were doing the test. Tapes were transcribed with timings between utterances, and indications as to where subjects were quoting from the text, from the test items, or from their own short answer responses.

Results

The purpose of this article is to give a brief flavour of the introspective procedure and draw attention to some of its advantages as well as some of the drawbacks discovered in the use of the technique in the context of the current research project. In this section therefore some examples of the types of data produced in the study will be discussed to give some idea of what analysis can reveal, and to show some of the inherent problems with introspective studies in general. Full results of the test validation process will not be given here.

Discussion of examples

Subject A

The test item which initiated the protocols discussed below appears relatively unproblematic as a means of assessing main idea comprehension since it asks directly for a statement of the main idea of a relevant part of the text:

'5. Use your own words to state briefly the main idea of the final sentence.'

The 'final sentence' it refers to is as follows:

A growing body of research suggests that there is a positive relationship between certain teacher classroom management behaviours and desirable learner outcomes, including student on-task behaviour, student achievement, and student attitudes.

The item was worth four marks to be awarded for the presence of four propositions specified in the marking scheme as:

Research results suggest (1)
some class management behaviours (1)
may produce good learner attitudes (1)
class behaviour and achievement (1)

The answer provided by subject A was:

'The way/style of a teacher in teaching will have direct effect on students' learning.'

Judged by the marking scheme criteria the student's written answer would not gain any marks, though generous marking may assign one mark for her recognition that 'relationship' in the sentence signifies an effect of teaching on learning. The answer fails to isolate the importance of classroom management as distinct from instructional skills in this effect, a main point of the text being the distinction between management and instruction. The answer also sees the relationship as direct, whereas it is more likely to be a correlation rather than a direct effect.

What does Subject A's protocol reveal about the validity of this item? Looking at each of the data sources in turn (see Table 1 above) we can see, from her reading aloud of the sentence that she was able to pronounce the words accurately but that her reading was rather halting with a number of pauses. These pauses probably indicate that she was considering the meaning of the sentence as she read it or allowing the 'automatic construction' (Johnston and Afflerbach 1985:213) strategy to produce the sentence main idea. Her pause at the end of the sentence is a more significant indication of difficulty in interpretation since it is part of a twenty-four second pause interrupted by her self-report (refer to Appendix for a key to the transcription system used):

(00:12) I'm thinking the sentence again (00:12)

She appears to identify the term 'positive relationship' as having key status since she reformulates that phrase after her long pause:

positive relationship. would means (00:01) a direct . a direct directly (00:02) er (00:01) effect (00:02) effect the (00:03) teacher classroom management behaviours and desirable learning outcomes directly

The protocol substantiates two conclusions drawn from examining her written answer—that she does indeed see 'positive relationship' as signifying a direct effect, and that she fails to see the importance of distinguishing management from instruction:

but it depends on the teachers (00:01) behaviour. er but this behaviour include both the instructional activities (00:01) and the managerial be. activities

The protocol also reveals however, that the subject could have gained more marks by expressing her interpretation of the sentence as fully in writing as she does orally—she makes a clear mention of the beneficial effects on learning and attitude in her oral protocol which she failed to express clearly in writing:

that will (00:01) make (00:02) the student learn (00:01) more effective (00:02) and the student can learn. can learn more (00:01) and (00:02) er doing their work better. and (00:02) will have better attitude while in the lesson

Thus the data appears to illustrate a drawback in the short answer question type—that difficulties in expressing intended meaning in writing will interfere with the accuracy of the assessment of reading.

Assessing the degree of fit between the cognitive processes which appear to be used in reaching an answer to the item and those processes postulated in the model of the reading process which informs the test design will tell us something about the construct validity of the item. By reference to the Johnston and Afflerbach (1985) main idea construction strategies we can see examples in the data of the automatic construction or 'crunching' strategy:

The crunching procedure seemed to involve the reader stopping input and rather passively waiting for an automatic process to operate on information already in working memory.

Johnston & Afflerbach 1985:213

and of the listing strategy:
The first reading allowed selection of important elements, so they simply
skimmed the paragraph picking out and listing the important words and
phrases. (op cit :213)

Understandably, as the wording of the item is so direct the behaviour
appears to mirror real life main idea construction strategies. However,
interpreting the introspective data requires a great deal of subjective
judgment. The significance of much of the data is far from transparent and
the investigator is forced to rely on subjective interpretation much of the
time. One way of overcoming this obstacle is to carry out some form of
retrospective interview with subjects to verify that conclusions drawn from
the data are correct. Grotjahn terms this method *communicative validation*
and used it in his studies of the C-test (1987:73). However with a large
number of subjects and a large amount of data to analyse and transcribe
there may be a considerable gap between the taking of the test and the
drawing of even tentative conclusions, by which time the subject is not likely
to be able to recall much about the cognitive processes which he or she used
in taking the test. Another way of overcoming the problem is to sit with the
subject while he or she is taking the test and probe for more information
when introspections are ambiguous and open to interpretation. This was the
technique used by Alderson (1990). It requires a very quick-thinking
investigator, and it has inherent dangers. Subjects may be inhibited by
the presence of the investigator, or influenced by leading questions
inadvertently posed by the investigator; or concerned to try to say what they
think the investigator wants to hear.

Further Examples

Subject B

Her written answers to item I/5 was the following:
A research suggests that what a teacher does to maintain classroom
management and predict the student to know falls into a
positive relationship. Examples include student on task behaviour,
student achievement, and student attitudes.

The lack of clarity in this response makes it very difficult to assess.
Examination of the subject's protocol helps to elucidate her intended
meaning. One source of ambiguity in the written response concerns the
scope of the conjunction 'and'—without the protocol, it is not clear whether
the two verb phrases are grouped as a single unit which has a positive
relationship with something else, or whether they are seen as being related
to each other:
*(00:56) the last sentence talks about the relationship between
instruction and management er they fall in. to the. they fall into the
positive relationship that means er (00:02) if man classroom
management is effective then ins. instruction can be given. effectively
(00:01)*

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A second source of ambiguity is the elliptical 'Examples include...' where it is not clear what the items listed are supposed to exemplify, the protocol clarifies this point:

> and (00:05) this (00:07) and management examples of management behaviours include the <u>student on task behaviour</u> (00:03) and <students>' attitudes and er (00:06) and a learning examples of <u>learning outcomes.</u> of the instruction and the <students> achievement

The protocol also suggests that the subject had a greater understanding of the sentence than is suggested in her written answer:

> (00:01) student achievement is also highly (00:01) related to the (00:02) to the classroom management (00:37) { teacher classroom management <behaviour>} (00:01) suggest that

Finally, there is evidence in the protocol that the subject has made a logical inference which had not been predicted by the test designer, and which, had she been able to express it more clearly in writing, would have given her a higher score than the 25% her actual response gained. This inference justifies the subject's assertion that the relationship mentioned in the sentence is a relationship between management and instruction. The logic would run as follows: 'desirable learner outcomes, including student on-task behaviour, student achievement and student attitudes' are examples of the products of effective instruction, therefore the relationship between these things and management is 'the relationship between instruction and management'. Or, in the words of her protocol:

> 'if <man> classroom management is effective then <ins>. instruction can be given. effectively'.

This inference is certainly logical and shows that the subject has actually understood the core meaning of the sentence she is summarising, i.e. the relationship between 'management' and 'desirable learner outcomes'. The evidence for the subject having made this inference is, however, far from clear. In order to verify that she has indeed made such an inference, it would have been necessary to carry out a communicative validation of the investigator's interpretation in the form of a post-introspection interview.

Subject C

Another subject's response to item I/5 was as follows:

> A group of people have conducted a research and it suggests that certain teacher classroom management behaviours is related to desirable learner outcomes such as student on-task behaviour, student achievement, and they have positive relationship.

Referring again to the marking scheme for this item shows that all the propositions looked for by the markers are present in the response. However, the written response is problematic for two reasons. Firstly, the subject has not stated the main idea in her own words as the item asks her to, instead she has rearranged the wording of the text sentence. Secondly, she has failed to demonstrate her understanding of the nature of the relationship

which the sentence mentions. A marker would suspect that the subject had merely copied from the text wording, rearranging the original in the hope that despite her lack of comprehension she could gain a few marks. A generous marker might nevertheless give the answer full marks.

The protocol for this item is interesting for a number of reasons. It shows that the marker's suspicions were well founded, and that the subject really did not understand the sentence she was trying to summarise. It also shows something of the affective factors influencing test performance. The subject's frustration with the test is evident from her intonation (rather inadequately reproduced here by means of an exclamation mark) as she reads the question out, an intonation which indicated shock or surprise:

> *now I answer find the answer of question five use your own words to state briefly the main idea of the (00:01) final sentence! final sentence where is the final sentence (00:01) is it mean that erm the last sentence in paragraph four mhm maybe (00:02) maybe (00:02)*

She goes on to clarify to herself what the question is asking, and once again her frustration is evident from the amount of 'tut-tutting' (reproduced here as 'task') she does:

> *briefly the main idea main idea tsk (00:05) is that mean I just write the meaning? of this sentence or tsk (00:02) er (00:07) or (00:03) write this the meaning or (00:01) I explain and I have to give some example tsk is it necessary for me to give some examples? (00:02) briefly the main idea (00:02)*

Finally she admits her real problem with the item:

> *actually I don't understand (00:02) I don't understand this umm (00:01) this er this final sentence because I can't imagine whether how the management behaviours (00:01) is related to desirable learner outcomes I don't understand (00:03) I can't write write some examples to illustrate (00:01) to explain the (00:02) the mm the main idea but I can only write the meaning (00:02) just (00:02) the meaning of this sentence I can just write down erm (00:02) the management behaviours is related to desirable learner outcomes such as err student on-task behaviour student achievement and student attitudes but I can't get the idea (00:02) so I just write down (00:04) the meaning of these two sentences and I don't understand what's the meaning of positive relationship what's positive how? (00:03) I haven't got any examples (00:04) positive relationship (00:02) then what is negative relationship? (00:06) positive relationship (00:05) if there's no examples (00:04) I don't know how how the management behaviours or how teacher classroom management behaviours (00:03) can have a positive relationship (00:03) to the learning outcomes task okay (00:01) just (02:43) okay question six*

Here the protocol has helped to provide evidence of a test-taking strategy which, from truly test-wise students, may produce some plausible looking responses which are based on little or no comprehension of the text. The protocol also shows that, in this case, it is frustration rather than

cunning which has led this subject to attempt to employ this strategy. It may be that we often misinterpret the motivation behind test-taking strategies and that if we realised that they may originate in frustration rather than deviousness we might have a more productive response to them, when evaluating the test and students' performance on the test.

Summary and Conclusions

A number of the problems are inherent in the introspective validation procedure. Firstly, in order to produce sufficient data for statistical verification, large numbers of subjects should be involved. Analysis of the data inevitably involves subjective judgment and though techniques have been developed to verify these judgments they are difficult to accomplish. If communicative validation is to be used, the introspective data should logically be analyzed before the subject is interviewed by which time the cognitive processes of interest will have been long forgotten. Another problem with the technique is the enormous amount of time and effort it requires. For small-scale test development projects it is questionable whether the expenditure of this time and effort would be worthwhile. Analysis of the data and the drawing of conclusions involves another problem in discovering the best method of presenting findings. Quantification of the data is necessary to provide scientific respectability, but quantified results do not have the same immediacy or relevance to the reader as the raw data have for the investigator. In addition to quantified findings, there is a need for the establishment of a database of introspective studies of new and established tests where data are presented in such a way that the test-taking process is fully illuminated. The present study has revealed the need to train subjects in the introspective task. If insufficient training is provided subjects may simply use the tape as a means of recording their answers and not produce any truly introspective data. Another problem concerns the reproduction of test conditions in an introspective study. Test motivation is a powerful force in many students when their future career may depend on their test performance. It is difficult to reproduce the power of this motivation in an introspective study, which might suggest that the real test-taking process cannot be observed through introspection.

Though it has many drawbacks and problems, introspection provides the possibility of illuminating the test-taking process. We do not yet know enough about how students behave in tackling test tasks, carefully controlled use of introspection could produce a genuine advance in our state of knowledge in this area, with the establishment of a database of qualitative data illustrating the effects of particular testing techniques on test taking behaviour. It is authenticity of process—the degree of fit between the cognitive processes employed by the test taker and those employed in real performance of the cognitive skill—by which a test should be judged, and introspective studies provide the means of doing so.

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APPENDIX A

Key to transcriptions:

Symbol	
full. stop	short, but significant pause
(00:01)	pauses in minutes and seconds
underlined	quotation from text
<outcome>	mispronounced quotation from text
italic	quotation from test item or rubric
<*behaviour*>	mispronounced quotation from test item or rubric
?	questioning intonation
!	surprised intonation
and good	quotation from/rehearsal of written answer

THE PERFORMANCE PRINCIPLE: TOWARDS A MORE ACTIVE ROLE IN THE HONG KONG ENGLISH CLASSROOM[1]

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The Problem

We are all familiar with the difficulties of making examination oriented text-book teaching communicative. Indeed, many Hong Kong teachers would probably acknowledge that they pay lip service to communicative methodology. They might point out that the pressure on them to *perform* their exam preparation duties in the classroom, as well as on students to *perform* well enough in the exam itself to gain admission to Form 6 or to University, is enormous.

Note the use of the word *perform* in this context. In the Oxford Advanced Learner's Dictionary there are four shades of meaning given for the word. Firstly, a musical or theatrical event or action. Secondly, the manner of carrying out an activity or piece of work ('performance' in the examination is the example cited). Thirdly, the ability of a person or machine to do something well. Fourthly, something that needs a lot of effort, work or preparation e.g. 'What a performance!'

We suggest that the more creative connotations of performance inherent in the first definition can be linked with the more mechanical ones involved in the latter three, and that the creative aspect of performance can have a highly beneficial effect, not only on examination results, but, more importantly, on the individual student's academic and personal development.

The new AS Level oral component, which will be part of the 1994 paper, has caused a certain amount of consternation among Form 6 teachers—essentially because it involves performance skills that cannot be taught in a programmed or mechanistic way. We suggest that the Form 5 certificate oral test in revised format, involving role-play and interaction between candidates, will be even more worrying for teachers when it is introduced in 1996.

The kind of performance expected in this type of oral exam is more complex than in the present rather basic model, and will entail awareness on the part of students not only of the linguistic features of spoken discourse,

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[1]This paper was presented at the International Language in Education Conference, Hong Kong, in December 1993. It was accompanied by a video showing a joint performance festival which a small group of teachers from three schools planned and conducted as part of an action research project on the ILE Refresher Course for Secondary Teachers of English, No. ES932.

but also of paralinguistic (intonation, stress, use of pauses etc.) and extra-linguistic, or proxemic, features. For example, gesture, eye-contact, facial expression, posture, distance—body language in general. Moreover, students will need to master a range of skills, not only discussion skills and the specialized language of discussion, but public-speaking, and even acting skills.

Although a limited number of students are familiar with the demands of adjudicated performance in spoken English, through their experience of the Hong Kong Speech Festival particularly, the vast majority are rarely, if ever, given the opportunity to perform in English. Those less self-confident, less able, less adventurous students are seldom willing to expose themselves to the perceived perils of public performance and to the potential criticism of strangers. Most teachers, already burdened with a demanding work-load in the first academic term, simply do not have the time to devote themselves to preparing any but the most able, those who may reward such investment of time and effort by gaining honour and recognition for the school.

The Solution

The inevitable question is therefore, given the present unfavourable conditions for nurturing students' spoken English performance skills, *how* can teachers face the challenge of preparing all candidates for these oral assessments with confidence? The answer, we would like to suggest, lies with performance.

Obviously, there are many constraints—such as space, class-size, environment, proximity to other classes, as well as more or less overt pressure to conform to the teacher-centred, teacher-controlled norms of other classrooms and subjects, particularly in respect of noise levels and the configuration of students and desks. There are, however, imaginative ways for the enthusiastic teacher to overcome these logistical problems through negotiation, explanation and co-operation, rather than confrontation.

The film 'Dead Poets Society' in which the teacher made poetry a living experience for his students was extremely popular among Hong Kong students, perhaps because it conveyed the idea of making what you do extra-ordinary. You don't need to encourage students to stand on desks to do this, as they do in the film, but merely to create a performance area by pushing back the desks. Alternatively, preparation can be done in the classroom for performances in the school hall in front of classmates, other classes, or even invited students from other schools.

A project carried out by a group of upper secondary teachers on Course 932 at the ILE was realized in this manner.

The teachers worked with Form 6 students from two typical Hong Kong secondary schools to prepare a Performance Festival, in which the students were both performers and spectators. In a period of less than two weeks, they learnt a great deal about performance skills and the importance of collaboration, which, judging from the surveys carried out by the project

initiators, will benefit them both in the immediate future, and in their longer-term goals.

The types of performance were not intended to be seen as distinct or highly specialized, as they would be in a more professional sphere, although of course, as the Hong Kong public well know, good actors often make good singers and vice-versa. The emphasis was on the various skills—linguistic, para- linguistic and extra-linguistic, which performance entails. However, an awareness of the form of the different types of texts themselves and of their common features was also explored.

During their Festival the students performed songs, drama and poetry and we would now like to make some general points about two of these: poetry and drama.

Performing Poetry

Reciting poetry is not necessarily the same as performing poetry. One can be said to have recited a poem by standing in front of a microphone, hands behind one's back, and 'speaking' the poem while staring straight ahead. However, in order to perform a poem successfully one has to bring into play those extra-linguistic features of spoken discourse mentioned above (gesture, eye-contact, facial expression, posture, distance—body language in general). A successful performance of a poem will enhance enunciation and intonation. It will include interpretation and increase enjoyment. Good performers make the poem their own and put life into the words on the page.

As John McRae (1991) writes: 'The text comes to life when performed; it comes off the page, and becomes very much more than either simply a reading text or a listening exercise ... the performed version offers an *interpretation* of the text which the readers can interact with, accept or reject, discuss and evaluate. A vital extra dimension is thus given to the material, while accessibility is facilitated and enjoyment potential enhanced.'

There is, however, an additional reason why 'poetic texts' should always be performed and it has to do with the very nature of poetry itself.

In his book *How Poetry Works* P.D.Roberts (1986) demonstrates how writing English poetry normally involves the arrangement of the rhythmical sound patterns of normal speech and that it is the 'stress-based product of speech and sound, not of the printed work'. Most poets choose many of the words they use, not only for their meaning, but also for the way they sound when spoken. They also consciously arrange these words in such a way that when their poem is performed the listener hears a rhythmical pattern of sound which pleases the ear and enhances meaning.

Before the invention of the printing press, when books were relatively rare because they had to be handwritten, reading was necessarily a public or private 'performance'. This might have taken place in public during a festival or ceremony at court, during a family gathering at the home of a wealthy landowner, during a service or a meal in a monastery, or in private in front of one's lover or mistress. Such performances would certainly have included

poetry because people would have realised, through experience, that poetry is the perfect performance material. Poems would have been regarded in the same light as music or song which has to be performed in order to be enjoyed or even understood. A sheet of music for example, means very little to most of us until it is performed by musicians.

In those days therefore, the majority of people would have experienced poetry only during a public performance and would not have considered poems to be principally material for silent reading. Unfortunately, this is not the case today mainly because of the popularity of public examinations which force students to study a poem as one might study a prose text or, as P.D.Roberts(1986) says, as 'meaning conveyed by the printed word rather than as meaning conveyed by sound'. He regards this development as inappropriate because, as he puts it, 'Rhythm and sound are the heart of the poem'.

It follows therefore, that when one is using poems with students and especially non-native speakers of English, they should always first listen to and watch a good performance of the poem to be used before they read it. This is not only the appropriate way to enjoy poems at the outset, but it also provides a model for them when they come to perform a poem of their own choice or a poem they may have written themselves. Moreover, making performance the lynch-pin of a lesson in which a poem is being used will not only encourage them to react and respond to it, but will also give them a feel for the stress- based sound patterns of spoken English.

Drama

Most text-books contain role-plays, dialogues and other material that is intended to be communicative, or even to a certain extent, dramatic. The function of this material is usually to practise specific structures or vocabulary, and little thought is given to the intellectual and emotional relations between the speakers. Furthermore, the tidy sequence of grammatically correct and unnaturally perfect utterances makes the whole exercise appear contrived, frigid, and devoid of personal significance for the learner. By far the most interesting role-plays are those without scripted dialogue, involving basic information about character, situation and objectives, with a communication gap that allows for spontaneity, linguistic creativity and real engagement with the role. Unfortunately, Hong Kong teachers tend to prefer the former highly structured type with its greater predictability, artificiality and ultimately, sterility.

However, the text-book can be used as a departure point for drama even at a fairly simple level. An incident in a presentation passage can be mimed by small groups of students with dialogue improvised by others or elicited by class conferencing and brainstorming. Such humble beginnings may be the basis for a drama project or play. Adaptation of text-book material, of sections of class-readers, of extracts from films or songs, can often be a valuable exercise, in that it gives students an insight into the

nature of a text, and its sub-text i.e. what is contained 'between the lines.' There is a highly practical advantage of encouraging students to develop simple scripts based on a given scenario, since the dialogue option of the HKCEE Paper 1 has become a regular feature of this exam.

In general however, it is a good idea to rely on the students' own interests and experience to form the theme or content of the drama. The teacher should focus on known vocabulary, and encourage students to restrict themselves to short exchanges if they are producing dialogue. Even monosyllabic utterances like 'yes', 'no' and simple expressions like 'sorry', 'goodbye' and 'thanks a lot' are open to an enormous range of interpretations and deliveries. Concentration on these details help to heighten students' awareness of the importance of prosodic features, such as rhythm, intonation and pitch in spoken discourse. We often find students tend to deliver learnt speeches or lines with machine gun-like fluency in the misguided belief that hesitations, distractions and pauses are somehow unauthentic. In fact, in the drama the reverse is true—hesitations and pauses are often built into a script, and even where they are not, pauses are often desirable in appropriate places. The realization that native speakers, too, make performance errors, false starts, even grammatical solecisms, will help the second language learner to appreciate that written and spoken forms of discourse usually involve very different conventions and strategies.

There are an infinite number of ways to stimulate students' imagination—photographs, newspaper articles, T.V. advertisements, pop songs, films—to name but a few—in order to encourage them to work on their own scripts or to semi-script and fill in the remaining dialogue through improvisation. Drama games, such as charades, can always be used as a point of departure for more creative work, and also to encourage good group dynamics. Authentic texts should not be used at the beginning (by authentic texts, we mean plays by established English language dramatists) since they will involve too many difficulties of interpretation. The students' own texts will provide plenty of opportunity to work on vocalization and movement. Voice modulation, rising and falling patterns of intonation, rhythm, correct pronunciation—all require practice, and the cassette recorder (or walkman) is the ideal instrument for enabling students to improve through listening and repetition. The combination of voice and movement can best be appreciated on video playback; so video too has a vital role to play. All this practice and self-observation will be for a genuine purpose—that of the performance.

So, to the performance itself. If insufficient time and space are at your disposal, a video or audio cassette recording may well become your performance objective. However, it is worth remembering that the live element of performance is particularly stimulating and students' improvement can best be gauged by the progress achieved between first tentative practices or rehearsals and the actual performance. That is not to say that perfection should be expected—simply that students and teachers are likely to identify with one another in the pursuit of a common goal, and

therefore students will take more responsibility for what happens, because the performance belongs to them. By this stage, incidentally, the language belongs to them too, its form having been learnt by heart, but its meaning acquired in a natural context.

There are opportunities to participate in Competitions such as the Hong Kong Schools Drama Project as well as in Festivals and internal school competitions. Our own experience of the enormously beneficial effects of drama on students' oral proficiency, pronunciation, posture and self-confidence is derived from working with groups of initially inhibited secondary students from years one to six, seeing the play extracts chosen for the Hong Kong Drama Competition gradually take shape in workshops and rehearsals, to the point where the actors and actresses performed beyond our wildest expectations in the actual event. We do not believe that these particular students are the only ones with such talent. In fact, whenever we have witnessed performance in Hong Kong secondary schools, we have been struck by the rich potential of many students for observing and mimicking, for employing humour, pathos and even irony on occasions, for spontaneity as well as for studiously rehearsed effects.

To return to the classroom—if a large-scale performance is neither practical nor desirable, simple classroom sketches can be equally rewarding, and in these situations, an accomplished presentation is not essential— indeed humour and valuable language learning insights are frequently derived from performance errors. Case and Wilson's Offstage Sketches from the English Teaching Theatre, a European touring EFL drama group, are good examples of humorous sketches which can be exploited in the original form—or adapted to include local colour. They are specifically written for intermediate level learners of English. Teachers can encourage students to work in small groups to produce a skit or humorous sketch on a theme which may be relevant to other language skill areas, such as composition or listening work.

Students soon become accustomed to the idea of presenting, even if many show initial reluctance. For those who are resistant to the idea of performing in a dramatic context, a talk or oral presentation to the rest of the class is another option. Nevertheless, performance skills still need to be developed, therefore projection and good posture should be encouraged by the teacher. Puppet theatre based on cartoons or even short cartoons on video with students' voice-overs substituted for the original sound are further alternatives. Karaoke singing by groups or individuals can also help to increase awareness of the need for good pronunciation and clear articulation.

Above all, it is important for the students to become actively engaged with the material, and not to feel threatened by exposing themselves to the danger of peer ridicule. The sensitive teacher will intuitively know when a student feels threatened, and, equally, will be aware of the need for students to be challenged and to extend their capabilities. Students are interested in characters and situations, rather than language for its own sake. They rightly

perceive language as a medium, which conveys meaning in context. Drama and performance provide this context for the exploration of discourse, and in particular its transactional and indexical features i.e. who initiates and controls dialogue and events and what the attitudes of speakers towards those events and each other are. In addition, the activity is a student-centred one, in which the teacher <u>plays</u> the <u>role</u> of adviser or facilitator rather than authority. After all we all play roles every day, as Shakespeare so pertinently noted:

All the world's a stage
And all the men and women merely players.

Conclusion

There is an expression employed in grammatical terminology— 'performance-competence gap', describing the difference between internalized rules of grammar and the grammatical accuracy of actual utterances. Performing in English will not only help to narrow this gap, because greater attention is being paid to accuracy, by the very nature of rehearsal, but it will also help students to appreciate the interdependence of the two. Simulations of interviews and meetings, role-plays, sketches, improvisations, one-act plays—all provide a focus and a target for the learner/performer. Speaking poems, choral speaking and jazz chants all help to bring the written word alive for students, giving context and purpose to what would otherwise be a mechanical learning experience. Besides, the process of creating the performance 'product' is crucial to students' understanding and enjoyment of the materials used. Practices, rehearsals and workshops provide an opportunity for students to develop constructive self-criticism and a sense of collaboration and experience. They encourage the notion of ever-improving capability in mastering the language skills and vocal techniques involved in performance, both in the short term and the long term. As may well be appreciated, the concepts of process, product, purpose and context in an activity constitute an integral part of the modern curriculum. In future task-based English teaching, we firmly believe that the performance principle should be at the very heart of a target-oriented curriculum.

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BRIDGING CHINESE-MEDIUM AND ENGLISH-MEDIUM CONTENT-AREA INSTRUCTION THROUGH CROSS-CULTURAL GRAPHIC REPRESENTATION OF KNOWLEDGE STRUCTURES

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Introduction

The issue of whether English or Chinese should be the medium of instruction for secondary school students in Hong Kong has been the concern of educators, parents, and students for over a decade. In a recent article in the South China Morning Post (South China Morning Post, April 9, 1994, p. 17) on Chinese versus English medium instruction, the pros of Chinese-medium instruction are explored and suggestions have been proposed for providing Chinese-medium students with English-language bridging courses to prepare them for employment. This paper addresses the problem of bridging Chinese-medium and English-medium content-area instruction for English as a second/foreign language (ESL) students, and proposes a possible solution to the problem. 1. It describes the underlying assumptions of the paper, prior knowledge, the Knowledge Framework, and a classroom model based on the Framework; 2. it reports on the findings of an ethnographic study conducted in Hong Kong; and 3. it suggests that the classroom model is a possible solution to the problem of bridging Chinese-medium and English-medium instruction.

Underlying Assumptions

The underlying theoretical frameworks of this paper are prior knowledge (e.g. Swales 1990) or schema theory (Bartlett 1932, Carrell 1988) and the Knowledge Framework (Mohan 1986).

Prior knowledge

This theory assumes that learning is the interaction between prior knowledge and new knowledge. To effect learning, the teacher or the instructional material must be able to activate students' prior knowledge. Prior knowledge is students' accumulated store of facts, concepts, procedures, skills, etc. which contribute to the formation of content schemata and formal schemata or the rhetorical structures of different types of texts (Carrell 1983). The concept that background knowledge constitutes the foundation for students' future learning is increasingly being recognized.

For Hong Kong students, or Chinese students who have to learn content knowledge in English, background knowledge is defined as the sum total of the experiences, both formal and content (Carrell 1983), acquired both in Chinese and in English. While some content schemata may be

culture-specific and thus fail to exist for second language learners (Carrell & Eisterhold 1988), according to the linguistic interdependence principle, there is also a common underlying proficiency which makes possible the transfer of academic or literacy-related skills across languages (Cummins 1989). It is agreed that teachers can, and should, make use of students' prior experiences to facilitate student learning of new knowledge. What are some of the commonalities across languages/cultures which can be used to elicit students' background knowledge and academic or literacy-related skills learned in another language? Can ESL students' available prior knowledge learned in Chinese be activated by an English-speaking teacher? I propose that one solution is the Knowledge Framework.

The Knowledge Framework

Mohan (1986) maintains that there are certain knowledge structures which are common across subject areas. They include classification, principles, and evaluation, which are categories of general, theoretical knowledge; and, description, temporal sequence, and choice which are categories of specific, practical knowledge (see Figure 1). Knowledge structures show the semantic relations of discourse. They are reflected in the top-level or macro-structure of written text. They are representations of the thinking skills classifying, relating cause-effect, evaluating, describing, sequencing and decision-making which are underlying proficiency skills. These thinking skills match the thinking skills that students are expected to learn in elementary and secondary schools as listed in the objectives of various curricula. Some examples of the thinking skills associated with each knowledge structure are shown in Figure 1.

Figure 1.   The Knowledge Framework

CLASSIFICATION	PRINCIPLES	EVALUATION
Classifying Categorizing Defining	Explaining Predicting Interpreting data & drawing conclusions Developing generalizations Relating causes and effects Experimenting	Evaluating Judging Criticizing Justifying preference, personal opinions
Observing Describing Naming Comparing and contrasting	Planning procedures Carrying out and arranging events in sequence Understanding time and chronology Noting change over time	Recommending Making decisions Recognizing issues & problems Identifying alternate solutions Problem solving
DESCRIPTION	SEQUENCE	CHOICE/DECISION MAKING
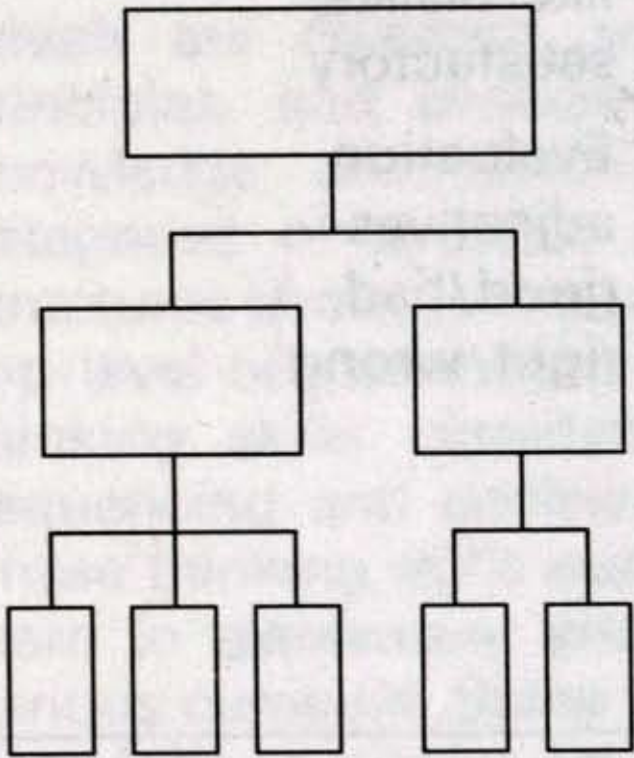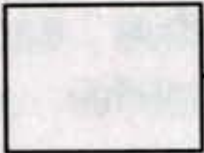
According to Mohan, each knowledge structure has a set of linguistic and cohesive devices or language items specific to itself. For example, *First, ... Next, ... Then, ... Finally* are devices which characterize a sequence (see Figure 2).

Figure 2.   Samples of Language Related to the Knowledge Framework
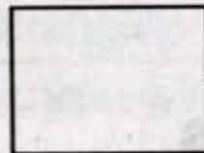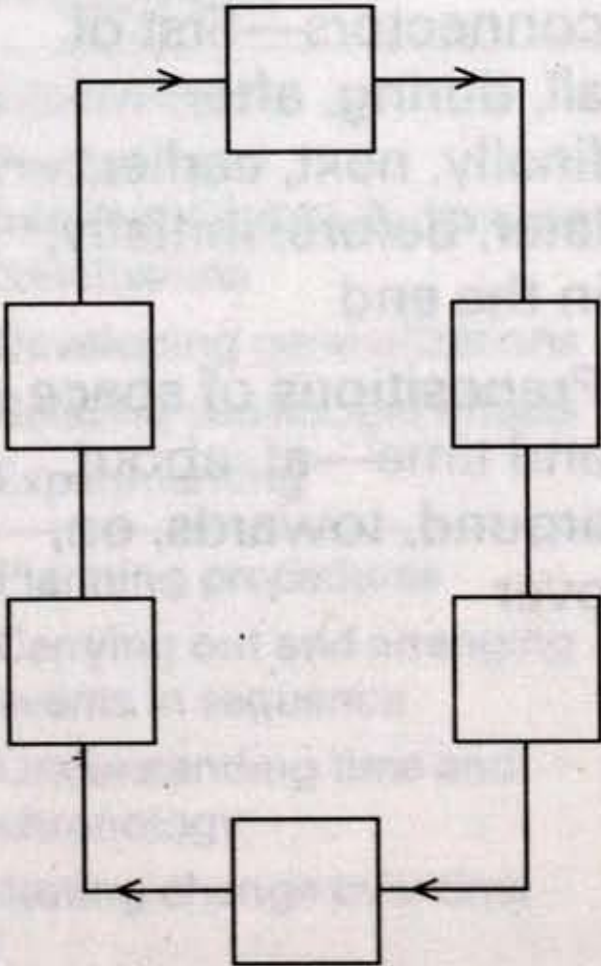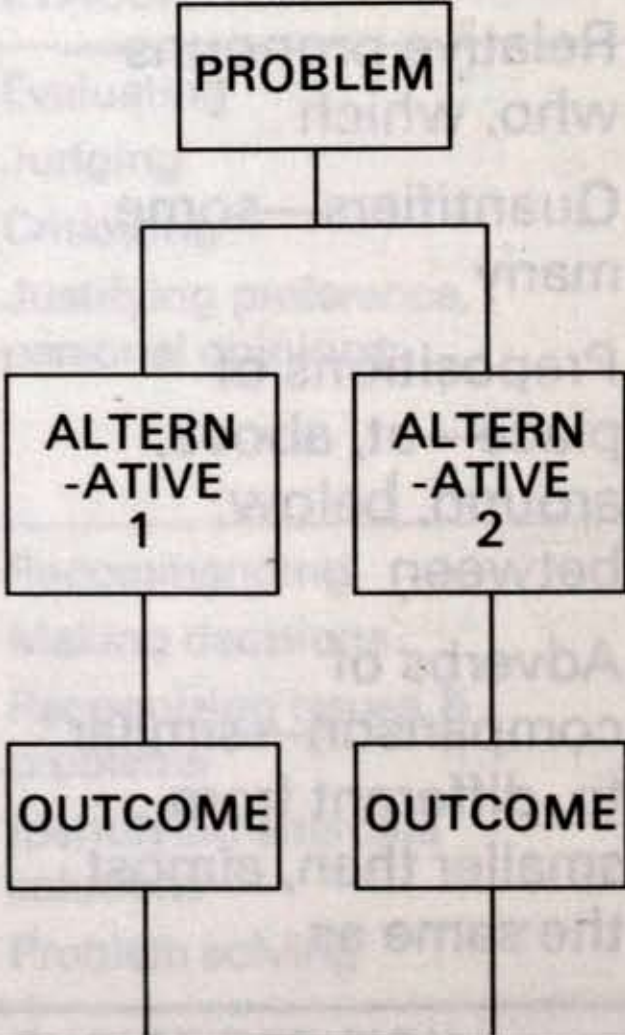—English—

CLASSIFICATION	PRINCIPLES	EVALUATION
Verbs to be, to have Species nouns—kinds, divisions, categories, classes, types, attributes Possessives—his, hers, theirs, its Relative pronouns—which, who Frequency adverbs—generally, usually, all, every, never, always, mostly	Verbs, adverbs, prepositions, phrases expressing: Cause—is due to, result in, the result of, because, consequently Condition—if ... then, unless, even if, whether ,,, or Logical probability—would, could, might Scale of amount—all, every, always	Verbs of volition—want, wish Verbs, adjectives describing emotions—like/dislike, satisfactory Evaluation adjectives—good/bad, right/wrong
Verbs to be, to have, to see, to weigh Adjectives Relative pronouns—who, which Quantifiers—some, many Prepositions of place—at, above, around, below, between Adverbs of comparison—similar to, different from, smaller than, almost the same as	Imperative verbs Logical and chronological connectors—first of all, during, after, finally, next, earlier, later, before, initially, in the end Prepositions of space and time—at, about, around, towards, on, over	Modals—can, may, shall, will, could, might, should, would, ought to Verbs of decision making—choose, think, decide, prefer, had rather
DESCRIPTION	SEQUENCE	DECISION MAKING

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Knowledge structures are found not only in written text. They appear across modes of communication. They are reflected in oral discourse and they can also be expressed in graphic form. Each knowledge structure can be represented by specific graphics. These graphics can be transferred across subject areas. Thus they can be accessed again and again. For example, the classification tree which classifies imports and exports in Social Studies can be used for classifying plants and animals in General Science (see Figure 3).

Figure 3.   Graphic Representation of Knowledge Structures: Examples

CLASSIFICATION	PRINCIPLES	EVALUATION
Classification Tree	Cause-Effect Chain	Evaluation Grid
Comparison Table	Cycle	Decision Tree
DESCRIPTION	SEQUENCE	DECISION MAKING

COM. PT. – comparison point

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A classroom model

The Knowledge Framework has been adopted with some success in ESL classrooms in Vancouver (Early, Mohan & Hooper 1990; Early & Tang 1991; Tang 1991b; Tang 1992; Tang 1992/3; Tang 1993). Teachers have been developing units and preparing lesson plans based on the Knowledge Framework. A classroom model (Tang 1992/3) which reflects the Framework is found in Figure 4. The model entails (1) explicit teaching of knowledge structures or text organization; graphic representation of knowledge structures; and linguistic and cohesive devices of knowledge structures; and, (2) setting tasks for students to practise constructing graphics from expository prose and, constructing expository prose from a graphic. 'Teaching,' I hasten to add, is not synonymous with lecturing or teacher talk. The underlying assumption of the model is that (1) it highlights the commonalities, i.e, knowledge structures, across languages to build and activate prior knowledge, and (2) it focuses on the linguistic and cohesive devices, which are different between language and language, to effect the acquisition of a second language and the learning of content knowledge. (Comparison of aspects of linguistic devices between English and Chinese has been the subject of much research, but it is not discussed in this paper.)

Figure 4. A Classroom Model

```
                    LANGUAGE + CONTENT
                           |
           ┌───────────────┴───────────────┐
     TEACHER INPUT                     STUDENT TASK
           |                                |
   ┌───────┴────────┐              ┌────────┴────────┐
KNOWLEDGE   GRAPHIC    LINGUISTIC   CONSTRUCT    CONSTRUCT
STRUCTURE   REPRESENT- DEVICES      GRAPHIC      TEXT
            ATION      AND          FROM         FROM
            OF         COHESIVE     TEXT         GRAPHIC
            KNOWLEDGE  DEVICES
            STRUCTURE
```
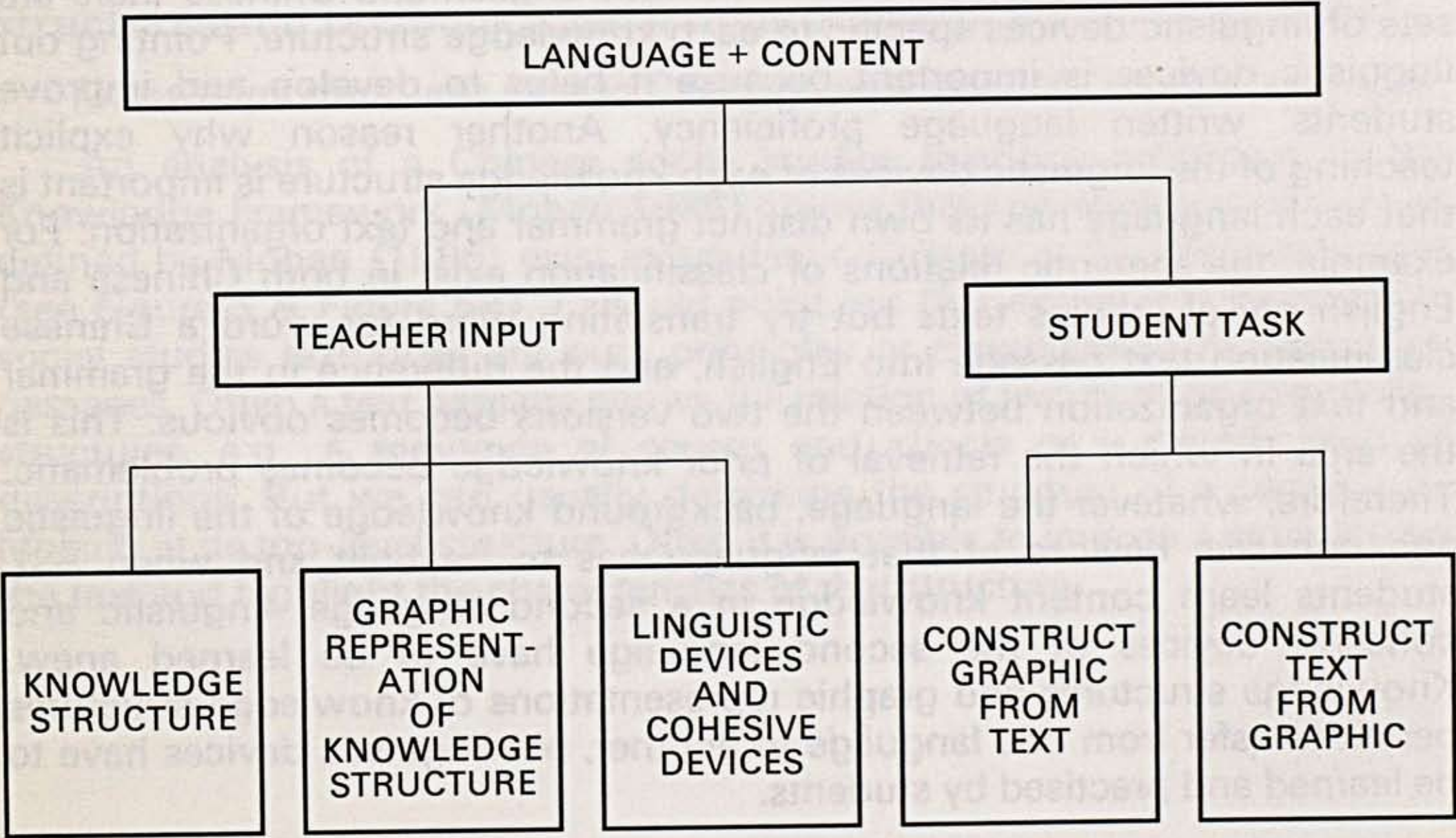
1. *Explicit teaching of knowledge structures, graphic representations and linguistic devices*

The first component of the classroom model is teacher input. Teachers have to prepared lesson plans according to the Knowledge Framework. They have to be systematic and explicit when they draw students' attention to knowledge structures. They have to link the cognitive skill to the text, and to teach the students to identify the top-level structure of text passages.

They can explain the meaning of the knowledge structure by means of graphics. There are graphic forms which are specific to each knowledge structure, e.g., the tree and web for classification, the table for comparison, the time line for sequence. Teachers should be aware of these and make use of appropriate graphics to present knowledge in all subjects. Graphics provide a focus for reading. They make visible the structure of the passage and highlight the top-level structure. If the same graphic forms are consistently used across subject areas, they can help in the transfer of knowledge across the curriculum. Assuming that knowledge structures are common across languages, if they are used in both Chinese-medium and English-medium instruction, they can contribute to the transfer of knowledge across languages.

Teachers should point out the linguistic signals of each knowledge structure to the students so as to help them to identify text which reflects that particular knowledge structure. In both English and Chinese there are sets of linguistic devices specific to each knowledge structure. Pointing out linguistic devices is important because it helps to develop and improve students' written language proficiency. Another reason why explicit teaching of the linguistic devices of each knowledge structure is important is that each language has its own distinct grammar and text organization. For example, the semantic relations of classification exist in both Chinese and English social studies texts but try translating word for word a Chinese classification text passage into English, and the difference in the grammar and text organization between the two versions becomes obvious. This is the area in which the retrieval of prior knowledge becomes problematic. Therefore, whatever the language, background knowledge of the linguistic and cohesive devices of that language has to be built and when ESL students learn content knowledge in a second language, linguistic and cohesive devices of the second language have to be learned anew. Knowledge structures and graphic representations of knowledge structures permit transfer from one language to another, but linguistic devices have to be learned and practised by students.

2. *Setting student tasks*

The other component of the model is setting student tasks. Since input does not guarantee intake, it is important to design tasks for students to practise (1) identifying knowledge structures, linguistic devices, and graphics and (2) constructing graphics from text passages and writing text

passages from a graphic. This is the step which raises prior knowledge to the availability level where it is ready for activation. To implement the model, teachers should set the tasks regularly; make the link between the graphic and the knowledge structure; and make the connection between the knowledge structure and the linguistic devices. They can provide opportunities for students to negotiate with peers and jointly construct meaning from texts and graphics and to write a paragraph from a graphic. It is important to suggest linguistic devices and ensure that students know how to link sentences, and how to present information. Constructing a paragraph from a graphic is a step towards writing expository prose and demonstrating their comprehension of content knowledge, the ultimate aim of students and the concern of teachers.

The facilitative effect of the Knowledge Framework as a conceptual framework for integrating the teaching of language and content is supported by formal and informal research studies in Vancouver (Mohan 1993). But are knowledge structures according to the Knowledge Framework present in Chinese instructional materials used in Hong Kong? Are knowledge structures common across languages? To answer the above questions, I examined a number of Chinese social studies textbooks used in secondary schools in Hong Kong. Results are reported in the following section.

Knowledge Structures and Graphics in Textbooks: Are knowledge structures and textbook illustrations common across languages?

1. *Knowledge structures exist in Chinese-medium social studies textbooks.*

An analysis of a Chinese social studies textbook according to the Knowledge Framework (Mohan 1986) shows that knowledge structures as defined by Mohan (1986) exist in academic Chinese at the secondary level (see Figure 5 & Figure 5A). I should point out that not all text passages in social studies textbooks are pure principles or classification or evaluation passages. Often a text passage shows the relation of two or three knowledge structures, e.g., a sequence of causes and effects or a classification of descriptions. But we can usually determine the structure of a passage by looking at its top-level structure. Often it is possible to impose a structure on the text and highlight the characteristics of that structure.

分類	原理	評估
人口與人口密度 各年齡組別的人口 　有多少 各籍貫和種族的群 　共有多少人 戶口統計向我們提 　供了甚麼資料 五種鑑定公民身份 　方法	影響香港人口因素 有甚麼因素會導致 　死亡率/出生率 　下降 怎樣才可以和睦共 　處 爲甚麼要進行戶口 　統計 公民的權利和義務	我們怎樣才能和睦 　共處 怎樣才是好公民
香港目前的人口狀 　況 比較一九七一年和 　一九八六年香港 　各年齡組別人數 男女比率是多少 佛教和道教 出生證明書	一九一一年至一九 　七一年間香港的 　人口曾長 戶口統計怎樣進行	怎樣選擇閒暇活動 怎樣運用零用錢
描述	程序	選擇/抉擇

Figure 5A.   Analysis of Social Studies
Units According to the Knowledge Framework

CLASSIFICATION	PRINCIPLES	EVALUATION
Definition of population Definition of density Classification of population by age, gender, nationality, religion Definition of census Classification of information census provides Five ways of determining identity	Factors affecting population growth Factors leading to the decline of birth and death rates How to live in harmony with people Why is census taking necessary The rights and duties of a citizen	Values: living in harmony To be a good citizen
The demography of Hong Kong Comparison of the population in 1971 and 1986 by age group Comparison of population by gender Description of religions The birth certificate	Population growth in chronological order Census procedure	Choosing hobbies and pastimes Choosing ways of spending pocket money
DESCRIPTION	SEQUENCE	CHOICE

2. *Similar graphic forms are found in Canadian and Hong Kong social studies textbooks.*

Examination of the illustrations of a Chinese social studies textbook according to the Knowledge Framework reveals that graphics representing various knowledge structures are present in Chinese-medium secondary textbooks (see Figure 6). A comparison of the illustrations of Hong Kong social studies textbooks to those of Canadian social studies textbooks at comparable grade level shows that Chinese textbooks are more highly illustrated than Canadian textbooks. However, authors of illustrations use similar graphic forms and conventions. The functions of illustrations are to a large extent similar as well (Tang in press).

Figure 6.   Analysis of the Illustrations in a
Social Studies Unit According to the Knowledge Framework

CLASSIFICATION	PRINCIPLES	EVALUATION
Graphic organizer of chapter Bar graph: classification of population by age group Bar graph: classification of population by nationality Chart: classification of population by district	Graph: factors affecting change in population	Chart: calculating population density
Graph: increase in population Graph: comparing birth & death rate Bar graph: comparing male and female population Diagram: comparing population by age group Photos: describing landmarks, religion, etc. Chart: comparing population by district Pie chart: comparing population Map: comparing population density	Pictures: Census procedure Graph: Population from 1911 to 1991	
DESCRIPTION	SEQUENCE	CHOICE

In short, knowledge structures in both written and graphic forms are common across Chinese and English secondary textbooks. The findings are not surprising. Since knowledge structures are representations of the semantic relations of discourse, they belong to that level of mental representation at which information, in any form and language, is subject to the same kind of rules. They are similar to what Jackendoff (1983) terms conceptual structure and, thus, permits transfer across languages.

In theory, graphic representations of knowledge structures are common across English and Chinese. They are, thus, a useful tool for building background knowledge learned in Chinese and, later, for eliciting background knowledge in English. They can also be used to access students' prior cognitive skills, e.g., classifying and describing, acquired in any language. But is this thesis supported by research? Can graphic representations of knowledge structures successfully elicit prior knowledge? Do teachers provide opportunities for students to build available prior knowledge? Can prior knowledge be activated? To explore these questions, I conducted a study, employing ethnographic techniques, of secondary students in three schools in Hong Kong.

An Ethnographic Study

The participants

Eleven form-one classrooms, totalling 450 students, taught by 27 different teachers in three different schools were observed: a Chinese-medium grammar middle school; an elite Anglo-Chinese secondary girls' grammar school; and a co-educational prevocational school. A wide range of students in terms of language proficiency, achievement, and socio-economic background and a wide variety of content subjects were observed. However, I should point out that the criteria for the selection of students were grade level and accessibility. The students were, thus, only examples of Hong Kong students and by no means a random sample of the population. I went into the schools for four weeks observing classes assigned by the principal or panel chair person of the school. I also examined various documents, engaged in group discussions with students, and interviewed them. I should also add that this is not an evaluation of teachers or their teaching. It is viewing teaching from a specific point of view, i.e., through the Knowledge Framework. The findings are reported under two headings 1) instruction, i.e., the language of instruction, knowledge structures and graphics students encountered in secondary classroom instruction; and 2) student awareness of knowledge structures and graphic literacy.

Instruction

Finding 1. The language of instruction in most content classes was Chinese and the most common attempt to prepare students for English-medium instruction was translating vocabulary into English.

In the Chinese middle school the language of instruction in content classes was Chinese. In the Anglo-Chinese girls' school, 'while the textbooks, written work and examinations are in English, ... many teachers use a mixture of English and Chinese' (South China Morning, April 9, 1994, p. 17), a mixed-code style (Richards, Tung & Ng 1991) was practised, i.e., 'teachers often switched back and forth between English and Chinese during lessons' (Richards et al. 1991, p. 3). In the prevocational school content lessons were taught in Chinese with frequent code switching. The principals of the Anglo-Chinese school and the prevocational school were concerned about the students' low English standard which, according to them, was declining. While they were aware that the 'mixed code' style of teaching had been criticized by educators as being a primary cause of a decline in English standards (Education Commission, 1990), they were more concerned about the urgency to prepare form-one students for English-medium instruction and learning. They encouraged content teachers to use as much English as possible in content classes. However, in both the Anglo-Chinese grammar school and the prevocational school, the content-area teachers, taught mainly in Cantonese, but translated some terms into English, and wrote the English version of certain vocabulary items on the chalkboard. They explicitly taught the meaning and pronunciation of the words. Thus, the students recognized such English terms as 'histogram,' 'the water cycle,' 'solvent,' 'solubility,' 'programming,' 'photocopier,' 'x axis,' etc., but found the production of the items difficult. Writing English words on the chalkboard and asking the students to read them aloud were the most common attempts that the teachers made to prepare the students for English-medium instruction.

Finding 2. The language of instruction had a great impact on the classroom behaviours and performance of the students.

I could not help noticing the effect the language of instruction had on student learning and participation. In one class in which the teacher insisted that only English was allowed, the result was a total lack of response on the part of the students. I observed the same group of students in another situation where teaching was done in Cantonese. A large number of the students responded appropriately and correctly. The students were able to demonstrate their knowledge and skill because the lesson was conducted in Cantonese. Many reasons could have contributed to the silence in English-medium lesson. According to the students, it was because they did not understand the question or they did not know the answer. There was no comprehensible input (Krashen 1985) and, therefore, no language learning and no content learning. Unfortunately, I did not stay long enough to discover the long-term effects of English-medium instruction on student learning of English. It appears that most of the students I observed found learning in Cantonese much more comfortable than learning in English. Incidentally, some students volunteered that, even in English classes, they

found the 'Nicam' style of teaching more interesting and facilitative of learning. Thus, it appears that Chinese-medium instruction of content knowledge is, perhaps, the answer. However, as the principals expressed, sooner or later students will need English for further studies, for overseas examinations, and for professional communication. To quote the Principal of the prevocational school, 'In Textile Design, for example, they need English to communicate with people from other parts of the world. They need English to talk about design, to read design periodicals. Commercial stream students need English to get a job as a secretary.' It is, therefore, imperative for teachers to prepare students for English-medium content learning and communication. How can this be effected? Before proposing an approach, I should describe the classroom tasks the students encountered.

Finding 3. Hong Kong students were likely to experience a variety of academic tasks

Different teachers employed different strategies and carried out different academic tasks in the classroom. They usually delivered information by verbal explanation. The students appeared to rely very much on the teachers' explanation, clarification, and instruction. Often oral presentations were followed by questioning and chalk-board writing. Other tasks included reading aloud, summarizing, story telling, occasional brainstorming, translating vocabulary items from Chinese to English, and hands-on experience in practical and laboratory classes.

Discussion was carried out quite often in some classes. They were sometimes student-initiated when the students asked questions for clarification. More often, however, the students held discussions with their neighbours both for clarification and verification. It was in these negotiations that the students made out the teacher's intent regarding the tasks they had to perform.

Teaching was mostly textbook oriented and instructional-material oriented. Both the teachers and students needed written records of what the teacher had taught partly because of their concern for examinations. The teachers invariably referred to the textbook or instructional material at some point in the lesson. In some classes, the teacher instructed the students to underline phrases in the textbook. Underlining appeared to be a form of summarizing or outline which most of the other teachers gave. Some outlines were in the form of handouts, others in the form of notes on the chalkboard. The students appeared to rely heavily on handouts and notes. Classwork and homework assignments consisted of answering comprehension questions found at the end of a chapter or section in the textbook, completing workbook exercises or worksheets which consisted of exercises such as question-answer, completion of blanks, construction of diagrams and charts, etc. Homework was mostly individual work with an occasional group project.

Finding 4. The students interacted with a variety of graphics in the classroom.

The students interacted with a fairly large quantity of graphics representing all the knowledge structures in the Knowledge Framework. There were representational pictures (Levie & Lentz 1982) which appeared singly or in a sequence. There were picture stories which the students had to read and understand. There were series of pictures showing procedures. Non-representational pictures (Levie & Lentz 1982) included maps of different kinds, showing political divisions, physical features, economic classifications, routes, locations and demographics. Graphic organizers usually appeared in the form of trees or time lines. In mathematics and geography classes, the students had to draw, interpret, and answer questions on graphic representations of quantitative data such as bar graphs, line graphs, pie charts, pictographs and other charts. In addition, they had the chance once every two weeks to interact with computer graphics which they created by programming.

Whether or not teachers drew students' attention to textbook illustrations depended on the teacher and the illustration. The teachers usually drew the students' attention to maps and charts which explain the text. Sometimes, the teacher built graphics on the chalkboard while presenting the lesson. Other times, the students had to answer questions on graphics displayed on the chalkboard either in writing or orally. Some of the teachers prepared their own graphics on handouts and worksheets. The teachers went over the graphics with the students before requiring them to do exercises on the graphics.

However, I should add that the variety of graphics the students encountered in no way signifies that the teachers did not attach importance to the written word. Quite the contrary, teaching and learning were mostly text-based, hence the teachers' constant complaint about the students' low written language proficiency. Only in practical lessons in the prevocational school did the teachers and students rely on graphics more than on texts.

Finding 5. The students encountered different knowledge structures in instruction

The students encountered text representing different knowledge structures in different subject areas. They were also provided with opportunities to practise various skills. However, it was only in language classes that the teacher pointed out linguistic devices. Some examples of knowledge structures in instruction are shown in Figure 7. This figure shows examples of knowledge structures in written text, in oral discourse, and in graphic form with which form-one students interacted. In other words, the Knowledge Framework is common across languages and cultures. These knowledge structures represent knowledge input or available schema (Carrell 1988) which should be retrievable in English. But are they? To answer this question, I attempted to find out these students' awareness of knowledge structures and academic graphic literacy.

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Figure 7.   Knowledge Structures Form-One Students
Encountered in the Classroom

CLASSIFICATION	PRINCIPLES	EVALUATION/ VALUES
Math: classifying statistical representation Geog: classifying problems HK people face Sci: defining solvents & solutes Lang: categorizing genres in written Chinese	Chi. Hist: explaining causes & effects of the Boxer Rebellion Hist: explaining causes of the decline of the Roman Empire Sci: drawing conclusions from solubility experiments Fashion Design: learning general and safety rules of the clothing workshop	Chi.Lit: discussing the right way to deal with people S.S.: discussing advantages of living in cities Writing: writing on the advantages and disadvantages of watching television Ethics: debating whether form-one students should date
Sci: comparing solubility of solvents Math: comparing bar graphs and histograms Hist: comparing Confucianism with Taoism Fashion Design: labelling parts of a skirt	Sci: following laboratory experiment procedure Hist: drawing time line of events in Alexander the Great's life Religion: completing time line of events before Jesus' crucifixion Chi. Hist: telling stories of the Three Kingdoms Fashion Design: following patterning procedure	Writing: writing on 'Emigrating to a foreign country: My views' Math: doing project on preference of brand name sports wear; choice of extracurricular activities
DESCRIPTION	SEQUENCE	CHOICE

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