1, Q3, Table 6.6) and in the AATI programme (task 1, Q4, Table 6.7). The percentage of 'very important' and 'important' taken together are 95.1% for foreign language learning and 100% for translation training. Despite the general impression that most students found grammar classes boring, 75.6% of these advanced learners expressed interest or keen interest (Q2, Table 6.8 next page) and 78% claimed to have good or strong motivation (Q4, Table 6.9) in grammar learning.

Table 6.6: Q3(task 1): importance of grammar in foreign language learning

	%
Very important	41.5% 17
Important	53.7% 22
Not quite important	4.9% 2
Not important at all	0% 0
	100% N=41

Table 6.7: Q4 (task 1) importance of grammar in AATI

	%
Very important	65.9% 27
Important	34.1% 14
Not quite important	0% 0
Not important at all	0% 0
	100% N=41

Table 6.8: Q2(task 1) interest in grammar learning

	%
Very interested	12.2% 5
Interested	63.4% 26
Not quite interested	24.4% 10
Not interested at all	0% 0
	100% N=41

Table 6.9 Q5(task 1): motivation in grammar learning

	%
Very motivated	17.1% 7
Motivated	61.0% 25
Not quite motivated	22.0% 9
Not motivated at all	0% 0
	100% N=41

Regarding the self-evaluation of their grammar competence, 75.6 % (task 1, Q1 table 6.10) rated themselves average. It shows that while most students had a very positive attitude and were motivated in grammar learning, they only had moderate

confidence in their grammar competence.

Table 6.10: Q1 (task 1) self grading of grammar competence

	%
Above average	2.4% 1
Average	75.6% 31
Below average	22.0% 9
Total	100% N=41

It is interesting to note that about 20% of students said they were not quite interested in grammar learning, who expressed having low motivation in grammar learning and who rated themselves to be below average in grammar ability. It may be interesting to find out whether these 20% strong students are a co-incidence or whether the opinions were from the same ones, by correlating the relevant variables (see below).

A correlation matrix of (1) self grading of grammar competence, (2) interest in grammar, (3) motivation in grammar and (4) HKCEE results using chi square (Table 6.11) shows that there was a significant association between 'HKCEE results' and 'self-grading of grammar competence' ($X^2=46.731$, $df=14$, $p=0.00$), and a significant relation between 'motivation in grammar' with 'interest in grammar' ($X^2=24.189$, $df=8$,

p=0.00). There is no correlation among 'self grading of competence' and 'interest in grammar' and 'motivation in grammar'. However, the results are for reference only as most cells do not have the required minimum 5 for chi square calculation. Cross tabulation of self-grading of grammar competence with interest in grammar, and motivation of grammar learning are presented in Tables 6.12 and 6.13 and they do not indicate strong relational patterns since most students ranked themselves as average in grammar competence.

Table 6.11 Chi-square correlations matrix of the 4 variables.

measures	1	2	3
(1) self grading	---	---	---
(2) interest in grammar	7.434	---	---
(3) motivation in grammar	5.426	24.189***	---
(4) HKCEE results	46.731***	16.674	7.419

N=41, ***=p<0.01

Table 6.12 Cross-tabulation of self-evaluation of grammar competence with interest in grammar

		Interest in grammar		
		Very interested	interested	Not quite interested
Self evaluation of grammar competence	Above average	20% 1	0% 0	0% 0
	Average	60% 3	76.9% 20	80% 8
	Below average	20% 1	23.1% 6	20% 2
		100% n=5	100% n=26	100% n=10

Table 6.13 Cross-tabulation of self-evaluation of grammar competence with motivation in grammar learning

		Motivation in grammar learning		
		Very motivated	motivated	Not quite motivated
Self evaluation of grammar competence	Above average	14.3% 1	0% 0	0% 0
	Average	57.1% 4	80% 20	77.8% 7
	Below average	28.6% 2	20.0% 5	22.2% 2
		100% n=7	100% n=25	100% n=9

6.1.5 Perceptions of grammar learning

The data in this section are drawn from the questionnaire survey (pretest 1 task 4), which elicited data regarding the general attitudes and beliefs of students on grammar learning before they embarked on the treatment course. There are five aspects: (a) who should learn grammar, (b) sources of grammar materials, (c) what are advanced forms, (d) what are your difficulties in grammar-learning, and (e) what should be taught in an AATI grammar course.

(a) Who should learn grammar?

Nearly 90% of students thought that even native speakers needed to study grammar (task 4, Q1, table 6.14). Only 7.3% students thought that they had learned all grammar while 92.7% (disagree+ strongly disagree) thought they still had to study grammar (Q2, table 6.15).

Table 6.14 Q1(task4): Native speakers do not need

to learn grammar	
	%
Strongly agree	2.4%
	1
Agree	7.3%
	3
Disagree	70.7%
	29
Strongly disagree	19.5%
	8
Total	100%
	N=41

Table 6.15 Q2 (task 4) After F.7, I think I have learned all

grammar	
	%
Strongly agree	0%
	0
Agree	7.3%
	3
Disagree	43.9%
	18
Strongly disagree	48.8%
	20
Total	100%
	N=41

However, interestingly it was also thought that it was primary and junior- form students (Q3, Table 6.16), and elementary and intermediate learners (Q4 table 6.17) who may benefit most from grammar instruction. Students had contradictory perceptions that on the one hand they considered grammar belonging to junior forms or intermediate learners but on the other hand they thought they still had a lot to learn in grammar. This also explains one of their beliefs (see below) that the role of a grammar course was to

help them revise basic grammars.

Table 6.16 Q3 What level can benefit from grammar learning

	%
University	7.3% 3
F6-7	12.2% 5
F4-5	9.8% 4
F1-3	34.1% 14
Primary	36.6% 15
Total	100% N=41

Table 6.17 Q4 Who benefit most from grammar learning

	%
Advanced learner	14.6% 6
Intermediate learners	51.2% 21
Elementary learners	34.1% 14
Total	100% N=41

(b) Sources of grammar materials

This is an open-ended question (task 4, Q5). Not all students filled in all 3 items.

Altogether 108 items were filled in. According to the number of students (N=41)

writing the item down, the major sources of grammar materials reported are: grammar

textbooks and exercise books (70.73%), newspapers (39.02%), authentic reading

materials such as fiction, magazines and books (31.70%), teachers (19.51%), notes

(17.07%), reference books (14.63%), and lessons (9.75%). It can be seen that students

generally have a very strong conception of grammar learning as a 'subject' or 'contents

of materials' codified in textbooks and exercise books to be studied and learned. For newspapers, it is not certain whether students referred to newspapers as authentic reading materials or the popular columns on grammar and English usage. Teachers and textbooks seem to play an important role in grammar learning.

(c) What are advanced forms?

Students appear to have a very vague idea about 'advanced structures' (task 4, Q6). Many students did not put down any answer and only 55 items were elicited. Some only repeated the question putting down items like complex structures, complicated grammar, advanced grammar, advanced textbooks and unusual or strange structures. Answers were very divergent and there was no outstanding category. The three most common items raised are: complex sentences (7.31%), inversion (9.76%), and relative clause (4.87%).

(d) What are your difficulties in grammar learning?

Regarding difficulties in grammar learning (Q7), 75 items were written down. The top five are: poor memory (34.15%), too many rules and exceptions (26.83%), no

chance to use (19.51%), weak foundation (19.51%), terms are confusing (17.03%), tenses (14.63%) and laziness (7.32%). These factors, especially the anxiety reflected in the answers, provide useful reference for syllabus and course design.

(e) What should be taught in an AATI grammar course?

76 items were given. Students gave very divergent answers ranging from 'all grammar', 'from beginning' to 'different kinds of grammar', 'native speaker English', and 'strange sentences'. Top ones are grammar terms (14.63%), different types of grammar in different situation and texts (14.63%), basic grammar (12.20%), common errors and proofreading (12.20%), sentence structures (12.20%) and advanced grammar (9.76%).

To sum up, the data in Study 1 show that in terms of language use in daily life and general English proficiency, this group of students was quite typical of the many advanced ESL learners in Hong Kong. Although these AATI students had a slightly higher average English result than other associate degree students, they were lacking in self-confidence in their own English proficiency. Students predominantly recognized fully the importance of grammar in foreign language learning and in the AATI

programme and they were in general quite motivated and had a keen interest in grammar learning. The results also indicate clearly students' insecurity in grammar learning. For example, while they think grammar learning is necessary for intermediate learners and in junior forms, most claim that they also had a lot to learn. However, many had no concrete idea about what to learn or what constituted advanced forms.

6.2 Findings of Study 2: Quasi-experimental study

6.2.1 Syntactic complexity measures

The data for this part came from the production tasks of pretest1, pretest2 and posttest of Study 2.

6.2.1.1 Coding and data preparation

The production tasks were typed and saved as word files and then printed out and coded. The initial coding system was developed and revised on a rolling basis by

trialling with the pretest scripts. The final version of the coding system was then used to code all scripts, including all pretest 1 scripts. The whole process of coding and data input were done in the period from April to mid-June 09. There were two major coding stages:

(a) Stage I coding:

The three production tasks of each subject were coded sentence by sentence and recorded using the stage I coding sheet (see sample scripts of the three tests and their respective coding in Appendices 6a, 6b, 7a, 7b, 8a, 8b). In the coding, Hunt's definitions of common grammatical terms (Hunt, 1965, 1970a) such as sentence, clause, subordination and coordination were adhered to. There are two main reasons. Firstly, using the same coding system may allow comparison of data with Hunt's findings. His two studies were among the few which provided coding details. Secondly, Hunt's work has great influence on the field and it is reasonable to believe that his coding system may be followed by many researchers.

To generate the necessary data, four major categories were coded: (i) basic totals, (ii) sentence types, (iii) target advanced forms, (iv) complex nominals. The details are

described in the following. For easy reference, a summary of the definitions of key terms used in stage I coding can be found in Appendix 9 :

(i) Basic totals:

The following figures were counted: number of sentences (s), fragments (F) or run-on sentences (R), unclassifiable sentences (U), total number of words (w), and total number of clauses (c).

A sentence is defined as 'whatever a student wrote between a capital letter and a period or other end punctuation' (Hunt, 1965, p. 7). A clause is defined as 'a structure with a subject and a finite verb' (Hunt, 1965, p. 15). Fragments refer to 'sentences' with some obligatory sentence elements missing (Garner, 2000). For example, the underlined part in 'As I am learning translation now. I think...' is a fragment. A run-on sentence broadly refers to a sentence with two independent clauses incorrectly written with inappropriate punctuation or inappropriate connectors (Garner, 2000). For example, 'In this task, we have to find a long sentence ourselves, after finding the sentence, we have to examine it closely in order to analyse its structure.' is a run on sentence consisting of two sentences joined incorrectly with a comma. Sentences which were really difficult to

make sense or classify (due to errors) were labeled unclassifiable sentence (U). For example, the sentence 'However, frankly speaking, doing the text analysis is rather boring for me that I considered not as useful as the three things I mentioned before.' was difficult to understand and the that-clause made it difficult to classify into sentence types. In this research, it was decided that R (run-on sentences) and F (fragments) and U (unclassifiable sentences) were excluded in our counting of sentences. It is thought that excluding these non-standard sentences would give a more accurate representation of the sentence length as long as reasonably sufficient data could be obtained from each subject. One advantage of this approach is that the T-units could be calculated indirectly by counting the number of main clauses.

Hunt's definition of clause, i.e. 'a structure containing a subject and a finite verb phrase' (Hunt, 1965, p. 49) carries two major implications. The first is the counting of number of clauses and words per clauses in sentences like 'You know that I am smart'.²³ Hunt suggested working out the clause length indirectly by counting number of words and number of clauses (Hunt, 1965). The example, 'You know that I am smart' is counted as having 2 clauses and the average clause length is $6/2=3$. There were many such examples in the production tasks as a lot of verbs of opinions and thinking (e.g.

²³ Traditionally, the sentence is considered a 'superordinate clause' consisting of 'the matrix' 'You know' and an embedded clause 'that I am smart' (Chalker & Weiner, 1998, Greenbaum et al, 1990).

think, know) and `reporting verbs' (e.g. said, suggested) were involved. The many short matrix clauses may have pulled down the average clause length. The second implication is that non-finite structures (infinitives, participles) were not counted as clauses in Hunt's approach.

(ii) Sentence types:

Sentence types include counts on simple (simp), compound (com), complex (cplex) and compound+ complex sentences (comcp). A simple sentence is defined as a sentence having one main finite verb and a compound sentence as having 2 main clauses joined by a coordinator such as `and' or `or' (Hunt, 1965, Garner, 2000). Superordinate clauses consisting of one or more embedded clauses were still counted as simple sentences.

Hunt also made it clear that sentences with compound subjects or compound predicates were also considered one simple sentence (Hunt, 1965). Hence `Peter came into the classroom and he greeted the teacher' was considered a compound sentence, but `Peter and Mary came into the classroom' or `Peter came into the classroom and greeted the teacher' were classified as simple sentences consisting of one main clause.

A complex sentence is defined as having one main clause and one subordinate

clause (Garner, 2000). It was observed that some students liked to produce a series of subordinate clauses. The following is an example of this type of 'serial complex sentence': 'Though I have lecture and tutorial notes, I still need more grammar explanation when I revised this subject.' The term compound-complex sentence in this research refers to a sentence involving both coordination and subordination. The following is an example of a compound-complex sentence from the data: 'If I read a long sentence from a magazine or a newspaper and if I don't know how to analysis [sic], I don't understand the structure of it.'

(iii) Advanced structures:

This refers to the use of the four advanced syntactic structures selected in this research: (i) the participle structure, (ii) coordinated subordination, (iii) appositive structure, and (iv) non-defining relative clause. Firstly, these target structures were selected because they were part of the teaching syllabus for 'advanced structures' in the Structure of English course. Secondly from my experience, even very advanced students seldom use these structures, and hence they are good teaching points for advanced students. In this research, only participles (including both present and past participles) used as noun modifiers were counted. This included participles with or without

subordinators (e.g. After going home, I did my home work; Going home, I saw John), and used as postmodifier of the noun phrase (e.g. the man working here). The use of ing-structure as noun phrases (e.g. Learning grammar is difficult.) or complement of prepositional phrases (e.g. by+ing, besides+ing, for+ing) or premodifier of nouns (e.g. washing machine) were excluded in the counting. This is because in the course, the modifier function of participle as an advanced structure rather than the 'gerund function' was stressed. Coordinated subordination is discussed in the above. Appositive structure includes both appositive nouns (e.g. The topic language and gender) and appositive 'that clauses' (e.g. the saying that he is clear).

(iv) Complex nominals:

This is defined in this research as nouns with postmodifiers. Three aspects were noted: frequency of complex nominals, length of complex nominals, and frequency of (defining) relative clauses. According to Hunt (1965, 1970a) and as discussed in 3.3, complexity of nominals and relative clauses were two of the most significant indicators for growth in syntactic maturity.

(b) Stage II coding:

The coded results for each production script were summed up manually and then entered into the final coding sheet for each subject (see a sample of Stage II coding in Appendix 10). Based on these data, 18 syntactic complexity measures were calculated and used as raw data for the subsequent statistical analyses. As the number of words and sentences of each production task was not the same, the per sentence ratio was used. In this research, the sentence was used as the main production unit for several reasons. Firstly, it is thought that complexity strategies such as coordination and subordination were more aptly reflected at the sentence level. Secondly, the initial trial coding also showed that students did not have serious problems with run on sentence as Hunt observed. The percentage of run on sentence was only about 7% of all sentences. The 18 dependent variables which were used in the final analyses are summarized below (Table 6.18):

Table 6.18 Summary of 18 dependent variables

	Measures	Codes	Meaning
Elaborate measures	Sentence length	1. w/s	words per sentence
	Clause length	2. w/c	words per clause
	T-unit length	3. w/t	words per T-unit ²⁴
Ratio measures of Syntactic Complexity	Ratio of sentence types	4. simp/s	simple sentence per sentence
		5. com/s	compound sentence per sentence
		6. cplex/s	complex sentence per sentence
		7. cocp/s	compound-complex sentence per sentence
	Ratio of Coordination	8. t/s	T-units per sentence
	Ratio of Embedding (or subordination)	9. sub/s	subordinate clause ²⁵ per sentence
		10. c/s	clauses per sentence
		11. c/t	clauses per T-unit
Complex nominal measures	Ratio of complex nominals	12. np/s	complex nominals per sentence
	Length of complex nominals	13. wnp/np	words per complex nominal
	Ratio of (defining) relative clauses in complex nominals	14. rel/s	relative clauses per sentence
Target advanced structures	Use of advanced structures	15. part /s	participle structures per sentence
		16. cosb/s	coordinated subordination per sentence
		17. app/s	appositive structures per sentence
		18. ndrel/s	non-defining relative clauses per sentence

²⁴ T-units are equal to the total number of main clauses. The system used in this research allows T-units to be calculated indirectly. T-units = number of simple sentences (1 main clause) + number of main clauses in compound sentences + number of complex sentences (1 main clause) + number of main clauses in compound complex sentences.

²⁵ Subordinate clauses can be calculated as total number of clauses minus T-unit, i.e. c-t.

6.2.1.2 Descriptive analysis of results

In total, 123 texts, 2044 sentences, 32077 words, 3344 clauses, and 2211 T-units were analyzed. Based on the gross figures of the raw data of the three tests (see Appendix 11), the means and standard deviations of the 18 variables were calculated using SPSS. They are presented in Table 6.19 below. The standard deviations are bracketed.

Table 6.19 Means and standard deviation of the 18 syntactic measures

	Code	Meaning of measures	Mean values (std. deviation)		
			Pretest1	Pretest2	Posttest
1.	w/s	words per sentence	15.74 (2.31)	14.58(2.81)	16.64(2.64)
2.	w/c	words per clause	9.34(1.58)	9.51(1.87)	9.92(1.83)
3.	w/t	words per T-unit	14.79(2.34)	13.37(2.58)	15.26(2.50)
4.	simp/s	simple sentences per sentence	0.66(0.15)	0.76(0.20)	0.71(0.19)
5.	com/s	compound sentences per sentence	0.06(0.07)	0.09(0.12)	0.07(0.13)
6.	cplex/s	complex sentences per sentence	0.24(0.12)	0.14(0.12)	0.20(0.12)
7.	comcp/s	compound complex sentences per sentence	0.03(0.06)	0.01(0.02)	0.03(0.05)
8.	t/s	T-units per sentence	1.07(0.11)	1.10(0.13)	1.10(0.14)
9.	sub/s	subordinate clauses per sentence	0.64(0.28)	0.46(0.23)	0.60(0.25)
10.	c/s	clauses per sentence	1.71(0.296)	1.56(0.28)	1.70(0.28)
11.	c/t	clauses per T-unit	1.60(0.28)	1.42(0.22)	1.56(0.22)
12.	np/s	complex nominals per sentence	0.34(0.20)	0.50(0.25)	0.39(0.21)
13.	wnp/np	words per complex nominal	6.81(1.63)	6.87(1.96)	8.07(8.61)
14.	rel/s	(defining) relative clauses per sentence	0.09(0.09)	0.10(0.11)	0.14(0.13)
15.	part/s	participle structures per sentence	0.05(0.07)	0.06(0.07)	0.13(0.11)
16.	cosb/s	coordinated subordinations per sentence	0.02(0.04)	0.01(0.03)	0.01(0.02)
17.	app/s	appositive structures per sentence	0.00 (0.01)	0.02(0.04)	0.00(0.01)
18.	Ndrel/s	non-defining relative clauses per sentence	0.01(0.02)	0.01(0.03)	0.01(0.02)

6.2.1.3 Profiles of syntactic complexity measurements

The data of pretest 1 are used as the profiles of advanced learners, which are further discussed in the next chapter.

6.2.1.4 ANOVA analysis and results

To test the effect of treatment on the 18 dependent variables, one way ANOVA with repeated measures was used as the means of three related samples were compared simultaneously and measurements of a variable were taken from a single group of individuals at different times (Corston & Colman, 2000, Gravetter & Wallnau, 2004).

The null hypothesis (H_0) is that there was no effect of the treatment; hence the means of pretest 1, pretest 2 and posttest should be the same. The alternative hypothesis (H_1) is that at least one of the means was different. Level of confidence is set at 0.05. Degree of freedom between treatments is 2, and within treatments is 120. The following analyses were based on the SPSS outputs. Because of space constraints, SPSS outputs are not appended but are available upon request.

Firstly, from the outputs, the sphericity of variance assumption was confirmed by observing the significance level of Mauchly's W, which should be non- significant ($p>0.05$). For cases where the sphericity assumption was violated, the F value based on Huynh-Feldt adjustments was used. The Mauchly's W significance results for the 18 variables are presented in Table 6.20. The F values of the ANOVA results with effect size (partial eta squared) are presented in Table 6.21.

Table 6.20 Mauchly's W results of 18 variables

	Code	Measure	Mauchly's W	sig	Status of sphericity
1.	w/s	words per sentence	0.944	0.327>0.05	Assumed
2.	w/c	words per clause	0.913	0.171>0.05	Assumed
3.	w/t	words per T-unit	0.995	0.905>0.05	Assumed
4.	simp/s	simple sentences per sentence	0.755	0.004<0.05***	Not assumed
5.	com/s	compound sentences per sentence	0.732	0.002<0.05***	Not assumed
6.	cplex/s	complex sentences per sentence	1.000	0.996>0.05	Assumed
7.	comcp/s	compound complex sentences per sentence	0.938	0.289>0.05	Assumed
8.	t/s	T-units per sentence	0.914	0.174>0.05	Assumed
9.	sub/s	subordinate clauses per sentence	0.938	0.288>0.05	Assumed
10.	c/s	clauses per sentence	0.906	0.145>0.05	Assumed
11.	c/t	clauses per T-unit	0.864	0.058>0.005	Assumed
12.	np/s	complex nominals per sentence	0.766	0.006<0.05***	Not assumed
13.	npw/np	words per complex nominal	0.192	0.000<0.05***	Not assumed
14.	rel/s	(defining) relative clauses per sentence	0.836	0.030<0.05***	Not assumed
15.	part/s	participle structures per sentence	0.793	0.011<0.05***	Not assumed
16.	cosb/s	coordinated subordinations per sentence	0.910	0.158>0.05	Assumed
17.	app/s	appositive structures per sentence	0.158	0.000<0.05***	Not assumed
18.	Ndrel/s	non-defining relative clauses per sentence	0.813	0.018<0.05***	Not assumed

*** statistically significant $p<0.05$

Table 6.21 ANOVA results of the 18 variables

	Code	Measure	F (2,120)	Sig.	Partial eta squared ²⁶
1.	w/s	words per sentence	9.756	0.000<0.05***	0.196
2.	w/c	words per clause	1.489	0.232>0.05	0.036
3.	w/t	words per T-unit	8.752	0.180>0.05	0.180
4.	simp/s	simple sentences per sentence	3.353#	0.077>0.05	0.077
5.	com/s	compound sentences per sentence	1.095#	0.330>0.05	0.027
6.	cplex/s	complex sentences per sentence	7.571#	0.001<0.05***	0.159
7.	cocp/s	compound complex sentences per sentence	3.886	0.025>0.05***	0.089
8.	t/s	T-units per sentence	0.555	0.576>0.05	0.014
9.	sub/s	subordinate clauses per sentence	6.311	0.003<0.05***	0.136
10.	c/s	clauses per sentence	4.375	0.016<0.05***	0.099
11.	c/t	clauses per T-unit	6.502	0.002<0.140***	0.140
12.	np/s	complex nominals per sentence	6.094#	0.006<0.05***	0.132
13.	wnp/np	words per complex nominal	37.143#	0.371>0.05	0.021
14.	rel/s	(defining) relative clauses per sentence	1.966#	0.152>0.05	0.047
15.	part/s	participle structures per sentence	10.152#	0.000<0.05***	0.202
16.	cosb/s	coordinated subordinations per sentence	0.901	0.410>0.05	0.022
17.	app/s	appositive structures per sentence	6.620#	0.012>0.05	0.142
18.	Ndrel/s	non-defining relative clauses per sentence	0.386#	0.654>0.05	0.015

#the F of Huynn-feldt is used. *** statistically significant $p<0.05$

It can be seen that results were only statistically significant for variables 1, 6, 7, 9, 10, 11, 12, 15. That means for these variables, at least one of the means is different from the others. A post hoc comparison test should be made for these variables to find out which mean is actually different. Unfortunately there is no way to request such tests

²⁶ The Eta squared or partial eta squared value 'represents the proportion of variance of the dependent variable that is explained by the independent variable values' (Pallant, 2005, p. 201). 0.01 is considered small effect; 0.06 moderate effect and 0.14 large effect (Pallant, 2005).

automatically in SPSS following a repeated measures ANOVA. According to the recommendation of Corston and Colman (2000), Green et al (2000) and Howitt and Cramer (2008), a separate paired-samples t-test on each pair of means of the factor was made. The Bonferroni adjustment was also applied to the significance level to protect against a Type I error arising from the use of repeated tests, which is $0.05/3$, or 0.017 for $\alpha=0.05$ level in this case. Results of the paired t-tests are presented in Table 6.22-Table 6.29.

Table 6.22 Paired t-tests of variable 1: words per sentence (w/s)

	Mean difference	Std.Deviation	t (df= 40)	sig	Eta squared ²⁷
Pretest 1 - pretest 2	1.161	3.233	2.298	0.027 >0.017	0.117
Pretest 1 - posttest	-0.875	2.628	-2.108	0.041 >0.017	0.100
Pretest 2 - posttest	-2.026	2.947	-4.401	0.000 <0.017***	0.326

There was no significant difference between pretest 1 and posttest. Pretest 2 stood out as different from posttest with a mean difference of -2.026.

Table 6.23 Paired t-tests of variable 6: complex sentences per sentence (cplex/s)

	Mean difference	Std.Deviation	t (df=40)	sig	Eta squared
Pretest 1 - pretest 2	1.977	2.403	5.264	0.000 <0.017***	0.409
Pretest 1 - posttest	0.561	2.899	1.239	0.223 >0.017	0.037
Pretest 2 - posttest	-1.415	2.941	-3.080	0.004 <0.017***	0.178

²⁷ According to Pallant (2005), Eta squared for paired-sample t-test can be calculated according to the formula: $\text{Eta squared} = t^2 / (t^2 + N - 1)$

There was no significant difference between pretest 1 and posttest. Pretest 2 stood out as different from pretest 1 and posttest with a mean difference of +1.977 and -1.415 respectively.

Table 6.24 Paired t-tests of variable 7: compound complex sentences per sentence (cocp/s)

	Mean difference	Std.Deviation	t (df=40)	sig	Eta squared
Pretest 1 - pretest 2	0.293	0.750	2.499	0.017<0.017***	0.135
Pretest 1 - posttest	-0.024	0.790	-0.198	0.844>0.017	0.001
Pretest 2 - posttest	-0.317	0.0789	-2.574	0.014<0.017***	0.142

There was no significant difference between Pretest 1 and posttest. Pretest 2 stood out to be different from pretest 1 and posttest with a mean difference of 0.293 and -0.317 respectively.

Table 6.25 Paired t-tests of variable 9: subordinate clauses/sentence (sub/s)

	Mean difference	Std.Deviation	t (df=40)	sig	Eta squared
Pretest 1 - pretest 2	0.182	0.379	3.066	0.004<0.017***	0.190
Pretest 1 - posttest	0.039	0.345	0.726	0.472>0.017	0.013
Pretest 2 - posttest	-1.14	0.304	-2.994	0.005<0.017***	0.183

There was no significant difference between pretest 1 and posttest. Pretest 2 stood out as different from pretest 1 and posttest with a mean difference of 0.182 and -1.14 respectively.

Table 6.26 Paired t-tests of variable 10 clause per sentence (c/s)

	Mean difference	Std.Deviation	t (df=40)	sig	Eta squared
Pretest 1 -pretest 2	0.155	0.406	2.452	0.019>0.017	0.131
Pretest 1 - posttest	0.015	0.310	0.304	0.763>0.017	0.002
Pretest 2- posttest	-0.141	0.391	-2.303	0.027>0.017	0.117

There was no significance difference among the three tests.

Table 6.27 Paired t-tests of variable 11 clauses per t-unit (c/t)

	Mean difference	Std.Deviation	t (df=40)	sig	Eta squared
Pretest 1 - pretest 2	0.185	0.386	3.067	0.004<0.017***	0.190
Pretest 1 - posttest	0.050	0.347	0.928	0.359>0.017	0.021
Pretest 2 - posttest	-0.134	0.276	-3.124	0.003<0.017***	0.196

There was no significance difference between pretest 1 and posttest. Pretest 2 stood out as different from pretest 1 and posttest with a mean difference of 0.185 and -0.134 respectively.

Table 6.28 Paired t-tests of variable 12: number of complex nominals per sentence (np/s)

	Mean difference	Std.Deviation	T (df=40)	sig	Eta squared
Pretest 1 - pretest 2	-0.159	0.346	-2.946	0.005<0.017***	0.178
Pretest 1 -posttest	-0.05	0.218	-1.446	0.156>0.017	0.050
Pretest 2 -posttest	0.110	0.317	2.217	0.032>0.017	0.109

There was no significant difference between pretest 1 and posttest. Pretest 2 stood out as different from pretest 1 with a mean difference of -0.159.

Table 6.29 Paired t-tests of variable 15: participle structure per sentence (part/s)

	Mean difference	Std.Deviation	t (df=40)	sig	Eta squared
Pretest 1 - pretest 2	-0.010	0.09	-0.701	0.488>0.017	0.012
Pretest 1 - posttest	0.080	0.142	-3.583	0.001<0.017***	0.243
Pretest 2 -posttest	0.195	0.130	-3.443	0.001<0.017***	0.229

There was no significant difference between Pretest 1 and Pretest 2. Posttest stood out as significantly different from pretest 1 and pretest 2 with a mean difference of 0.080 and 0.195 respectively.

6.2.1.5 Effect of treatment on syntactic complexity measures

Based on the ANOVA analysis, it seems there is no statistically significant effect of treatment in most of the variables, except variable 15, participle structure per sentence.

It is also interesting to note that pretest 2 stood out as different from pretest 1 and posttest in many aspects such as shorter sentences, fewer complex sentences, fewer compound complex sentences, fewer subordinate clauses per sentence and fewer clauses

per T-unit. The rise in use of more complex nominals seems interesting in terms of complexity, which however does not see a corresponding rise in length of complex nominals.

6.2.1.6 Sources of complexity

There are two ways to observe the sources of complexity: (i) correlating sentence length with other complexity measures; and (ii) examining actual samples of the longer sentences.

Correlation results of sentence length (w/s) with other syntactic measures were presented in Table 6.30. Results reveal that sources of complexity may come from (i) longer clauses (w/s), (ii) longer T-units (w/t), (iii) less simple sentences (simp/s), (iv) more compound-complex sentences (cocp/s), (v) more use of subordinate clauses (sub/s), (vi) more clauses per sentence (c/s), (vii) more clauses per t-unit, (viii) more complex nominals and (ix) more use of participle structures. Values of sub/s, c/s, c/t show strongest correlation²⁸.

²⁸ Based on Cohen's suggestion, $r=0.10$ to 0.29 or -0.10 to -0.29 is small; $r=0.3$ to 0.49 or 0.30 to -0.49 is medium; and $r=0.50$ to 1.0 or -0.50 to -1.0 is large (Pallant, 2005, p. 127).

Table 6.30: Correlation of words per sentence to other 17 variables

	Code	Measure	Pearson correlation	sig
2	w/c	words per clause	0.338	0.031<0.05 ***
3	w/t	words per T-unit	0.791	0.000<0.05***
4	simp/s	simple sentences per sentence	-0.0508	0.001<0.05***
5	com/s	compound sentences per sentence	0.171	0.284>0.05
6	cplex/s	complex sentences per sentence	0.250	0.115>0.05
7	cocp/s	compound complex sentences per sentence	0.357	0.022<0.05***
8	t/s	T-units per sentence	0.243	0.126>0.05
9	sub/s	subordinate clauses per sentence	0.534	0.000<0.05***
10	c/s	clauses per sentence	0.589	0.000<0.05***
11	c/t	clauses per T-unit	0.449	0.003<0.05***
12	np/s	complex nominals per sentence	0.378	0.015<0.005***
13	wnp/np	words per complex nominal	0.207	0.195>0.005
14	rel/s	(defining) relative clauses per sentence	0.244	0.125>0.05
15	part/s	participle structures per sentence	0.384	0.013<0.05***
16	cosb/s	coordinated subordinations per sentence	0.078	0.629>0.05
17	app/s	appositive structures per sentence	-0.178	0.265>0.05
18	Ndrel/s	non-defining relative clauses per sentence	0.070	0.664>0.05

***statistically significant $p<0.05$

Secondly a closer examination of the 'longer' sentences may also reveal major sources of complexity. Sentence length of pretest 1 scripts ranged from 3 words to 40 words. Sentences of 30 words or above were examined (cf. Granger, 1998). There were only 24 of these sentences in 19 scripts. It was observed that weaker students would result in run on sentences or errors when producing sentences of more than 30 words. The ten longest sentences are given below to illustrate the sources of syntactic

complexity.

[Sample 1]

Therefore, using the new grammar forms in the assignment can check how well I understand the new grammar forms I have to pay special attention to and I would have a deeper memory if I made a mistake of it. [40 words, student 17, pretest 1]

[Sample 2]

Also, as English is an inflection language, checking dictionary can help students to know more about different forms of words or different part of speech of words, and such understanding is fundamental for them to further study grammar. [38 words, student 27, pretest 1]

[Sample 3]

If teachers correct my work and explain why it should be changed like that, or discuss the grammatical mistakes I've made, I do think I will have a clear concept and I will not make those mistakes again. [38 words, student 49, pretest 1]

[Sample 4]

It is because a formal grammar lesson is the best environment to learn a complex structure as the lessons can emphasize on grammar usage, not diversified [sic] by the other parts of English learning like reading, listening and speaking. [38 words, student 46, pretest 1]

[Sample 5]

It is not a problem if we use the grammar structure wrongly for the first few times, but if we could remember the mistakes, we may reduce the chance to make it wrong in the future. [36 words, student 50, pretest 1]

[Sample 6]

When I was in primary school and in the junior form of secondary school, teachers would spend lessons on talking about grammar, such as sentence structure, tenses, sentence patterns, and how verbs should be used. [35 words, student 17, pretest 1]

[Sample 7]

The students are, in fact, learning grammar by summarizing what they speak, listen and read themselves to become grammar rules which is, of course, not as effective as teaching explicit grammar rule directly. [33 words, student 38, pretest 1]

[Sample 8]

From my own experience, I find that reading grammar textbooks, doing grammar exercise, memorizing grammar rule, checking dictionaries and the feedback from teachers are the most important or useful in learning new grammar. [33 words student 27, pretest 1]

[Sample 9]

Honestly, I think those suggestions (a-l) are very useful, but for me, I would like to choose reading quality English books or

magazines, doing grammar exercise and taking a formal grammar course. [32 words, student 40, pretest 1]

[Sample 10]

Taking courses is useful as it comprises every week time to go to lessons, which constant time can be used on learning grammar, and that is what an ideal learning should be. [32 words, student 46, pretest]

From the sample sentences and the general impression obtained during the coding process, it was observed that the following features were major sources of complexity:

- (1) Extensive listing of examples (e.g. sample, 6, 8, 9)
- (2) Using coordination in all levels, specifically coordinated subjects (e.g. sample 8),
coordinated predicates (e.g. sample 3), coordinated clauses (e.g. sample 10) and
compound sentences (e.g. sample 1, 2)
- (3) Using postmodifications in complex nominals (e.g. sample 3, 4) including defining
relative clauses (e.g. sample 7).
- (4) Using combination of subordination and coordination (e.g. sample 5)
- (5) Using longer and more complicated structures in the subject, object or complement
positions such as finite or non finite structures instead of short simple noun phrases
(e.g. sample 7, 10).
- (6) Using serial complex sentences (not in the samples)

6.2.2 Metalinguistic knowledge scores

6.2.2.1 Coding and data preparation

The data for this section are drawn from the terminology recognition tasks and error correction tasks of pretest 1, pretest 2 and posttest of the quasi-experiment. As described in 5.3.2, the indicator for metalinguistic knowledge was called metalinguistic knowledge score (S_MK), which was made up of three scores: S_Term, the terminology recognition score (0-15), S_Corr, the Correction score (0-20), and S_Rule, rule explanation score (0-20). S_MK ranged from 0-55. All grading were carried out by this researcher to maintain consistency.

6.2.2.2 Descriptive analysis of results

The means and standard deviations (bracketed) for the four variables are tabulated in Table 6.31:

Table 6.31 Means and standard deviation of the metalinguistic knowledge measures

	score	Meaning	Pretest1	Pretest2	Posttest
1	S_Know	Number of terms which subjects think they know	6.05 (2.44)	6.24 (2.06)	11.78 (2.12)
2	S_Term	Number of terms of which subjects correctly illustrated their understanding	3.80 (1.79)	3.15 (1.74)	8.51 (3.22)
3	S_Corr	Score for correcting the error	9.07 (3.71)	9.73 (3.07)	13.63 (2.67)
4	S_Rule	Score for explaining the error	4.05 (3.45)	5.02 (3.13)	5.68 (3.48)
5	S_MK	Score of metalinguistic knowledge	16.93 (7.30)	17.90 (6.15)	27.83 (6.67)

There seems an effect of explicit FFI on (1) subjects' self evaluation of their knowledge of grammar terms, (2) correct illustration of their understanding of grammar terms, and (3) the ability to correct sentence errors. However, the effect is not shown in the ability to explain errors.

6.2.2.3 ANOVA analysis and results

One way repeated-measures ANOVA analysis following the procedures as described in 6.2.1.4 was followed. The null hypothesis (H_0) is that there was no effect of the treatment; hence all means should be the same. The alternative hypothesis (H_1) is that at least one of the means was different. The level of confidence α was set to be 0.05, and degree of freedom is (2, 120). The Mauchly's W and significance level were

observed to confirm the assumption of sphericity. Results are shown in Table 6.32:

Table 6.32 ANOVA output for metalinguistic knowledge measures

	score	Meaning	Mauchly's W	Sig	
1	S_Know	Number of terms which subjects think they know	0.98	0.71>0.05	Assumed
2	S_Term	Number of terms of which subjects correctly illustrated their understanding	0.77	0.01<0.05***	Not Assumed
3	S_Corr	Score for correcting the error	0.92	0.20>0.05	Assumed
4	S_Rule	Score for explaining the error	0.90	0.14>0.05	Assumed
5	S_MK	Score of metalinguistic knowledge	0.96	0.48>0.05	Assumed

*** statistically significant $p < 0.05$

The F values for assumed sphericity were used for 1,3,4,5 and the F value based on Huynh-Feldt adjustment was used for 2. The F value, significance level and effect size of the variables are presented in Table 6.33:

Table 6.33 ANOVA results for the metalinguistic knowledge measures

	score	Meaning	F (2,80)	Sig	Partial eta squared
1	S_Know	Number of terms which subjects think they know	134.523	0.00<0.05***	0.771
2	S_Term	Number of terms of which subjects correctly illustrated their understanding	94.345#	0.00<0.05***	0.702
3	S_Corr	Score for correcting the error	30.971	0.00<0.05***	0.436
4	S_Rule	Score for explaining the error	4.800	0.01<0.05***	0.107
5	S_MK	Score of metalinguistic knowledge	68.716	0.00<0.05***	0.632

Huynh-Feldt F value used *** statistically significant

The ANOVA results indicate that the null hypotheses for all variables were rejected,

which means at least one of the three means was significantly different from the others.

Paired t-tests were run for these 5 variables with Bonferroni adjustment

($p=0.05/3=0.017$). Results are presented in Table 6.34-Table 6.38.

Table 6.34: Paired t-tests of variable 1: number of terms which subjects think they know (S_Know)

	mean difference	Std.Deviation	t (df=40)	sig	Eta squared
Pretest 1 - pretest 2	-0.20	2.411	-0.518	0.607>0.017	0.007
Pretest 1 - posttest	-5.73	2.693	-13.629	0.00<0.017***	0.823
Pretest 2 - posttest	-5.54	2.511	-14.119	0.00<0.017***	0.833

There was no significant difference between pretest 1 and pretest 2. Treatment resulted in a significant increase of mean difference of 5.54 (88.78% increase).

Table 6.35 Paired t-tests of variable 2: number of terms of which subjects correctly illustrated their understanding (S_Term)

	mean difference	Std.Deviation	t (df=40)	sig	Eta squared
Pretest 1 - pretest 2	0.66	1.983	2.127	0.040>0.017	0.102
Pretest 1 - posttest	-4.71	2.960	-10.183	0.000<0.017***	0.722
Pretest 2 - posttest	-5.37	3.104	-11.067	0.000<0.017***	0.754

There was no significant difference between pretest 1 and pretest 2. Treatment resulted in an increase of 5.37 mean difference in recognizing grammar terms. A substantial increase of 170.48%

Table 6.36 Paired t-tests of variable 3: score of correcting the error (S_Corr)

	mean difference	Std.Deviation	T (df=40)	sig	Eta squared
Pretest 1 - pretest 2	-0.66	4.464	-0.945	0.351>0.017	0.022
Pretest 1 -posttest	-4.56	4.025	-7.255	0.00<0.017***	0.568
Pretest 2 - posttest	-3.90	3.484	-7.172	0.00<0.017***	0.563

There was no significant difference between pretest 1 and pretest 2. Treatment resulted in a significant improvement of 3.90 in correcting errors, 40.08% increase over pretest 2.

Table 6.37 Paired t-tests of variable 4: score for explaining the error (S_Rule)

	mean difference	Std.Deviation	t (df=40)	Sig	Eta squared
Pretest 1 - pretest 2	-0.98	3.86	-1.61	0.11>0.017	0.061
Pretest 1 -posttest	-1.65	2.97	-3.52	0.00<0.017***	0.237
Pretest 2-posttest	-0.65	3.30	-1.28	0.21>0.017	0.039

There was no significant difference between pretest 1 and pretest 2, and between pretest 2 and posttest. The accumulated difference made it statistically significant for pretest 1 and posttest. It could be taken that there was no significant difference between the three tests.

Table 6.38 Paired t-tests of variable 5: score of metalinguistic knowledge (S_MK)

	mean difference	SD	t (df=40)	Sig	Eta squared
Pretest 1 - pretest 2	-0.98	7.04	-0.89	0.38>0.017	0.019
Pretest 1 - posttest	-10.90	6.74	-10.36	0.00<0.017***	0.728
Pretest 2 -posttest	-9.93	5.95	-10.69	0.00<0.017***	0.741

There was no significant difference between pretest 1 and pretest 2. Treatment resulted in a significant improvement in the overall metalinguistic knowledge score of 9.93 (55.47% over pretest 2), which it was noted was mainly due to significant increase in recognition of terms, and correcting errors, but not from explaining errors.

6.2.2.4 Effect of treatment on metalinguistic knowledge

Statistical results confirm the observation that explicit FFI had an evident and substantial effect on enhancing subjects' performance in (1) self evaluation of their knowledge of grammar terms, (2) correctly recognizing grammar terms, and (3) correcting sentence errors. The effect, however, is not shown in the ability to explain errors by relating the errors to explicit rules. Taken together, explicit FFI did show a definite effect in raising nearly 55.5% of the overall metalinguistic knowledge of subjects from 17.9 in Pretest 2 to 27.83 in the Posttest.

6.2.2.5 Correlations of metalinguistic knowledge and syntactic complexity

measures

At this stage, it may be interesting to examine the statistical relation of metalinguistic knowledge and the various syntactic complexity measures. The data of Pretest 1 and Posttest were used respectively. Correlation results are presented in Table 6.39.

Table 6.39: Correlation of metalinguistic knowledge score with the 18 syntactic measures

	Code	Measure	Pretest 1		Posttest	
			Pearson correlation	Sig.	Pearson correlation	Sig.
1	w/s	words per sentence	-0.139	0.385>0.05	0.301	0.0565>0.05
2	w/c	words per clause	0.163	0.308>0.05	0.106	0.5115>0.05
3	w/t	words per T-unit	-0.143	0.373>0.05	0.323	0.040<0.05***
4	simp/s	simple sentences per sentence	0.287	0.069>0.05	0.051	0.7505>0.05
5	com/s	compound sentences per sentence	-0.171	0.285>0.05	-0.216	0.1765>0.05
6	cplex/s	complex sentences per sentence	-0.195	0.223>0.05	0.152	0.3435>0.05
7	cocp/s	compound complex sentences per sentence	-0.066	0.680>0.05	0.085	0.5965>0.05
8	t/s	T-units per sentence	0.024	0.881>0.05	-0.112	0.4855>0.05
9	sub/s	subordinate clauses per sentence	-0.304	0.053>0.05	0.298	0.0595>0.05
10	c/s	clauses per sentence	-0.276	0.080>0.05	0.213	0.1815>0.05
11	c/t	clauses per T-unit	-0.301	0.056>0.05	0.278	0.0785>0.05
12	np/s	complex nominals per sentence	-0.223	0.161>0.05	-0.120	0.4545>0.05
13	wnp/np	words per complex nominal	0.040	0.805>0.05	0.031	0.8475>0.05
14	rel/s	(defining) relative clauses per sentence	-0.129	0.422>0.05	-0.220	0.1675>0.05
15	part/s	participle structures per sentence	-0.033	0.838 >0.05	0.089	0.5795>0.05
16	cosb/s	coordinated subordinations per sentence	0.080	0.621>0.05	-0.089	0.5825>0.05
17	app/s	appositive structures per sentence	0.002	0.992>0.05	-0.44	0.7855>0.05
18	Ndrel/s	non-defining relative clauses per sentence	0.332	0.034>0.05***	0.070	0.6635>0.05

The results indicate that there was no significant relation between metalinguistic knowledge score and most of the syntactic measures for both Pretest 1 and Posttest. The two significant results seem random and no systematic relation can be construed.

6. 3 Findings of Study 3: Perceptions of the FFI experience

The analysis is based on the data of the questionnaire survey done as Task 3 of Posttest. The questionnaire consisted of 5 questions.

6.3.1 Perception of the role of FFI

Students were asked to comment on 19 statements (Q1) regarding the usefulness of the grammar course. A Likert scale of 1-7 (1 strongly disagree and 7 strongly agree) was used. The average mean and standard deviation are calculated and presented in Table 6.40 in descending order:

Table 6.40 Usefulness of a grammar course

item		mean	Std. deviation
1.	I have become more aware of grammatical forms and structures.	5.85	0.963
17	I notice grammatical forms that I have not noticed before.	5.71	0.955
16	What I learn is useful for my courses.	5.61	0.945
8	I re-learn many grammar rules.	5.61	1.070
9	I learn a lot of new grammar rules.	5.41	1.072
14	The course gives me a good foundation for grammar learning in the future	5.37	1.043
4	I understand grammar discussions better.	5.27	1.001
15	I can translate better.	5.17	1.046
5	I can analyze grammar structures better.	5.17	0.972
10	I learn a lot of advanced structures.	5.12	1.345
12	I know more resources about grammar	5.12	1.166
3	I feel more competent to use technical terms to discuss/explain grammar.	5.10	0.970
18	I become more interested in grammar.	5.07	1.010
13	I become a more effective learner of grammar	5.03	0.947
2	I feel more competent to solve grammar problems on my own.	4.98	0.961
11	I know how to plan for my grammar learning	4.73	1.001
6	I make fewer errors in writing English.	4.49	1.003
19	I have improved a lot in my writing	4.39	0.862
7	I make fewer errors in speaking English.	4.02	0.908

Generally speaking, it is noted that students were quite positive of the role of explicit FFI in all 18 items, the lowest mean being 4.02. If the five top ones are examined, it shows that subjects were more impressed with the role of explicit FFI on (i) raising their grammar awareness (top 1, item1), (ii) enhancing noticing of forms (top 2,

item 17), and (iii) providing post-proceduralised declarative knowledge as suggested by Johnson (cf. 2.3.2) (top 4, item 8), and (iv) providing explicit new grammar knowledge for acquisition (top 5, item 9) for immediate application (top 8, item 15) as well as for future learning (top 6, item 14). From the bottom five, it seems students were less impressed with the role of explicit FFI on (i) solving their own grammar problems (item 2), (ii) promoting autonomy in learning (item 11) and (iii) improving their overall English proficiency, for example, in reducing errors (item 6, item 7) or improving their writing (item 19),

Q2 asked whether the course had changed their attitude towards grammar. 78% (n=32) reported that the course had changed their attitude towards grammar, and 19.5% (n=8) reported no change. It is not certain whether those who had 'not changed' were already positive or not. Remarks given by students were very divergent and the top few ones are reported below. The percentage indicates the number of students giving that answer over the total 41 students. Changes in attitude include:

- (i) Grammar is more important than I expected (14.63%)
- (ii) Learning grammar is interesting (14.63%)
- (iii) Learning grammar is not as boring as I thought (9.76%)
- (iv) I am more aware of my grammatical problems and mistakes (9.76%)
- (v) Grammar is more complicated (9.76%)
- (vi) I now know there is no rule in grammar (7.31%)
- (vii) I have to re-learn many incorrect grammar rules (7.31%)
- (viii) It enhanced motivation to learn more (7.31%)

- (ix) Learning grammar can improve writing skills (7.31%)
- (x) I learn the meaning of modal verbs (7.31%).

In short, students had changed their perception of the importance and usefulness of a grammar course as well as their understanding of the scope and nature of grammar learning. 7.31% also thought that a grammar course could improve their writing skill.

6.3.2. Important factors in FFI

Students were asked to select 5 factors from a list of 24 items which they thought were most important for grammar learning (Q3). Results are presented in Table 6.41 in descending order of percentage of students opting for that item.

Table 6.41 Important factors in grammar learning

item	counting	percentage (N=41)
7	reference resources	39.02%
14	hard work	39.02%
17	error correction exercises	39.02%
3	teaching methods	36.59%
15	grammar exercises	36.59%
2	textbook	34.15%
4	Teachers' notes	34.15%
13	interest in grammar	34.15%
11	motivation	26.83%
18	discussion in class and tutorials	24.39%
19	discussing authentic examples	24.39%
21	developing a reading habit	21.95%
6	teachers enthusiasm	19.51%
20	dictionaries	17.07%
24	assignments	14.63%
12	learning skills/strategies	12.20%
23	attending lectures	9.76%
5	teachers feedback	7.32%
8	opportunity to write	7.32%
16	good classmates	7.32%
10	native speaking teachers	4.88%
1	using Chinese	2.44%
9	opportunity to speak English	2.44%
22	audio visual materials	0.00%

It seems grammar as a 'subject' remained deep-seated in students' perception.

'Error correction exercises' (item 17) and 'grammar exercises' (item 15) were still

highly regarded as important sources of grammar materials as in Study 1 (cf. 6.1.5b).

The emphasis on hard work (item 14) and teaching methods (item 3) may be a reflection

of the notorious 'boring nature' of grammar learning and student's self-discipline problem expressed in Study 1 (cf.6.1.5 d). From the items of lower frequencies, it can be seen the preference for a 'transmission model' of grammar learning was still prevalent. Students do not seem to regard highly the 'social' (item 16) or 'communicative' (item 9) aspects, not even the feedback from teachers (item 5) or opportunity of output (item 8, 9). The less important role of native speaking teacher in FFI merits a special note.

6.3.3 Perceptions of the usefulness of various activities/tasks

Q4 asked students to evaluate the usefulness of the various activities/tasks in the acquisition of advanced forms, 1 being least useful and 7 being most useful. The mean and standard deviation are presented in descending order in Table 6.42. Students found most activities/tasks useful and the lowest score was 4.85. It seems more effective ways of data elicitation needed to give more discriminative results. For example, students may be asked to rank the items or select three of the most useful ones.

Table 6.42 Usefulness of the various activities/tasks in treatment

Questions		mean	Std. d
4	doing error correction exercises	5.83	0.919
6	learning how to analyze long sentences	5.61	1.046
1	reading grammar books	5.59	1.161
11	learning sentence strategies (e.g. coordination, subordination, using parallel structures)	5.49	1.003
8	sentence combining exercises using advanced structures	5.46	1.002
10	learning phrase structures (e.g. noun phrase, adjectives)	5.46	1.002
9	learning how to write longer sentences	5.44	1.001
5	learning explicit (i.e. clearly stated) rules	5.39	1.115
7	sentence imitation	5.20	1.308
3	tutorial discussions	5.12	1.029
12	comparing Chinese and English structures	4.95	1.071
1	doing text analysis	4.85	1.333

The results are consistent with findings presented in the previous paragraphs of this section that 'the transmission model' and 'grammar as a subject' were core perceptions of FFI. Students found error correction (item 4) and sentence combining exercise using advanced structures (item 8) the two most important tasks. The 'contents' of materials (item 1) were perceived as much more important than authentic text analysis (item 1) in the acquisition of advanced syntactic structure. Students were less appreciative of output (e.g. item 7) and the interactive side (e.g. item 3) and the use of authentic texts (item 1).

6.3.4 Naming advanced structures and specific grammar rules

Students were asked to name three structures (Q5) they had learned and most students (77%) could give all three. Compared with the results of the same question asked in study in Pretest 1 (cf. 6.1.5 c), significant improvement in their metalinguistic knowledge was seen. A wide range of answers was given. The top five structures were: adjective/relative clauses (31.71%), participle clauses (34.15%), SVOCA analysis (21.95%), absolute structure (36.45%), and appositive (17.07%). It is noted that students demonstrated 'noticing' and 'uptake' of the target advanced structures, though not all of them had been used in their writing. For specific rules (Q6), most answers were only concepts or topic areas rather than specific rules. It shows that students were weaker in presenting specific rules, and this was in accord with their weaker performance in explaining errors as discussed in 6.2.2 above. Wide-ranging and divergent answers were given. Top ones were: tense (26.82%), SVOCA analysis (24.39%), modal verbs (21.95%), and subjunctive (12.20%). The following are examples among the very few rules mentioned: 'past perfect should be used for comparing past actions', (7.31%), 'all relative clauses are finite' (7.31%); 'never join two sentences with however, therefore (2.34%)'; 'relative pronoun can be omitted when it is the subject' (2.4%).

Chapter 7 Discussion and implications

7.0 Introduction

This section addresses the five research questions outlined in section 5.2 with the aim to draw conclusions based on the data analyses and findings presented and discussed in Chapter 6. In light of the conclusions drawn, the implications for syntactic complexity development, FFI research and relevant pedagogical issues are also explored.

7.1 Research questions 1 and 2: The syntactic complexity profile and syntactic complexity strategies of advanced learners

The first and second research questions seek to establish a general profile of syntactic complexity and syntactic complexity strategies for this group of advanced ESL learners. It has been argued that this group of learners would be taken as typical advanced English learners, or non-professional English users at the exit point of formal

English learning in Hong Kong. Therefore it would be of academic as well as pedagogical interest to examine what this group of advanced learners has achieved in terms of syntactic complexity and what are some possibilities for further development.

The 18 syntactic complexity measures of Pretest1 as presented in 6.2.1.2 provide the data for this analysis. I am cautious about comparing results of different research studies as different definitions and data types may be involved in the calculation of these syntactic measures in different studies. Hunt's figures (1965, 1970) may make the most useful reference because his definitions were mostly adhered to in this study. It seems that words per sentence should be the least controversial measure. For convenience, the most relevant data from literature reviewed in 3.3 and 4.3, mainly figures of G12 or G13 and average adults from Hunt (1965, 1970) and Nippold et al (2005) and those from some Hong Kong studies, are tabulated in Table 7.1. It should also be noted that Hunt's 1965 study used 1000 words natural written data from children but his 1970 study asked subjects to rewrite a passage by joining up short sentences. The effect on shorter measures across the board in the 1970 study is evident.

The findings of (a) elaborate measures, (b) sentence types, (c) syntactic complexity strategies, (d) complex nominals and (e) target advanced forms are discussed

respectively.

Table 7.1 Comparison of selected syntactic measures

study	Hunt 1965	Hunt 1970	Nippold et al (2005)	Hunt 1970	Nippold et al (2005)	Littlewood and Nga (1996)	Yau 1991	Tsang (1996a)	This study
context	L1	L1	L1	L1	L1	L2(HK)	L2 (HK)	L2 (HK)	L2(HK)
level	G12	G12	Age 17	Average adults	Age 25	G13	G13	F.1-3 (G7-9) averaged	College yr.1
w/s	16.9	12.17	--	12.17	--	--	--	11.54	15.74
w/c	8.6	7.85	--	8.40	--	11.1	10.48	7.11	9.34
w/t	14.4	11.3	10.59	11.85	11.04	--	15.54	8.54	14.79
c/s	---	---	--	--	--	--	--	--	1.71
t/s	1.17	1.082	--	1.06	--	--	--	1.30	1.07
c/t	1.68	1.441	1.56	1.47	1.54	--	--	1.22	1.60
sub/s	--	--	--	--	--	--	--	--	0.64

(a) Elaborate measures

The average performances of this group of students are 15.74 words per sentence (w/s), 9.34 words per clause (w/c), and 14.79 words per T-unit (w/t).

At the sentence level, 15.74 w/c is shorter than Hunt's 1965 result of 16.9. 15.74 w/s is roughly equal to the performance of skilled L1 adults in Hunt, 1970 but to G8 students only according to Hunt's 1965 results. For reference, other L1 corpuses also give longer w/s. For example, according to Brown's L1 corpus (Kennedy, 1998), the average w/s is 21.06 for informative texts and 13.38 for imaginative prose, giving an

average of 18.4 for all texts. However, compared to the results of Hong Kong studies, 15.74 w/s seems comparable. For example, Milton (2001) (cf. 4.3.2) notes that the average sentence length for E Grade scripts is 15, and 18 for A grade scripts in HKAL exams. The corresponding sentence length for UK scripts as reported by Milton is 25 w/s. At the clause level, 9.34 w/c seems longer than most L1 figures, but shorter than Hong Kong results. 14.79 w/t is comparable to Hunt's 14.4 (1965) but seems longer than the 10.95 for age 17 in Nippold et al (2005), and shorter than Yau's figure (15.54). It is difficult to draw categorical conclusions, but generally speaking it seems as far as w/s is concerned, this group of advanced learners still fall short compared to their counterpart L1 native speakers. However, they are comparable to L1 performance in w/c, or w/t. Their shorter sentence length does not seem to be caused by shorter clause or shorter T-units.

(b) Sentence types

Students wrote mostly in simple sentences (66%) and complex sentences (24%), which comprised 90% of the sentences they used. However, simple sentences should be interpreted in the sense that they may consist of (i) various types of embedded clauses and subordinate clauses, (ii) coordinated predicates, (iii) coordinated subjects,

(iv) non-finite structures used as modifiers and nominal phrases, and (v) complex nominals. They are not the typical short simple sentences commonly found in narrative texts. Regarding the 24% complex sentences, a variety of subordinators were involved and they were usually put at the beginning of sentence. The common serial complex sentence type is discussed in 6.2.1.1. Littlewood and Nga (1996) recorded that the percentage of error free complex sentences for Form 7 students with Grade D Use of English was 26%, very near to our finding.

There were only 6% of compound sentences. It shows that compound sentences were not commonly employed, unlike what Hunt encountered with his L1 children subjects. Instead most students used coordinated subjects or coordinated predicates, which were defined as simple sentences in this study. The coordinator 'so' was quite commonly used along with 'and' and 'but'. Complex-compound sentences comprising only 3% were the least used sentence type. It indicates that the combination of coordination and subordination was not usually employed as a complexity strategy in this group of learners.

(c) Coordination and subordination

Coordination and subordination are two major strategies of complexity. T-units per sentence (t/s), which is usually taken as a marker for coordination, is 1.07 in our study. (For comparison, a compound sentence has at least 2 t/s). This supports the finding that compound sentences were not commonly used, even though coordination was very often used at the sub-clausal level. It is observed that most students tended to use A and B structure instead of the A, B and C pattern. Largely, the role of coordination, which may be an important source of syntactic complexity, has been neglected and under-researched due to Hunt's influence and his promotion of the T-unit. For comparison, t/s is comparable to L1 data shown in Table 7.1. Tsang's F1-F3 data may support the claim that lower formers tend to use significantly more coordination in L2, similar to the L1 trend.

Subordination seems a more usual strategy in complexity and is thus a major source of complexity. Subordinate clauses may be used as embedded clauses (used in S, O, C positions) in simple sentences, relative clauses in complex nominals and dependent clauses in complex sentences. The subordinate clauses/sentence (sub/s) ratio is 0.64 in our study, which means roughly one subordinate clause was used in every 1.5

sentences. This confirms the suggestion that subordination is indeed a very common strategy compared with t/s which is only 1.07. In the literature, two other indicators, clauses/sentence (c/s), and clauses/T-unit (c/t) are more commonly used. They are 1.71, and 1.60 in our research. However, while c/s includes all main clauses which may be more than 1 in compound sentences, c/t cannot reflect clauses used in compound sentences. Therefore, sub/s should be a better and more useful representation of subordination and embedding when the sentence is taken as a production unit. Compared with other studies, c/t of 1.60 seems comparable to other L1 results and significantly higher than Tsang's junior form results.

(d) Complex nominals

Nominals have been taken as one of the most valid indications of complexity development in Hunt's studies. In our research, the average number of complex nominal/ sentence is 0.34 and 0.33 per T-unit (calculated separately from raw data). Length of complex nominals is 6.81 words per complex nominal (wnp/np), or 2.315 (i.e. 6.81×0.34) words per sentence. The number of words of these complex nominals is about 14.7% of the whole sentence length ($2.315/15.4$). This indicates that nominals are

a major source of complexity. The figure reported in Hunt (1965) was 18.6% per T-unit for G12 and 17.85% for age 17 according to Nippold et al (2005). Compared with our 0.33 or 33%, our students used a significantly more nominals in their production task. This may explain the reason for longer clauses in our finding.

Postmodification is the commonest strategy of lengthening noun phrases. The most common postmodification observed in the data was short prepositional phrases using 'of' or 'in'. In our study, the frequency of use of relative clause is 0.09 per sentence or 9% per sentence and 0.09 (or 9%) per T-unit (calculated separately from raw data). The percentage of relative clause per T-unit as reported by Hunt (1965) was 16% for G12, and 11.27% by Nippold et al (2005) for age 17. It seems relative clause use is another potential for complexity development for these advanced learners. This lower frequency in relative clause use may account for the fact that although the students used a significantly high frequency of nominals, the average length of nominals was only 2.315 per sentence, and may not contribute much to the overall complexity in terms of w/s.

(e) Target advanced forms

Directly comparable data do not seem available for these four advanced structures. Participle structure is about 0.05 per sentence or 5% in our study. The other target forms such as coordinated subordinate clauses ($\text{cosb/s}=0.02$), appositives ($\text{app/s}=0.00$) and non-defining relative clauses ($\text{ndrel/s}=0.01$) occurred infrequently in students production. This justifies the suggestion that they were new syntactic forms students may need to 'learn' to notice them, especially for the latter three forms. It should be noted that the ing-structure was quite frequently used by students as subjects and after preposition (usually more familiarly known to students as 'gerund') as Milton (2001) noted in his data (cf. 4.3.2),

To conclude and to answer research question 1 based on our findings and analyses, the profile of this group of advanced learners was in accord with previous syntactic complexity research in Hong Kong and further provides useful data for this strand of research. Compared with L1 data, this group of advanced learners seems to fall short in complexity in terms of words per sentence. However, at the clause level, T-unit level, subordination and coordination, they are comparable to L1 performance of their level. Hence the observed shorter sentence length of this group of advanced learners does not

seem to be a result of shorter clause length (indeed it is longer), or T-unit length, or use of subordination or coordination. It is rather the combination of all these strategies especially coordination and subordination at the sentence level which marks the difference.

As regards research question 2, it has been pointed out in 6.2.1.6 that major sources of complexity of these learners came from longer clauses or longer T-units, use of more subordinate clauses and more clauses per sentence or per T-units , and longer complex nominals. And according to examination of samples sentences, complexity was mainly achieved through: (i) listing of examples, (ii) coordination at all levels, (iii) postmodifications using relative clauses, (iv) combined uses of subordination and coordination, (v) using more complex nominals in the subject, object, complement positions, and (vi) serial complex sentences. Based on these findings, at this advanced stage, students seemed to have acquired and mastered various complexity strategies, not too different from G12 native speakers. The direction for further development should aim at the combined uses of subordination and coordination at the sentence level. From our analysis above, it seems nominals and relative clauses would also play a more significant contribution to complexity.

From these conclusions, there are several implications for FFI and syntactic complexity studies that are worth discussing.

Firstly, this profile has indicated that these advanced learners approached native speaker performance in complexity in many ways, especially at the clause and T-unit level. For further development in complexity, the following aspects may be worth promoting further: (i) the use of advanced target forms such as non-defining relative clauses, apposition and coordinated subordination, (ii) more use of adverbials in clauses; (iii) more extensive use of coordination in all levels especially in A, B and C structure and in coordinating subordinate clauses, (iv) the combined use of both subordination and coordination, e.g. joining up sentences into one long sentence, and (vi) more extensive use of relative clauses. However, from our sample analysis (cf. 6.2.1.6), it is observed that the more skilled writers of these advanced learners already demonstrated good mastery of many of these complexity features and strategies. Advanced courses may need to help the less skilled learners to notice and experiment with 'the various combinations and permutations' of these strategies (Hunt, 1970, p. 57). Furthermore, as noted in our literature review, skilled L1 writers may actually produce fewer T-units per sentence, fewer clauses per T-unit or per sentence by reducing clauses into non-clausal units resulting in longer but fewer clauses. An advanced FFI course may draw learners'

attention to skills and opportunities of these reductions.

Secondly, as L1 research shows, G12 graduates may more or less approach the limit of complexity development, and may remain quite stable unless they further develop into skilled users (Hunt, 1970). However, a comparable profile of complexity development for L2 learners does not seem available, especially at the more advanced level. Would this be the end stage in the interlanguage development of ESL learners as well or is there still room for them to further develop into professional users? What would motivate them in their development and what learning activities would work best for them? As discussed in 2.2.1, would the role of explicit FFI be instrumental and even mandatory for this development of advanced proficiency as Hinkel and Fotos suggest (2002)? These are issues worth further investigation, which would provide useful information and reference for designing courses and teaching materials for advanced learners.

Lastly, in this research, the problem of run on sentences was not prevalent. Excluding them already solved the problem of over-representation of sentence length. The infrequent use of compound sentence rendered the per T-unit and per sentence values very near to each other. On the whole, the adoption of the sentence as the

production unit seems to be as effective as the T-unit and it seems the sentence can reflect more aptly features of syntactic complexity at this level. As has been pointed out, the combined use of subordination and coordination at the sentence level may be a major source of syntactic complexity at this advanced stage. The T-unit is more limited in charting these features of complexity or in reflecting the systematic linking of ideas employed by users for grammatical or stylistic maneuvering.

7.2. Research Questions 3 and 4: The effect of explicit FFI

Research questions 3 and 4 investigate the effect of explicit FFI on syntactic complexity development in terms of the syntactic complexity measures and metalinguistic knowledge by using a quantitative and statistical approach. Since the same research design and statistical techniques were used, the two questions are discussed together.

Based on the quantitative data obtained and our discussion in 6.2, it can be concluded that statistically this study did not provide empirical support for the effect of explicit FFI on most of the syntactic complexity measures including elaborate measures,

syntactic complexity strategy measures, sentence types and the acquisition of target advanced structures. Of the 18 variables, the only significant treatment effect is observed in the use of participle structure per sentence. However, the effect of explicit FFI on metalinguistic knowledge is very evident and substantial. Effects are evident in enhancing the knowledge of terms and error corrections but there is no statistical significant effect on explaining errors by relating them to explicit rules. Furthermore, there is no significant correlation of overall gains in metalinguistic knowledge with the various syntactic measures. The conclusion and findings seem to shed light on a number of interesting issues relating to FFI and syntactic complexity development studies.

It is a good illustration that measuring tools play an important role in these effect studies as conclusion about effects may depend on ways of measurement, for example, whether communicative data or modeled data are used (Ellis, 1984, cf. 2.2.1). In this study, had either metalinguistic knowledge tests or production tests been used, the conclusions might have been very different.

This study seems to lend support to Krashen's claim that acquisition and learning are two separate processes and that explicit FFI has a very limited role in acquisition and its major role is only for monitoring of output. It seems the case as findings indicate

that that there was no significant correlation between metalinguistic knowledge and most of the syntactic complexity measures. However, the significant result of participle structure does not lend support to Krashen's no-interface stance. It seems explicit FFI has some effect on some target forms but not all the forms. This seems to support Ellis' position of weak interface as discussed in 2.2.2. On the whole, this study seems to support Ellis' integrated theory of FFI (cf. 2.3.2.2) that FFI mainly performs a facilitating role and indirect role in learning and acquisition by raising the awareness and enhancing notice and intake rather than direct acquisition for immediate output.

Following on the arguments in the previous paragraph, the results on the acquisition of advanced syntactic structures may also support Ellis' and Bialystok's claim that L2 learners can have different degrees of control or different degrees of automaticity and analysis over their L2 knowledge (cf. 2.3.2). For example, the participle structure may be roughly considered a C type item, i.e. 'a new implicit rule used without awareness but is accessed slowly and inconsistently' in Ellis interface typology (cf. 2.2.2) while 'appositive structure', 'non-defining relative clauses' and 'coordinated subordination' may be near to type A items, i.e. a new explicit rule used consciously and with deliberate effort'. Ellis' typology can be further deliberated subject to empirical evidence but it is obvious that the many dichotomous relations prevalent in literature e.g.

declarative knowledge vs. procedural knowledge, explicit vs. implicit learning, learning vs. acquisition , are oversimplified and inadequate in describing the learning experiences of many learners. For example, learners are assumed to either know or not know a grammatical item or to either have acquired or not acquired an item. From knowing a rule/an item to applying the knowledge, or from using an already-acquired rule to establishing an explicit representation of the rule should not be assumed straightforward and automatic. A more sophisticated and empirically based typology of knowledge types is definitely needed.

That Pretest 2 stood out as different from the other two tests in a lot of aspects suggests that learners may have a much more active role in manipulating and controlling syntactic complexity in their output. Data show that in Pretest 2, learners used shorter sentences, more simple sentences, less subordination and fewer clauses per T-unit, and more complex nominals/sentence (6.2.1.4 and 6.2.1.5). This may generally reflect a more conservative strategy regarding syntactic complexity in assessment settings, where students tend to stick to the secondary students' golden rule of using simple and short sentences or avoiding using forms with which they are not so confident. The rise in number of nominals may be due to the more explicit communication demanded by examination answers. An alternative interpretation is, as

suggested by Yau (1991), that processing capability is limited and when students devote most of their attention to contents, they tend to use simpler structures which require less cognitive attention. Of course, all these claims need further investigation. It also follows that data in more natural, non assessment conditions may be more meaningful for profile building purposes.

This study indicates very strongly that gains in metalinguistic knowledge alone may not be relevant to acquisition. The arguments presented above that there may be different types of explicit knowledge, and that learners may have a more active role in 'activating' the knowledge show that there is a clear gap between 'gaining explicit knowledge' and 'using the knowledge for output' in the present SLA theorizing. This may involve more complicated cognitive processes and intervening factors. Gass (1988), in her model of second language acquisition (3.3.2.2), proposes that 'intake' is that crucial stage where comprehended input may be aborted, or stored for future use or to be assimilated into the existing grammar system of learners. According to Gass, the intake process is mediated by the level of analysis, such as focus on meaning or focus on form, comparing with existing knowledge, noticing the gap, and comparing positive or negative evidence. One insight particularly relevant to the findings of this research is that comprehended input may be aborted because of 'inadequate

information' in the learner's second language system and comprehended input may be stored for a long period of time before it is utilized because 'some level of understanding has taken place, yet it is not clear how integration into a learner's grammar can or should take place' (Gass, 1988, p. 207). Will it be the case that effect of FFI may manifest on forms which learners have already had some knowledge of or are already in use by learners, for example the participle structure, but for forms which students rarely use or do not seem to have previous knowledge of, for example, appositive structure, non-defining relative clauses, and coordinated subordination, effect will be less evident? Of course, more research is needed to confirm this.

However, the following table (Table 7.2), which compares the knowledge of some target advanced forms²⁹ in the recognition task of Pretest 1 and Posttest may provide support for this.

Table 7.2 Comparison of Pretest 1 and Posttest results in recognizing some target forms

	correct answers	
	Pretest	Posttest
non-defining relative clause	4.88% 2	29.26% 12
participle clause	21.95% 9	41.46% 17
gerund	87.8% 36	82.93% 34

²⁹ Only these three items were asked in the term recognition task.

This also sheds light on the 'delayed effect' in FFI studies observed by researchers as discussed in 2.2.1. Presently, more research should be done to ascertain what exercises or tasks can actually promote this intake process and how and why this is achieved.

The finding that there is no interaction effect on error explanation may indicate that this is a separate skill or knowledge base, which may involve the building up of a 'post-proceduralised declarative knowledge' as suggested by Johnson (cf. 2.3.2). This finding is not singular as Andrews (1999) also reported that a lot of novice teachers performed the weakest in explaining errors, even though they had quite high proficiency in English. It seems students may require separate training to develop this 'professional knowledge', which may depend on students' motivation and interest. While it should not be taken that metalinguistic knowledge will automatically be proceduralised, it should neither be taken that 'proceduralised knowledge' will automatically develop an explicit representation on its own. More research needs to be done in this area.

Lastly, although the present research does not provide positive support for the effect of treatment in syntactic complexity development, it does not mean that the study is meaningless. There are several reasons why the effect on objective measures may not be evident, which carry interesting implications for effect studies in the future:

- (i) Syntactic complexity development may be very stable at this advanced stage of development for learners. It follows that fossilization of sentence structures and sentence errors (and most probably errors in general) may also be a common phenomenon for advanced learners who are found to be very resistant to change, especially if the language is 'acquired' through proceduralization (Johnson, 1991).
- (ii) This group of advanced learners may have been nearing the fully mature development that can be expected of ESL learners. However, as has been pointed out, though this trend is observed from L1 speaker data, there is by far no reliable or comprehensive developmental data for ESL learners against which judgment or comparison can be made.
- (iii) This may not be the fastest growing period. Hence changes were not significantly captured. L1 data show that age 13 to age 17 according to Nippold et al (2005) and G6 to G10 according to Hunt's data (Hunt, 1965) are the fastest developing period for L1 speakers. It seems data are very limited on the longitudinal development of ESL learners.
- (iv) There may be a delayed effect as observed in many research studies (cf. 2.2.1). However, research on this aspect is very scant due to limitation of research span and control over extraneous factors.

- (v) Explicit FFI by itself may be necessary but insufficient for full acquisition. It provides further evidence that FonFs alone may not be adequate to promote acquisition or production. As research has shown, a mix of the communication mode and FFI mode may achieve the best effect (cf. 2.2.1).
- (vi) Of course, this no-effect may be due to the limitation of research designs or the inherent problems of FFI research as discussed and reviewed in section 2.2.1. Notably the period of treatment may still be too short for effect to be manifested or the magnitude of changes may be too small to be statistically significant. These issues will be discussed in 8.3.

7.3 Research question 5: Perceptions of learners of their learning experience

Research Question 5 investigates the perception of various aspects of the participants' learning experiences of the treatment of explicit FFI for this group of advanced learners. Two major issues are raised: their perceptions of the role of explicit FFI and their views on the various activities/tasks in which they were engaged in the treatment. Based on the data collected in the two surveys (Study 1 and Study 3), it can be concluded that learners were overwhelmingly positive about the role of FFI in ESL

learning and in a translation programme. A majority agreed that FFI was important in ESL as well as in a translation programme, and they were interested and motivated to receive grammar instruction. Based on our discussion in 6.3, survey data show that the role of FFI was more positively perceived in (i) raising the awareness of grammar, (ii) enhancing noticing of forms, (iii) providing explicit knowledge for proceduralization, and (iv) introducing new grammar knowledge for immediate use or future use. Explicit FFI was also perceived to be useful to enhance the learners' interest in grammar and raise their metalinguistic competence in discussing grammar. However, students were less impressed with the role of explicit FFI in (i) enhancing the actual proficiency, (ii) in reducing errors or (iii) improving their writing.

Apart from the knowledge dimension, i.e. providing explicit knowledge, the other benefits such as developing learning-to-learn strategies, using dictionaries, developing a reading habit were found to be less outstanding. However, generally speaking, most students (78%) thought that the course had changed their attitude, their understanding of the scope and nature of grammar learning, and the importance and usefulness of grammar. Though students showed that they had become less dependent on course materials and had developed a certain degree of autonomy in their learning, it seems their core values of grammar learning did not change much. Grammar was considered a

`subject' to be studied, and as a subject, it should have subject matters codified in textbooks and notes. The preference for a transmission model was still prevalent. Teachers, teaching methods, grammar exercises, error correction exercises rather than communication, interaction, output, authentic materials were reckoned as the more important elements in grammar learning.

Regarding activities/tasks which could promote the acquisition of advanced syntactic forms, students were generally positive of all the activities and tasks they were exposed to and found them all useful. They thought formal teaching of sentence analyses beneficial in acquiring new syntactic forms, and found error correction exercises and sentence combining exercises using advanced syntactic structures the two most important exercises. The interactive dimension (e.g. tutorial discussions), production of output, or authentic text analysis were ranked the lowest. The results were in accord with our discussion in the previous paragraph about the core values of grammar learning.

The above findings raise a few interesting issues that are worth further discussion.

Firstly, these findings lend further support to the conclusions discussed in 7.2

regarding the role of FFI and the effects of FFI. Students' perceptual data confirm that the major contribution of FFI was on conscious raising and enhancing metalinguistic knowledge but less outstanding in other aspects as outlined in the learning outcomes.

Secondly, it is apparent that from the students' perspective, there was also a gap between knowing and putting the knowledge to use. As Ellis (e.g. 1984) and Johnson (1996) suggest, the two processes may require different exercises or practice activities. It appears that explicit FFI, or at least a FonFs course, is inadequate to facilitate 'intake'. However, what kind of activities or tasks are best to achieve this is worth investigating for both theoretical and pedagogical interest. Presently, the application of the teaching options raised by the consciousness raising camp as discussed in 1.2.3 is still very limited and may require more extensive research findings to fully understand their usefulness and impact.

Thirdly, our discussion on students' persistent core values in grammar learning could indicate potential conflicts of 'culture of learning' (cf. 4.2.2) for grammar teaching in communication-based or task-based classrooms as students do not perceive interacting with classmates, authentic materials, opportunity to communicate in English, opportunity to write or even teachers feedback as important elements in grammar

training. This study may provide useful reference for syllabus and course designers and material developers for advanced learners in the context of Hong Kong. These findings are especially relevant to the newly launched task-based approach to language teaching in Hong Kong as discussed in 4.2.1.

Lastly, as discussed in 1.2.3, Rutherford proposes that grammar instruction should be 'consciousness raising' rather than learning an exhaustive set of 'discrete formal entities' and 'simplified rules' (Rutherford, 1987, p. 17). Larsen-Freeman also posits that the goal of grammar instruction should be 'grammaring', which 'is the ability to use grammar structures accurately, meaningfully, and appropriately' (Larsen-Freeman, 2003, p. 143), and which should be considered the fifth language skill apart from reading, writing, speaking and listening, not only as an area of knowledge. The Structure of English course is a modest attempt in these directions. The discussion in this section should provide useful reference for further exploration and research in this aspect of FFL.

Chapter 8 Conclusion

8.0 Introduction

This thesis is motivated by a keen interest in grammar learning and teaching which has stemmed from my own interest in foreign language learning, personal English education experience in Hong Kong, and my professional development as a grammar teacher for over 15 years. I have witnessed the vicissitudes of grammar teaching in SLA, suffered the same confusion about grammar teaching, and faced challenges and mistrust experienced by the many grammar teachers in the field.

The thesis started with a thorough examination of the historical, theoretical and empirical aspects of the role of FFI in the literature. With the understanding and insights gained about the role and effect of FFI and difficulties involved in FFI research, a study was designed to investigate the role and effect of FFI on one particular aspect of grammar competence, namely syntactic complexity development, with a group of advanced ESL learners in Hong Kong. It is thought that this aspect would have special relevance to this group of translation majors, who were relatively more motivated than

other learners to further develop into professional users of English. The major study was a quasi-experiment on the effect of explicit FFI on metalinguistic knowledge, syntactic measures, and target advanced forms, using quantitative and statistical analyses.

Metalinguistic knowledge data were elicited by using the common research methods of term recognition tasks and error correction tasks while the syntactic measures were based on production tasks. The study also elicited data by means of questionnaire surveys on the general background of these learners and their perceptions of the role of FFI, the usefulness of activities/tasks employed in the treatment and other relevant aspects.

This chapter concludes the whole study. Firstly, some major findings are summarized in 8.1 and then the major contributions of the study are highlighted in 8.2. Section 8.3 discusses the limitations of the study and 8.4 proposes areas for further investigation building on the findings and discussion of this research.

8.1 The major findings of the present study

The main findings of the study have been discussed in detail in Chapter 6. Based on

the findings, Chapter 7 draws conclusions from the five research questions and offers a series of critical reflections and discussions on the implications of the findings and conclusions. In summary, there are four major findings in this study.

1. This study finds that the major sources of syntactic complexity of this group of learners are: (i) listing of examples, (ii) use of coordination at all levels, (iii) postmodifications using relative clauses, (iv) combined uses of subordination and coordination, (v) use of more complex nominals, and (vi) serial complex sentences.
2. Explicit FFI has a definite and substantial role in enhancing metalinguistic knowledge development, learning of new terms, and the ability to correct sentence errors, but not in enhancing the ability to explain sentence errors, which is postulated to be a separate skill.
3. There is no statistical correlation between metalinguistic knowledge and syntactic complexity development as a whole. However a relation has been demonstrated for some individual items. Therefore, metalinguistic knowledge and syntactic complexity development may be separate but related somehow.

4. The setting of the production task (e.g. examination) has some effect on performance in syntactic complexity measures and results reveal that learners have a more active role in monitoring their own syntactic complexity strategies.

8.2 The contribution of the study

It has been noted in Chapter 1 that there has been a revival of interest in grammar teaching in SLA in recent years and FFI has emerged as one of the most burgeoning branches of SLA studies. However, as discussed in Chapter 4, grammar teaching has always been the core of ESL in Hong Kong, and its scope and nature are still very traditional. Research in this field is dominated by attitude and error studies. Pedagogical innovation in FFI is in its infancy in the local research arena. With the local complaints about a decline of English standards due to a lack of proper grammar training and the recent official promulgation of a task-based approach in the English syllabus, which seems to further de-emphasize the role of grammar, it is anticipated that there will be an urgent call for critical reflections on FFI issues such as its effectiveness in improving proficiency and its relation with a communication-based pedagogy.

Furthermore, it cannot be denied that a majority of English learners, second or foreign learners alike, have chiefly developed and will continue to develop their L2 proficiency through formal instruction rather than natural exposure. This is especially true for countries such as Mainland China, where access to English native speakers and English speaking resources are limited. In view of the recent introduction of English teaching into the primary curriculum in China, it can be anticipated that an enormous demand for formal classroom English teaching will be created in the very near future. Therefore, apart from a topic of local relevance and significance, it is believed that FFI will rise to be a central theme in SLA research at least in this region in the upcoming decade. However, there has been relatively little published research on FFI in Hong Kong or in Asia. Therefore, one of the principal contributions of the present study is that it explores an area which is of considerable current interest and crucial importance, but which has received inadequate attention in research terms.

This study also contributes to FFI and syntactic complexity development research in many ways:

1. This study contributes to FFI research by providing further evidence to the effect studies as reviewed in 2.2.1 in a new context involving new treatment, new

measurements, and new subject groups. For example, it focuses on a FonFs context, which is seriously under-represented in FFI research.

2. This study has filled the gap in syntactic complexity studies by focusing on the application of the syntactic measures and by stressing the importance of the sentence as a production unit. Presently, syntactic complexity research has been dominated by studies aiming at validating the syntactic measures especially the T-unit.
3. This study has filled the gap of FFI and syntactic complexity studies in Hong Kong. Presently, grammar studies in Hong Kong are dominated by an interest in error correction and attitude surveys. This study is original in this aspect of explicit FFI, namely syntactic complexity development and acquisition of advanced forms. So far there is no similar research in this area in Hong Kong.
4. This study has provided a comprehensive and detailed description of the profile of syntactic complexity of advanced learners in Hong Kong in terms of syntactic complexity measures and concrete examples of complexity strategies. The contributions of this study are twofold. First, this study provides further empirical support for previous research concerning syntactic complexity measures in Hong

Kong. As far as syntactic complexity measures are concerned, the profiles seem to fit in well with the limited previous research findings available in Hong Kong.

Secondly, it may serve as a useful framework for similar research to follow in the future.

5. This study also fills the gap of 'advanced learners' studies in ESL and ESP research by focusing on a group of advanced learners of a language-related discipline who are motivated and well-prepared to further develop themselves into professional users of English. Presently, research usually focuses on elementary and intermediate learners. As has been pointed out, advanced learners may be at a stage of their cognitive development, when learning may be more effectively done through explicit instruction.
6. This study has described sources of syntactic complexity and suggested room for further improvement. This may provide useful research-based information for course designers and material developers for advanced learners or upper intermediate learners.
7. This study contributes to FFI study by focusing on the perception of learners of their

grammar learning experience and aspects of FFI other than the 'knowledge dimension'. The Structure of English is a pioneering attempt on the experiential aspects of FFI and the results of this study should provide useful reference for further exploration and research in this aspect of FFI.

8.3 Limitations of the study

As is the case in any research, this study is inevitably limited in many ways. Some limitations are due to constraints of the research setting. For example, the choices in research design and treatment were greatly limited by the selection of setting: a formal course in operation. In this study, as has been pointed out, it was very difficult to locate a group comparable to the AATI students, and hence a one group time-series quasi-experimental design had to be adopted. Ethical concerns also dictated that the same treatment should be rendered to all students. Besides, there are also limitations largely due to inherent problems of the quasi-experimental design and syntactic complexity development research. The major limitations of this study are discussed below.

(1) External validity

The conclusions in this study should be treated with caution and not overgeneralized beyond their intended scope. The study has chiefly focused on one aspect of grammatical competence, namely, syntactic complexity. It should also be noted that metalinguistic knowledge and error corrections involve only sentence elements and common sentence errors rather than grammatical competence in general. Therefore, results should not be taken as extending to other aspects of language skills or general grammatical competence. Furthermore, interpretation of results should also be limited to the particular genre involved in the production task, namely academic expository essays.

(2) The attrition problem.

The study started with the intention to include all the 71 students in the course as subjects. However, only 57 students took part in Pretest 1 and Pretest 2 and finally only 41 students took part in the Posttest, resulting in a dropout rate of 28%. Though there was no apparent reason to believe that these dropout students were very different from others or that they had special reason to drop out, their effect on the overall results was

not known. At the least, their dropping out resulted in a smaller sample size, which carried implications for the statistical tests. For example, statistically, a larger sample size may yield more statistical significant results.

(3) Homogeneity of subjects

Data reflected that the subjects were homogeneous in many aspects, for example, proficiency level, motivation to learn grammar, attitude towards grammar learning and perception of their grammar learning experience. One disadvantage is that a homogeneous sample does not lend itself to studies of individual variability. Cross tab or partial correlation analyses were not found to be very revealing. However, this may not pose a big problem to the present study as the main theme was about effects across the board, or about commonality of subjects rather than variability.

(4) Setting of data collection

This study has found unintentionally the interesting observation that the setting of data collection may affect results, for example, the use of examination scripts as production data for Pretest 2. It is likely that an examination setting may affect quality

of data in two main ways. First, it has already been pointed out that students may shift to a more conservative strategy in an examination setting. Secondly, students may tend to copy chunks from the questions, resulting in overuse of certain expressions or certain syntactic structures. Milton (2001) also reported similar observation for his HKAL scripts. Therefore, naturally occurring samples from students' coursework may be the more desirable sources of data. The effect of different data type on syntactic measures was demonstrated in Hunt's two studies and was discussed in 7.1.

(5) Format of data elicitation

In Study 3, the results were not as discriminatory as expected (cf. 6.3.1 and 6.3.2). An improvement in the format of data collection may be called for. For example, it seems that more discriminatory data would be elicited if students were asked to rank the activities or to select only three items.

(6) Extraneous factors and maturation problem

For experiments which involve an extended period, it seems the control of extraneous factors and maturation will inevitably pose potential threats to validity of

results. In our study, it was very difficult to control what would happen in between the tests. For example, students may gain metalinguistic knowledge or grammar competence from other sources such as taking another grammar course, or learning grammar from other translation courses. According to the structure of the AATI programme, students took one translation course and one English language enrichment class in semester A (control period), and in semester B (the treatment period), students also took two translation courses. These language courses may have impacted on their maturation. This may not pose big problem to this study as these influences applied across the board to all the students. Furthermore, most of the effect findings were negative and Pretest 2 stood out as more conservative in all aspects instead of showing growth. Nevertheless, it is possible that metalinguistic terms and error corrections were learned from other sources.

(7) Limitations of effect studies

The study has also suffered from limitations of effect studies in general as raised by Ortega (2003) (cf. 3.3), which seems not easily solved in research of this kind. The problems of homogeneity and sample size have been discussed above. The other two major ones are period of study and effect size, which are inter-related. For the present

study, a 3 month treatment period may still be too short for effects to manifest considering that for advanced learners, syntactic complexity may be very stable at this period and that there might be a delayed effect. However, Ortega's suggestion of a one year treatment period (cf. 3.3) may not be very helpful. Researchers have to face the dilemma that a treatment of a shorter period may enhance control of extraneous factors but may be too short to yield observable effects. An extended period on the other hand may reveal observable growth but problems of extraneous factors, history and maturation will inevitably be involved. Regarding effect size, Ortega has suggested a between group difference should be 4.5 words per sentence or 2 words /T-unit, or 1 word per clause, and 0.02 positive or negative difference in c/t. If these are taken as standard reference, the growth may be nearing the range of development of children from G6 to G8 (Hunt, 1970) and age 13-17 (Nippold et al, 2005). Hunt's and Nippold et al's data also show that Ortega's suggested magnitude is unlikely be achieved in the rest of the adults' life time. This would mean that changes in syntactic complexity in adulthood can never be detected, or at least cannot be studied by statistical means.

(8) Limitation on the role of the researcher as teacher

In this study, there were some obvious advantages of my dual role as both researcher

and teacher such as ethnographic understanding, professional relevance, more effective control over the implementation of treatment, easy access to students, as well as general logistical convenience. However, this dual role also gives rise to many inevitable problems related to the lack of anonymity in data collection and the interactive nature of treatments and data analysis. Most importantly, in this dual capacity, a researcher would inevitably bring with him or her an inherent bias into the classroom. In this study, for example, although I adhered to precise lesson plans and standard teaching materials to ensure I controlled the type and manner of input, this dual role could make me, consciously or unconsciously, treat the experimental group differently, and it could also lead to unintended bias in the data analysis and interpretation. Therefore, this dual role remains a limitation in the present study, and in future research one needs to carefully weigh its advantages and drawbacks. At least, an 'outsider/insider team work' (Louis & Bartunek, 1992) should be considered. For instance, it is possible to have outsider researchers to help out with data collection and data analysis, and to check the main researcher's analysis and interpretation

8.4 Recommendations for further research

A study of this kind inevitably leaves many questions unanswered. There are in fact several areas in which the findings and conclusions from this research can be developed further and the many questions raised in the present study could be further explored. The following are just a few examples which would benefit from further investigation.

(1) Establishing a full syntactic complexity profile for ESL learners

This research is a cross-sectional profile of the syntactic complexity measures of a group of ESL advanced learners. Similar profiles can be established for ESL learners at different stages, for example according to year of study or age. The full profiles could allow research from a developmental perspective providing insights to answer questions such as ‘Which is the period of most rapid grammatical development?’ or ‘Are all aspects of syntactic complexity developed at the same time or at the same rate?’ At the present time, such research on ESL learners comparable in scope or scale to L1 studies does not seem to exist.

(2) Filling the gap of research on advanced learners and professional users

SLA research has largely focused on intermediate or upper-intermediate ESL learners. Research on the advanced and professional-user stage is seriously lacking. This is also true for L1 native speaker studies. For example, there are very few studies exploring the later language development of skilled writers or adults. The limited available data suggest that advanced level may be a relatively stable period of development. However, age may have special relevance for the role of FFI, as there seems to be a decline in cognitive ability and shift of cognitive strategies after adolescence (Munoz, 2007, Sigelman & Rider, 2009).

(3) Exploring the trigger for further syntactic complexity development

It is worthwhile to study what factors actually trigger or motivate syntactic complexity development. Three main factors have generally been proposed: (1) age, (2) thought development, and (3) genre. L1 research shows that syntactic complexity development is synchronic with thought maturity. For example, Hunt proposes that nominals are modified because children think of more attributes of nouns and they try to lengthen the nouns by reducing these structures into non-clausal elements and attach

them to the nouns to achieve succinctness (Hunt, 1965). An alternative explanation is the chunk theory. As the cognitive ability of attending to number of chunks are limited, people may try to use a smaller number but more complicated chunks to facilitate processing (Hunt, 1965). The issue would be especially interesting in the ESL context. Yau (1999) has suggested that L2 learners' thought development far surpasses their L2 linguistic ability. If this differential ability is the case, would explicit FFI have a special role in speeding up the L2 learning process? It may be pedagogically fruitful to explore what kind of tasks would trigger/elicit or inhibit the use of complex structures. Would they be elicited because of the nature of academic writing which demands more explicit, systematic, specific and accurate information? Milton has suggested an effect of institutionalization on forms (cf. 4.3.2). The present study may lend support to his claim as results show that students have adopted a more conservative strategy in an examination setting. This also points to a special role of FFI in the L2 context. All this needs to be subjected to further empirical investigation.

(4) Investigating the relation of knowledge types and intake of explicit knowledge

The present study confirms that there is a gap between knowing and using knowledge. Learners may indeed have different degrees of control of the explicit

knowledge. Its availability for immediate use, for future use, for restructuring, or non use is mediated by different factors. Therefore, it may be illuminating to investigate further the differential impact of FFI on the intake process. Is there a developmental constraint as proposed or is it simply due to a lack of adequate existing knowledge to trigger onset of intake and the subsequent proceduralization? A more detailed and closer examination may shed light especially on the delayed effect of FFI. One effective way to explore this 'delayed effect' is to investigate learners' transfer of their explicit knowledge to other production tasks after the treatment period, for example, English writing or translation.

(5) More detailed investigation into activities which promote acquisition

The findings suggest that FFI or at least FonFs alone may be inadequate in promoting 'acquisition' or improvement in syntactic complexity. Presently, the major concern in SLA theorizing is to integrate FFI into CLT rather than to integrate CLT into FFI classrooms. What activities/tasks can facilitate intake of explicit knowledge and its subsequent mobilization for output? More detailed investigations with better control of independent variables and measuring tools can be designed to ascertain the usefulness of specific activities or tasks and the theoretical base of their usefulness.

(6) Exploring individual variability in FFI

As pointed out in the limitations section, the use of a homogeneous group greatly limited the exploration of individual variability. More diverse experimental groups and better control designs could definitely help explore specific factors which lead to individual variability in the development of syntactic complexity and the acquisition of new syntactic forms.

(7) More effective designs to overcome inherent problems of FFI research

More innovative and effective research methods and designs should be explored to overcome some of the inherent problems of FFI and syntactic complexity research such as duration, size effect, delayed effect, controlling for specific factors. A qualitative approach or a mixture of both quantitative and qualitative analyses could provide more in-depth insights.

I will conclude by highlighting some pedagogical suggestions to the explicit FFI treatment Structure of English course. These suggestions should rather be taken only as tentative directions for further course development and action research.

1. The findings on sources of syntactic complexity provide useful reference to inform material development of the course. More focused emphasis should be placed on relative clauses, nominal structures, and the combined use of coordination and subordination at the sentence level. Learners' attention should also be drawn to the opportunities of reducing sentences and clauses into non-clausal elements to achieve succinctness and complexity.
2. It has been found that a FonFs course per se is inadequate to fulfill its dual objective of enhancing explicit knowledge and putting the knowledge into use. There is a clear gap between the two. Ways of helping learners to put the explicit knowledge into use should be explored (see 4 below).
3. The following may be explored to help learners gain explicit knowledge more effectively:
 - 3.1 The course may consider incorporating some of the conscious raising tasks to help learners 'notice' the advanced forms.
 - 3.2. More sample sentences or model texts should be presented to provide a broader base for explicit knowledge to build upon and for further processing.

3.3 Teaching could be done more intensively in an earlier part of the course to help

learners build up their explicit knowledge earlier and to allow more time for

practicing, recycling of structures and proceduralization.

3.4 More emphasis should be placed on achieving 'declarativization' after

proceduralization. It should also be explored whether different presentations of

explicit knowledge are required for this purpose.

3.5 Error correction exercises should be in the spirit of 'consciousness raising' and

'grammaring' rather than simply learning the correct forms. This may enhance

learners' ability to relate language use to their explicit knowledge more

effectively.

4. The following may be explored to help learners to put their explicit knowledge into

use and to facilitate uptake and output.

4.1 As Gass has suggested, learners may need more background of explicit

knowledge and depth of processing. Activities/tasks which require learners to

reflect on their repertoires and which provide positive and negative evidence

for restructuring should be explored.

4.2 More output-driven and communication-based tasks should be employed,

which provide authentic opportunities for learners to put their explicit

knowledge into production.

4.3 A cross-disciplinary approach may be explored to help learners `transfer' their knowledge into other authentic writing tasks, for example, translation, or English writing. This `transfer' may not be easily achieved or observed in a single FFI course due to delayed effect.

5. Lastly, there should be better communication with learners about the nature and aims of grammar learning and the purposes of various activities/tasks to alleviate potential conflicts between `cultures of learning'.

Appendix 1: Course Structure of AATI

Year 1

Semester A			Semester B		
LS12401	Translation 1	2	LS12402	Translation II	2
LS12221	Essentials Of Chinese Language	2	LS12417	Interpretation I	2
LS12416	Preparation for interpretation	2	LS22454	Structure of English	2
LS12427	English Language Enrichment	2	LS22521	Advanced Putonghua	3
LS12490	Language and Society	2	LS22751	Intercultural Communication	2
LS12521	Comm. In Putonghua	3	LS22403	Commercial Translation	2
LS12453	Eng. Phonetics. & Phonology	2			
Total credits (core)		15	Total credits (core)		13

Year 2

Semester A			Semester B		
LS22470	Translation Workshop I	2	LS22471	Translation Workshop II	2
LS22418	Interpretation II	2	LS22419	Interpretation II	2
LS22407	Translating Creative Texts	2	LS22406	Sci/Med/Tech Translation	2
LS22450	Discourse Analysis	2	LS22427	Adv. Eng. Language Enrichment	2
LS22401	English Stylistics	2	LS22408	Translation Project	3
LS22533	Putonghua for Specialization	3	LS22442	Mass Media	3
Total credits (core)		12	Total credits (core)		14

Appendix 2: Teaching Schedule of Structure of English

Lectures

Week	Topic
1	Orientation
2	Basic approaches to grammatical analysis: descriptive vs. prescriptive form vs. functions; synchronic vs. diachronic
3	How to analyze a sentence: Functional Analysis; SVOCA
4	How to analyze a sentence: Formal Analysis different types of clauses and phrases
5-6	Sentence Types and Sentence Strategies
7-8	The verb phrase and tenses
9-10	Modal Verbs and the Subjunctive Mood
11-12	The noun phrase: Premodifications vs. postmodifications; Relative clauses
13	The adjective phrase

Tutorials

Week	Topic/theme	Activities/Tasks/Exercises
1	Identifying word classes	Questions for discussion
2	Making grammatical judgments	Questions for discussion, error correction exercise
3	Verb patterns	Error correction exercise, worksheet for dictionary use
4	Sentence parsing: functional analysis	Sentence analysis exercise
5	Sentence parsing: formal analysis	Sentence analysis exercise
6	Common sentence errors	Error correction exercise
7	Imitating long sentences	Sentence analysis exercise, sentence imitation exercise
8	Tense	Questions for discussion, error analysis exercise
9	Modal Verbs	Questions for discussion, error analysis exercise
10	Compound nouns and articles	Translation exercise, error correction exercise, filling in blanks exercise
11	Advanced structures and sentence variation	Sentence combining exercise, sentence rewriting exercise
12	Pronouns and relative clauses	Error correction exercise, sentence combining exercise
13	Adjectives	Translation exercise, error correction exercise

Appendix 3: Pretest 1

Thank you for taking part in this data collection session for my doctorate research.

Please put down your name and sign.

Name: _____ (full name please)

Signature: _____

- I need your name only for record and tracking purposes. I can guarantee that your identity, data and test results will be treated in strict confidentiality. All data will be destroyed once the research is over.
- Your signature is required to indicate that you agree to take part in this data collection session and allow your data to be used for research purpose.

Instructions:

There are four parts in this data collection session.

Give answers according to your intuition (直覺). Do not spend too much time on one question or one section.

Task	Content	Time spent
Task 1	Your profile	5 mins
Task 2	Testing your knowledge about grammar terms	10 mins
Task 3	Correcting and explaining errors	15 mins
Task 4	Perception of grammar instruction	5 mins
Task 5	A short composition	25 mins

Task 1: Student Profile (suggested time: 5 mins)

1. How do you grade yourself regarding your grammar when compared with your classmates?

above average () average () below average ()

2. How interested are you in grammar?

very interested () interested () not quite interested () not interested at all ()

3. How do you rate the importance of grammar in foreign language learning in general?

very important () important () not quite important () not important at all ()

4. How do you rate the importance of grammar in an AATI course?

very important () important () not quite important () not important at all ()

5. How motivated are you in learning grammar?

very motivated () motivated () not quite motivated () not motivated at all ()

**6. Generally speaking, how often do you use English in your daily life?
(Please circle)**

	very often	often	sometimes	Seldom
Reading English materials	4	3	2	1
Listening to English	4	3	2	1
Writing in English	4	3	2	1
Speaking English	4	3	2	1

7. Generally speaking, how do you rate your own English level? (Please circle)

(excellent.....Poor)

Reading English materials e.g. textbooks/newspapers)	1	2	3	4	5	6
Listening to English (e.g. lectures, news broadcast)	1	2	3	4	5	6
Writing in English (e.g. essays/ letters)	1	2	3	4	5	6
Speaking English (e.g. giving speech/chatting)	1	2	3	4	5	6

8. Your general background:

a) Gender: M () F()

b) Secondary school type:

	English medium	Chinese medium
F.1-F.3	()	()
F.3-F.5	()	()
F.6-F.7	()	()

c) English grades in the following exams:

Exam	Results
HKCEE (syllabus B)	
HKAL (UE)	
HKCEE (syllabus A), if applicable	

Please go to Task 2

Task 2: knowledge of grammatical terms (suggested time: 10 minutes)

- For each of the following grammatical term, indicate whether you know or do not know the term.
- Then no matter you know or do not know of the term, try to give one example on your own to demonstrate your understanding of the term.
- As long as the example can demonstrate your understanding, it need not be long or complicated. Try your best to give examples even you just guess.
- You may need to **underline or use symbols** to indicate the example.
- Number 1 is done for you.

Term	know	don't know	Example
1. subject	✓		<u>Eddy</u> (subject) is smart.
2. finite verb			
3. subordinate clause			
4. non-restrictive relative clause			
5. cleft sentence			
6. wh-clause			
7. reduced relative clause			
8. coordinator			

9. prepositional phrase			
10. participle clause			
11. gerund			
12. adverb phrase			
13. that clause			
14. complement			
15. adverbial clause			
16. infinitive clause			

Task 3 Error Correction and Explanation (suggested time: 15 minutes)

There are 10 sentences in this section. Each sentence has one grammatical mistake regarding sentence structure, i.e. the error will be about grammar, not vocabulary.

For each sentence:

1. Correct the sentence, changing as few parts as possible. If the structure is clear, you can just write down the corrected structure and you need not write down the whole sentence.
2. Underneath each sentence explain the grammatical rule or grammar point which you think has been violated. Try your best to write down some thing. But if you do not know, just skip it. Do not spend too much time in this section.

Example: Sentence: People may aware that 2006 is a prosperous year.

Correction: may be aware

Rule/reason: aware is an adj. not a verb; no main verb in sentence

1. The tea is then stirred and leave it to cool down.

Corrected version: _____

Rule/reason: _____

2. She said that the food was good and would I like to take some.

Corrected version: _____

Rule/reason: _____

3. This is a book of great importance and which you should read.

Correction: _____

Rule/reason: _____

4. English is hard to write well, it is also difficult to listen to.

Correction: _____

Rule/reason: _____

5. We cannot arrive on time. Because it is raining.

Correction: _____

Rule/reason: _____

6. Walking down the street, it rained.

Correction: _____

Rule/reason: _____

7. The new office is in a better area, which has more windows.

Correction: _____

Rule/reason: _____

8. My mother cooks well is a good cook.

Correction: _____

Rule/reason: _____

9. The police caught the man jumping down.

Correction: _____

Rule/reason: _____

10. The idea was sound, however, its realization left something to be desired.

Correction: _____

Rule/reason: _____

Go to Task 4

Task 4: Perception of grammar learning (suggested time: 5 minutes)

1. Native speakers do not need to learn grammar.

strongly agree () agree () disagree () strongly disagree ()

2. After F.7, I think I have learned all grammar.

strongly agree () agree () disagree () strongly disagree ()

3. In the case of Hong Kong, which of the following students do you think can benefit most from grammar instruction ?

university() F. 6-F.7() F.4-F.5() F.1-F.3() primary()
kindergarten children ()

4. Considering the second language learners in Hong Kong, which of the following do you think can benefit most from grammar instruction? (Use your own understanding of the terms)

advanced learners () Intermediate learners () elementary learners ()

Open ended questions. Try to give 3 examples each in order of importance as far as you can. It is o.k. if you can only think of 1 or 2 examples.

5. What is your major source of grammar materials?

1. _____
2. _____
3. _____

6. What are advanced structures (use your own understanding of the term)?

1. _____
2. _____
3. _____

7. What are your personal difficulties in acquiring grammar?

1. _____
2. _____
3. _____

8. In your opinion, what should be taught in an AATI grammar course?

1. _____
2. _____
3. _____

Task 5: Composition Free writing (20-25 minutes)

Write 250- 300 words on the following. There is no right or wrong answer.

- Use the thin answer book provided.
- There would be about 180 words/page if you write on every line of the answer book. That means you can write at least 1 $\frac{1}{2}$ page.

From your experience, which three of the following you find most important/useful in learning new grammar forms or new grammar structures, and why?

- (a) having input from speaking
- (b) reading quality English books/magazines
- (c) teaching method of teachers
- (d) dictionaries
- (e) memory power
- (f) explicit grammar rules
- (g) doing grammar exercise
- (h) grammar textbooks
- (i) using the language in talking or writing
- (j) error correction
- (k) feedback from teachers
- (l) taking a formal grammar course
- (m) others (please specify)

End of Data collection session. Thank you for coming.

Appendix 4: Pretest 2:

Task 1 knowledge of grammatical terms (suggested time: 10 mins)

Name: _____ (full name please)

- For each of the following grammatical term, indicate whether you know or do not know the term.
- Then no matter you know or do not know of the term, try to give one example on your own to demonstrate your understanding of the term. You may need to **underline or use symbols** to indicate the example.
- As long as the example can demonstrate your understanding, it need not be long or complicated. Try your best to give examples even you just guess.

Term	know	don't know	Give one example
1. subject	✓		<u>Eddy</u> is a smart teacher. Eddy is the subject of the verb is.
2. finite verb			
3. subordinate clause			
4. non-restrictive relative clause			
5. cleft sentence			
6. wh-clause			
7. reduced relative clause			

8. coordinator			
9. prepositional phrase			
10. participle clause			
11. gerund			
12. adverb phrase			
13. that clause			
14. complement			
15. adverbial clause			
16. infinitive clause			

Pre-test 2 task 2: Error Correction and Explanation (suggested time: 15 mins)

There are 10 sentences in this section. Each sentence has one grammatical mistake regarding sentence structure, i.e. the error will be about grammar, not vocabulary.

For each sentence:

1. Correct the sentence, changing as few parts as possible. If the structure is clear, you can just write down the corrected structure and you need not write down the whole sentence.
2. Underneath each sentence, explain the grammatical rule or grammar point which you think has been violated. Try your best to write down some thing. But if you do not know, just skip it. Do not spend too much time on one sentence.

Example: Sentence: People may aware that 2006 is a prosperous year.

Correction: may be aware

Rule/reason: aware is an adjective; or no main verb in sentence

1. They started with one method but soon change to another method.

Corrected version: _____

Rule/reason: _____

2. She said goodbye and what was my telephone number.

Corrected version: _____

Rule/reason: _____

3. Eddy is a good teacher and who has taught translation for many years.

Correction: _____

Rule/reason: _____

4. The food is so expensive, why do you still buy it?

Correction: _____

Rule/reason: _____

5. We can be sure that this will cause problems. Since students are not expecting such a change.

Correction: _____

Rule/reason: _____

6. While listening to the lecture, an idea came up.

Correction: _____

Rule/reason: _____

7. The part time course is no longer taught at the college, which I took in 2006.

Correction: _____

Rule/reason: _____

8. He plays football well takes part in a lot of inter-school competitions.

Correction: _____

Rule/reason: _____

9. Who's the girl passing the English exam with an A?

Correction: _____

Rule/reason: _____

10. I am very busy, therefore, I cannot talk with you.

Correction: _____

Rule/reason: _____

Appendix 5: Posttest

Thank you for taking part in this final data collection session for my doctorate research.

Please put down your full name and sign.

Name: _____

Signature: _____

- I need your name only for record and tracking purposes. I can guarantee that your identity, data and test results will be treated in strict confidentiality. All data will be destroyed once the research is over.
- Your signature is required to indicate that you agree to take part in this data collection session and allow your data to be used for research purpose.

Instructions:

There are four parts in this data collection session.

Give answers according to your intuition (直覺). Do not spend too much time on one question or one section.

Task	Content	Time spent
Task 1	Testing your knowledge of grammar terms	10 mins
Task 2	Correcting and explaining errors	15 mins
Task 3	Perception of a grammar course	5 mins
Task 4	A short composition	20 mins

Task 1: knowledge of grammatical terms (suggested time: 10 minutes)

- For each of the following grammatical term, indicate whether you know or do not know the term.
- Then no matter you know or do not know of the term, try to give one example on your own to demonstrate your understanding of the term.
- As long as the example can demonstrate your understanding, it need not be long or complicated. Try you best to give examples even you just guess.
- You may need to **underline or use symbols** to indicate the example.
- Number 1 is done for you.

Term	know	don't know	Example
1. subject	✓		<u>Eddy</u> is smart. Eddy is the subject.
2. finite verb			
3. subordinate clause			
4. non-restrictive relative clause			
5. cleft sentence			
6. wh-clause			
7. reduced relative clause			

8. coordinator			
9. prepositional phrase			
10. participle clause			
11. gerund			
12. adverb phrase			
13. that clause			
14. complement			
15. adverbial clause			
16. infinitive clause			

Task 2 Error Correction and Explanation (suggested time: 15 mins)

There are 10 sentences in this section. Each sentence has one grammatical mistake regarding sentence structure, i.e. the error will be about grammar, not vocabulary.

For each sentence:

1. Correct the sentence, changing as few parts as possible. If the structure is clear, you can just write down the corrected structure and you need not write down the whole sentence.
2. Underneath each sentence explain the grammatical rule or grammar point which you think has been violated. Try your best to write down some thing. But if you do not know, just skip it. Do not spend too much time in this section.

Example: Sentence: People may aware that 2006 is a prosperous year.

Correction: may be aware

Rule/reason: aware is an adjective; or no main verb in sentence

1. The soup is then stirred and leave it to cool down.

Corrected version: _____

Rule/reason: _____

2. He said that the cookies were good and would I like to take some.

Corrected version: _____

Rule/reason: _____

3. He is a man of great importance and whom you should see.

Correction: _____

Rule/reason: _____

4. French is hard to write well, it is also difficult to listen to.

Correction: _____

Rule/reason: _____

5. We cannot arrive on time. Since it is raining.

Correction: _____

Rule/reason: _____

6. Using as a classroom, the Language Lab is also a resource centre.

Correction: _____

Rule/reason: _____

7. The new office is in a better area, which has more tables.

Correction: _____

Rule/reason: _____

8. Mr. Wong teaches English grammar is a good teacher.

Correction: _____

Rule/reason: _____

9. The police caught the man jumping down.

Correction: _____

Rule/reason: _____

10. The idea was sound, however, it is very expensive.

Correction: _____

Rule/reason: _____

Go to Task 3

Task 3 Perception of your grammar course (5 minutes)

1. Please give your opinions of the following statements regarding the usefulness of this grammar course. Circle the box of your choice

	Strongly agree						strongly disagree
1. I have become more aware of grammatical forms and structures.	7	6	5	4	3	2	1
2. I feel more competent to solve grammar problems on my own.	7	6	5	4	3	2	1
3. I feel more competent to use technical terms to discuss/explain grammar.	7	6	5	4	3	2	1
4. I understand grammar discussions better.	7	6	5	4	3	2	1
5. I can analyze grammar structures better.	7	6	5	4	3	2	1
6. I make fewer errors in writing English.	7	6	5	4	3	2	1
7. I make fewer errors in speaking English.	7	6	5	4	3	2	1
8. I re-learn many grammar rules.	7	6	5	4	3	2	1
9. I learn a lot of new grammar rules.	7	6	5	4	3	2	1
10. I learn a lot of advanced structures.	7	6	5	4	3	2	1
11. I know how to plan for my grammar learning	7	6	5	4	3	2	1
12. I know more resources about grammar	7	6	5	4	3	2	1
13. I become a more effective learner of grammar	7	6	5	4	3	2	1
14. The course gives me a good foundation for grammar learning in the future	7	6	5	4	3	2	1
15. I can translate better.	7	6	5	4	3	2	1
16. What I learn is useful for my courses.	7	6	5	4	3	2	1
17. I notice grammatical forms that I have not noticed before.	7	6	5	4	3	2	1
18. I become more interested in grammar.	7	6	5	4	3	2	1
19. I have improved a lot in my writing	7	6	5	4	3	2	1

2. After taking the course, have you changed your attitude or opinions towards learning grammar? Yes () No much ()

If yes, please specify:

1. _____
2. _____
3. _____

3. Based on your own experience, ticking 5 items in the following that you think are most important in learning NEW forms or ADVANCED structures. This question asks you to think about learning new forms or advanced structures, not grammar in general.

- | | | |
|---|--|---|
| <input type="checkbox"/> Textbooks | <input type="checkbox"/> Teachers' enthusiasm | <input type="checkbox"/> One's hard work |
| <input type="checkbox"/> Teachers' notes | <input type="checkbox"/> Native speaking teachers | <input type="checkbox"/> One's motivation |
| <input type="checkbox"/> Reference resources | <input type="checkbox"/> Teaching methods | <input type="checkbox"/> One's interest in grammar |
| <input type="checkbox"/> Dictionaries | <input type="checkbox"/> Assignments | <input type="checkbox"/> Opportunity to write English |
| <input type="checkbox"/> Discussion in class and tutorials | <input type="checkbox"/> Using Chinese in class | <input type="checkbox"/> Developing a reading habit |
| <input type="checkbox"/> Good classmates | <input type="checkbox"/> Error correction exercise | <input type="checkbox"/> Opportunity to speak English |
| <input type="checkbox"/> Attending Lectures | <input type="checkbox"/> Teacher's feedback | <input type="checkbox"/> Learning skills/strategies |
| <input type="checkbox"/> Discussing authentic (real) examples | <input type="checkbox"/> Grammar exercises | <input type="checkbox"/> Audio visual materials |

If you can think of other factors, please list them here:

4. You have experienced many approaches/tasks/activities in learning grammar in this course. Evaluate the usefulness of each one of them for you to acquire 'advanced structures' or 'new forms'. Remember this question asks you to think about learning NEW FORMS or ADVANCED STRUCTURES, not grammar in general.

	Most useful						least useful
1. reading grammar books	7	6	5	4	3	2	1
2. doing text analysis	7	6	5	4	3	2	1
3. tutorial discussions	7	6	5	4	3	2	1
4. doing error correction exercises	7	6	5	4	3	2	1
5. learning explicit (i.e. clearly stated) rules	7	6	5	4	3	2	1
6. learning how to analyze long sentences	7	6	5	4	3	2	1
7. sentence imitation	7	6	5	4	3	2	1
8. sentence combining exercises using advanced structures	7	6	5	4	3	2	1
9. learning how to write longer sentences	7	6	5	4	3	2	1
10. learning phrase structures (e.g. noun phrase, adjectives)	7	6	5	4	3	2	1
11. learning sentence strategies (e.g. coordination, subordination, using parallel structures)	7	6	5	4	3	2	1
12. comparing Chinese and English structures	7	6	5	4	3	2	1

5. Name three NEW `advanced' structures you have learned.

1. _____
2. _____
3. _____

6. Name three grammar rules you find most impressive or useful.

1. _____
2. _____
3. _____

Go to Task 4

Task 4: Composition Free writing (20 minutes)

Write 250- 300 words on the following. There is no right or wrong answer.

- Use the answer sheets provided.
- There would be about 180 words/page if you write on every line of the answer book. That means you can write at least 1 1/2 page.

You have experienced many approaches/tasks/activities in learning grammar in this course.

(a) Select three items from the following which you find most useful for you (not others in general) to acquire `advanced structures' or `new forms'.

(b) Briefly discuss/explain why or how they are useful to you.

Remember this question asks you to think about learning NEW FORMS or ADVANCED STRUCTURES, not grammar in general.

1. reading grammar textbooks
2. doing text analysis
3. doing error correction exercises
4. learning explicit (i.e. clearly stated) rules
5. learning how to analyze long sentences
6. sentence imitation
7. sentence combining exercises using advanced structures
8. learning how to write longer sentences
9. learning phrase structures (e.g. noun phrase, adjectives)
10. learning sentence strategies (e.g. coordination, subordination, using parallel structures)
11. comparing Chinese and English structures
12. tutorial discussions

End of Data collection session. Thank you for coming.

Appendix 6a : Pretest 1 sample script of a student (student 10)

1. From my perspective, I regard doing grammar exercise, reading grammar textbooks and using the language in talking or writing as the important channels to manipulate grammar the justification are as follows.
2. Undoubtedly, learning language is a personal thing, especially English that is not our mother tongue.
3. It is difficult to ask others for opinions.
4. Neither should we take some formal grammar courses nor rely on teachers.
5. What we need is self motivation.
6. To commence with, we should read the grammar textbooks for acquiring fundamental grammar rules.
7. It is suggested that this kind of habit should be started as early as possible as human's memory power deteriorates when we get older.
8. What's more, we should do some grammar exercises to check if we fully understand the rules.
9. When we make some errors, we should correct it and memorize it, avoiding it from happening again.
10. Practising it in daily writing or conversation.
11. As the old saying goes 'Practising makes perfect'.
12. There are also plenty of quality books and magazines in Hong Kong, such as Times and Readers' Digest.
13. They provide us with good sentence structures yet they are only supplementaries.
- 14 All in all, when we have some doubts, we should ask our teachers.

Appendix 6b: Stage I Pretest1 Coding sheet of a student (student 10)

Subject No: 10 Pretest1(✓) Pretest 2 Posttest

	Basic counts			Sentence types				Advanced features			
Sen- tence	R/F	W/S	No. Clause	Sim- ple	Compound	Complex	Compound+ complex	Partici- ple structure	Coordinated subordination	Appositive/ parenthetical	length of noun phrases with modifications NP(2)+pre(6) +rel(4) +infi (5)=17
1	R	31									
2		15	2	1							NP(1)+rel(6) =7
3		7	1	1							
4		12	1	1							
5		6	2	1							
6		14	1	1							
7		24	4			1					
8		16	3			1					
9		17	2			1		1			
10	F	7									
11		8	2			1					
12		18	1	1							NP(6)+pre(3)=9
13		12	2		1						
14		13	2			1					
..											
..											
..											
..											

Appendix 7a : Pretest 2 sample script of a student (Student 10)

(a)

- 1 I choose the language function together with language choosing giving significant impact on my perceptions and attitudes towards language use.
- 2 Because an effective communication starts with this.

(b)

- 3 Firstly, I would like to describe the eight main functions of language.
- 4 Informative function means describing the facts and sharing the ideas like 'What time is it? It's seven'.
- 5 Directive function means giving order and getting things done like 'Please open the door'.
- 6 Expressive function means expressing the feelings like 'I am very tired now'.
- 7 Metalinguistic means language describing language 'Bonjour means good morning'.
- 8 Magical means having expectation on something, like the horse racing betting people saying '12, go go go'.
- 9 Phatic function means having social meeting like 'have you had your dinner?'.
- 10 Poetic means having musical or esthetic feeling in it.
- 11 Performative means the action done once it announce.
- 12 Distinguishing the language function are of paramount importance.
- 13 Or otherwise you misunderstand and even result in embarrassed situation.
- 14 Together with the language choosing, in other words it means register.
- 15 There are various kinds of register, ranging from informal to formal, modern to classic.
- 16 First of all, jargon is technical term used mainly in professional field like medical, law and technology.
- 17 The written materials like letter, and resume have standardized language and structure.
- 18 All of the above are modern and formal register.
- 19 Second, slang means 'vulgar' language which is not accepted by those of the society colloquial is spoken language.
- 20 The connotation has positive, negative and neutral meaning.
- 21 Third, the ancient language like classicism and archaic are mostly found in literacy, seldom use in daily life.

Appendix 7b: Stage I Pretest 2 sample coding sheet of a student (student 10)

Subject No: ____10____ Pretest1

Pretest 2 (✓)

Posttest

	Basic counts			Sentence types				Advanced features			
Sen- tence	R/F	W/S	No. Clause	Sim- ple	Compound	Complex	Compound+ complex	Parti- ple structure	Coordinated subordination	Appositive/ parenthetical	length of noun phrases with modifications NP(2)+pre(6) +rel(4) +infi (5)=17
1		20	1	1				1			NP(2)+Pre (5)+Pre (3)=10
2	F	7									
3		12	1	1							NP(4)+Pre(2)=6
4		17	3	1							
5		14	2	1							
6		12	2	1							
7	R	9									
8		17	2	1							NP(1)+pre(2)=3
9		12	2	1							
10		9	1	1							
11	E	8									
12		8	1	1							
13		10	1	1							
14		11	1	1							
15		14	1	1				1			NP (2)+pre (2)=4
16		17	1	1				1			NP(2)+past part(5)=7
17		12	1	1							
18		9	1	1							

19	R	18									
20		8	1	1							
21	E	18									

Appendix 8a: Posttest sample script of a student (student 10)

- 1 As I am learning translation now.
- 2 I think learning English grammar is of paramount importance.
- 3 Doing grammar corrections, reading textbooks and sentence imitation, not only does it enhance my sentence structure, but also help me comprehend the passage in an easier way.

- 4 Apart from that, Hong Kong where the East meets West.
- 5 As we all know that Chinese culture is totally different from the Western culture in terms of slang, colloquial and proverb.
- 6 In the portfolio, I have done much about these which I found interested in.

- 7 However, frankly speaking, doing the text analysis is rather boring for me that I considered not as useful as the three things I mentioned before.
- 8 This course can also help me to develop a reading habit, for examples, Times magazines, news report and some English drama series.
- 9 Lots of new vocabularies, long sentences structure and adjectives are learnt.

- 10 It's a little bit shame that now until now I discover the subtle difference between component making up a sentence.
- 11 Knowing about these terms can help me write grammatically correct sentence.
- 12 Before I can't distinguish adverbial and adverb phrase.

Appendix 8b: Stage I Posttest sample coding sheet of a student (student 10)

Subject No: ____10____ Pretest1

Pretest 2

Posttest (✓)

	Basic counts			Sentence types				Advanced features			
Sentence	R/F	W/S	No. Clause	Simple	Compound	Complex	Compound+complex	Participle clause	Coordinated subordination	Appositive/parenthetical	length of noun phrases with modifications NP(2)+pre(6) +rel(4) +infi (5)=17
1	F	6									
2		9	2	1							
3	R	27									
4	F	10									
5	E	21									
6		14	2	1							NP (1)+rel (5)=6
7	E	25									
8		22	1	1							
9		11	1	1							
10		20	2	1				1			NP(3)+pre (2)+part (4)=9
11		11	1	1						,	
12		8	1	1							
..											

Appendix 9: A summary of definitions of key terms used for stage I coding

(i) Basic totals

Term	Definition	Example
Sentence	whatever a student wrote between a capital letter and a period or other end punctuation	I am smart.
Clause	a structure with a subject and a finite verb	what I want to study
Fragment	a sentence with some obligatory sentence elements missing	As I am learning translation now.
Run on sentence	a sentence with two independent clauses incorrectly written with inappropriate punctuation or inappropriate connectors	In this task, we have to find a long sentence ourselves, after finding the sentence, we have to examine it closely in order to analyse its structure.
Unclassifiable sentence	A sentence which is difficult to make sense of or classify(due to errors)	However, frankly speaking, doing the text analysis is rather boring for me that I considered not as useful as the three things I mentioned before.

(ii) sentence types

Term	Definition	Example
Simple sentence	A sentence having one main finite verb	Peter came into the classroom.
Compound sentence	A sentence having 2 main clauses joined by a coordinator such as 'and' or 'or'	Peter came into the classroom and he greeted the teacher.
Complex sentence	A sentence having one main clause and one or more subordinate clauses	Though I have lecture and tutorial notes, I still need more grammar explanation when I revised this subject.
Compound complex sentence	A sentence involving both coordination and subordination	If I read a long sentence from a magazine or a newspaper and if I don't know how to analyse it, I don't understand the structure of it.

(iii) target advanced forms

Participle structure	In this research, only participles used as noun modifiers (example 1) or postmodifiers (example 2) were counted. Participle used as noun phrases (example 3) or complement of prepositional	<ol style="list-style-type: none"> After going home, I did my homework. The man working there. Learning grammar is difficult.
----------------------	---	--

	phrases (example 4) or premodifier of nouns (example 5) were excluded.	4. for seeing him 5. washing machine
Appositive structure	It included appositive nouns (example 1) and appositive that clauses (example 2).	1. The topic language and gender 2. The saying that he is clear
Non-defining relative clause	A non defining relative clause has the function of adding more information about the preceding NP, but does not function to identify or define the NP. A comma is used between the NP and the relative pronoun.	My father, who is a Chinese calligraphist, has taught t me a lot about Chinese culture.

(iv) complex nominals

Complex nominals	Nouns having postmodifiers, e.g. NP+ prepositional phrase (example 1), NP+ participle structure (example 2), NP+ non-defining relative clause (example 3)	1. the man in front of me 2. the man sitting there 3. the man who was sitting there
Defining relative clauses	A defining relative clause has the function of identifying or defining the preceding NP. No comma is used between the NP and the relative pronoun.	the man who is sitting in front of me

Appendix 10: Stage II sample coding sheet of a student (student 10)

Case number: 10

	Code		Pretest 1	Pretest 2	Post test
1.	RawS	Total number of sentences recorded	14	21	12
2.	R	Number of run on sentences	1	2	1
3.	F	Number of fragments	1	1	2
4.	U	Error, mazes, garbles and unclassified forms	0	2	2
5.	s	Total number of correct sentences only	12	16	7
6.	w	Total number of words of correct sentences only	162	202	95
7.	c	Total number of clauses of correct sentences only	23	22	10
8.	S_1C	Sentences with 1 clause	4	11	4
9.	S_2C	Sentences with 2 clauses	6	4	3
10.	S_3C	Sentences with 3 clauses	1	1	0
11.	S_4C	Sentences with 4 clauses	1	0	0
12.	S_5C	Sentences with 5 clauses	0	0	0
13.	S-6C	Sentences with 6 clauses	0	0	0
14.	N_Simple	Number of simple sentences	6	16	7
15.	N_Comp	Number of Compound sentences	1	0	0
16.	N_Cplex	Number of complex sentences	5	0	0
17.	N_CoCp	Number of compound and complex sentences	0	0	0
18.	Nmc_CoCp	Number of main clauses in compound complex sentence	0	0	0
19.	N_Participles	Number of participle structure	1	3	1
20.	N_subpart	Number of participle structure with subordinator	0	0	0
21.	N_CoSub	Number of coordinated subordinations	0	0	0
22.	N_NDRel	Number of non-defining relative clause	0	0	0
23.	N_Appo	Number of appositive structures	0	0	0
24.	N_NPcom	Number of complex nominals (i.e. NP with postmodifications)	2	5	2
25.	W_NPcom	Total words of complex nominals	16	30	15
26.	N_Rel	Total number of defining relative clause used within complex nominals	1	0	1

Appendix 11: Gross figures of the raw data of the three tests

	Code	Pretest 1			Pretest 2			Posttest		
		total	mean	S.D.	total	mean	S.D.	total	mean	S.D.
Number of sentences recorded	RawS	800	19.51	5.675	705	17.2	3.250	762	18.59	5.291
Number of run on sentences	R	53	1.29	1.692	48	1.17	1.046	30	0.73	1.285
Number of fragments	F	32	0.78	0.822	21	0.51	0.779	26	0.63	0.829
Number of unclassified sentences	E	2	0.05	0.312	8	0.20	0.601	3	0.07	0.264
Number of correct sentences	s	713	17.39	5.417	628	15.32	3.474	703	17.15	5.388
Number of words of correct sentences	w	11223	273.72	68.782	9156	223.31	33.392	11698	285.32	86.096
Number of clauses of correct sentences	c	1202	29.29	8.625	963	23.49	4.894	1179	28.76	10.376
Number of T-units	t	759	18.51	5.925	685	16.71	3.828	767	18.71	5.948
Number of simple sentences	N_simp	471	11.49	4.837	477	11.63	4.591	499	12.17	4.571
Number of compound sentences	N_com	43	1.05	1.2	57	1.39	1.604	49	1.20	1.385
Number of complex sentences	N_cplex	171	4.17	2.006	88	2.15	1.702	141	3.44	2.461
Number of compound complex sentences	N_CoCp	21	0.51	0.634	6	0.15	0.358	21	0.51	0.745
Number of subordinate clauses	N_sub	456	11.12	4.322	289	7.05	3.119	422	10.29	5.273
Number of participle structures	N_part	36	0.88	1.151	38	0.93	1.085	91	2.22	1.745
Number of coordinated subordinations	N_CoSub	14	0.34	0.489	6	0.15	0.459	7	0.17	0.300
Number of non-defining relative clauses	N_NDRel	7	0.17	0.300	6	0.15	0.400	7	0.17	0.300
Number of appositive structures	N_appo	1	0.02	0.156	13	0.32	0.475	1	0.02	0.156
Number of complex nominals	N_NPcom	242	5.90	3.386	314	7.66	3.375	274	6.68	3.861
Number of words in all complex nominals	W_NPcom	1648	40.20	24.862	2157	52.61	28.217	2211	53.93	27.933
Number of (defining) relative clauses	N_DRel	64	1.56	1.344	63	1.54	1.485	98	2.39	2.084

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