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立法會教育事務委員會

現跟進在二零零五年四月六日會議向委員的承諾，隨函附上載於《檢討中學教學語言及中一派位機制諮詢文件》附件二中，由教統局或前教育署參與或委託其他機構進行，關於教學語言研究的行政撮要／研究結果撮要，以供參閱。

下列四項由其他團體或教研機構進行的研究，並未包括在內，但有關的報告可從所列地點瀏覽或借閱。

- **教學語言對學生認知發展及學業成績的影響(一九七九)**(香港中文大學)
  (借閱地點：香港中文大學圖書館或教統局)
- **語文教育政策的教育和社會因素(一九九五)**
  (香港中文大學)
  (借閱地點：教統局)

/....

- **有關中學教學語言對語文和非語文科的影響(二零零零)**(馬殊、侯傑泰、江哲光, Harvard Educational Review Vol.70 No.3 Fall 2000)
  (借閱地點: 教統局)

- **母語教學施行情況的調查(二零零二)**(香港大學教育學院母語教學教師支援中心)
  (瀏覽網站: http://www.cmi.hku.hk/Ref/Survey/cmi/Report_2002_7July_supRev6_FINO_Cover.pdf)

若你需要更多資料或閱覽存放於教統局的研究報告文本,請致電2892 6602 與鄺炳權先生聯絡。

教育統籌局局長

(黎劉瑞娟 代行)

附件:教學語言的研究的行政撮要/研究結果撮要

二零零五年四月二十八日

研究本港英文中學各種授課語言方式(講和寫)對中三學生學習的效用(一九八五)

(前教育署及香港大學)

An Investigation of the Effectiveness of Various Language Modes of Presentation, Spoken and Written, in S3 in Hong Kong Anglo-Chinese Secondary Schools (1985)

(Former Education Department and The University of Hong Kong)

Abstract

This research was conducted jointly by the Educational Research Establishment of the Education Department, and the Department of Education, University of Hong Kong. It was designed to investigate the performance and opinions of Form III students in Anglo-Chinese schools in relation to various oral and written modes of instruction.

Three modes of oral (videotaped) presentation were used in the Video Study : English, Cantonese and Bilingual; and five modes of print presentation in the Print Study : two monolingual texts, English and Chinese; two bilingual texts, English with Chinese gloss and Chinese with English gloss; and a duolingual presentation consisting of both monolingual texts. Questions were prepared in English and Chinese.

The research into opinions elicited from students the relative difficulty they experienced in answering questions asked in English and Chinese; and their preferences if they had been given a choice regarding mode of presentation.

The content of all presentations and of the English and Chinese questions was identical. The topic was bean curd, its nutritional value, attitudes towards it in the East and West, and modern and traditional methods of manufacture.

A total of 692 students participated in the Video Study and 604 in the Print Study. Schools were selected to provide a broad range of academic ability at Form III level.

All students sat graded English and Chinese language proficiency tests, so that the effects of language proficiency on test performance and opinion could be assessed.

Overall the major findings of the Video and Print Studies were consistent with each other, and are as follows:

1. There is a substantial proportion (30-40%) of the sample who, with high language proficiency scores, demonstrated in this study a high level of performance in both the English and Chinese versions of the experimental test.

2. There is a substantial proportion (again 30-40%) of the sample who, with low English proficiency scores, were incapable of performing effectively through the medium of English. Furthermore, in terms of preferences expressed in this study, these subjects did not want bilingual education. They wished to study through the oral medium of Cantonese and the written medium of Chinese. In these modes they demonstrated that they could perform effectively.

3. There remains a third group of the sample, in the middle of the English language proficiency range, whose performance was less easy to categorize. Their performance was significantly worse than that of the 'high' group when English was the medium, but they demonstrated some capacity to function through this medium, in contrast to the 'low' proficiency group.

4. Subjects in this study overwhelmingly rejected English as a monolingual mode of oral or written instruction. Only a tiny minority (2-3%) opted for this mode in the Video and Print Studies. Almost half of the subjects indicated a preference for monolingual Cantonese oral presentation, and a third for monoligual Chinese print presentation. The remaining subjects preferred bilingual modes of spoken or written instruction.

教學語言對香港中學二年級學生學習進度的影響

(一九八五)(前教育署及香港大學)

The Effects of the Medium of Instruction on the Achievement of S2 Students in Hong Kong Secondary Schools (1985)

(Former Education Department and The University of Hong Kong)

CHAPTER FOUR

Implications for the Medium of Instruction in Hong Kong Schools

The design of this study overcame a number of limitations that could otherwise affect inferences that might be drawn from it, though it should be remembered that it involved only Form 2 students, covered no more than six weeks' teaching of two topics and could not claim to have controlled the language used by teachers to students in more than an advisory fashion. In other respects, the study would seem to allow generalisation to lower secondary schools in Hong Kong.

If it is to be a continuing feature of the policy for Hong Kong secondary education that it should seek to make English accessible to as many as possible to as high a level as possible, then research elsewhere would argue that English should be a medium of instruction for as long as possible to as many as do not suffer by it. The current study seeks indirectly, answers to such questions as, "Can such suffering be avoided or reduced to acceptable levels?" and, "For how large, and for which, proportion of the population is it possible?"

The evidence that language proficiency in English is the main determinant of ability to pursue learning through English, when success is measured using English, is not surprising, though the fact that there is such a large difference between the top 30% and the remainder may not have been so clearly demonstrated before. Here, it is important to recognise that the choice of 30%, 40%, 30% bands of language proficiency was based upon judgement and the cut off at the 70th percentile should only be taken to indicate that the enabling level of proficiency lies in that region, not precisely at that point. What is perhaps less expected is that for the top 30%, the more dependent on English teaching is, the greater the amount that is learned; yet, this is the evidence on second language medium that has come from studies elsewhere. It would seem reasonable to conclude that a policy which allowed somewhere around the top 30% in English proficiency to pursue their studies through English would succeed in making those students effective in both English and their curriculum studies. It would have more effect in and on language-based subjects though there would be no handicap for the students in the other subjects. The substantial correlation (0.71) between Chinese and English language proficiency suggests that the linguistically able in Chinese would be amongst those who would profit from the English-medium instruction.

Does it then follow that the lower 70% in English language proficiency would suffer from English medium instruction and could their disadvantage be reduced by an appropriate adaptation of texts and methods of instruction? Clearly this study tells us that they would suffer if their textbooks were in English and their teachers attempted to teach exclusively through English, but would they also suffer if one of the adaptations (Ec or Ce) were used? The evidence would seem to suggest an uncomfortable conclusion; there is no evidence that they would suffer so long as they were allowed to present what they had learned by answering

questions in Chinese and there is little to choose for them between the adaptations of the language medium and Chinese alone. Yet, the only possible virtue of learning through English would be to improve their English and its application to curricula. There would seem to be little comfort in the fact that the quality of their latent mastery of curricula would not be affected.

The choice in policy terms seems to lie between a discriminatory admission at some level, to education through the medium of English for the more able thirty per cent, or so, while the majority follow their studies through Chinese, OR - universal education through Chinese with English as the second language up to the end of form 3 at least, though form five would lead to a more beneficial attention to producing textbooks in Chinese. To offer a choice of language media to the top 30% would also be viable, though it might frustrate effective curriculum development and teacher education. Any selective system, at transition from primary to secondary or at the end of form 3 or form 5 would bring intense public pressure to increase admission to what would undoubtedly be seen as privileged education. English and Chinese streams in the same schools and the possibility of offering some subjects in English to those who could benefit are other options which might soften the discriminatory boundaries between the curricula, but would scarcely deceive the sharp-eyed Chinese parent.

The decision would seem to depend on how much emphasis is to be given to the continuation of English as a viable language amongst the linguistically able. It should also be recognised that while language is not the sole arbiter of academic ability, it is probable that the academically more able of all kinds would be drawn to the selective form of education, even if selection were on linguistic criteria. To make Chinese medium education compulsory for all up to the end of form 5 would undoubtedly result in a massive fall in the standards of English amongst the more able students, though the English of the remainder could scarcely be lower than it is. The possiblility of maintaining education through the medium of English in sixth forms and in higher education would then be seriously questionable. To leave the decision to the schools would not be appropriate, since the development of curricula and teaching approaches will require clear guidelines. This study has illuminated the area of policy decision, but has not made it any easier.

A positive outcome from the study is that the experimental groups as a whole performed better than the combined reference groups. The advantage of texts and teaching adjusted to give students more opportunity for self-directed learning and greater freedom from teacher-centred instruction has been shown. Whatever language policy is adopted, the increase in "time on task" through technically superior methods in the design and use of learning materials has been supported by the results, and points the way to future action.

Summary of:

The Effects of the Medium of Instruction on the Achievement of Form 2 Students in Hong Kong Secondary Schools

This study considered the effect of enhancing English and Chinese texts, by glossing each with the other language, upon the teaching and learning in History and Integrated Science. Four text modes, English (E), English with Chinese gloss (Ec), Chinese with English gloss (Ce) and Chinese (C) were used experimentally in 24 Form 2 classes where the teachers had been specially trained to take advantage of the increased opportunities for student-centred learning that the texts and their related materials provided. The experimental teaching lasted six weeks. Immediately afterwards, and a further six weeks later, tests of achievement in the subjects taught were administered and the results adjusted for initial differences amongst the learners in readiness to learn.

The tests were in English and Chinese and it was possible to examine students' achievement at different levels of proficiency in each language (top 30%, middle 40%, lower 30%) in relation to the kind of teaching they had received. The correlation between Chinese and English language proficiency was very high. When achievement measures were in English, only the top 30% in English Language proficiency showed a marked effect of differences in teaching and their achievement was higher, the more English was used in teaching them. The achievement performance of the lower 70% in English proficiency was very low. When Chinese was the language of performance there was no difference amongst the Chinese proficiency levels in the effect of different kinds of teaching. At all levels, the only difference in effect of teaching arose from the inferior performance of those studying through English alone. Differences in achievement amongst the three proficiency levels were much lower than in the case of English. While these effects were noticeable in both History and Integrated Science the heavier language dependence of the former naturally led to the effects being more clearly discernible.

A comparison with normal classes being taught in the conventional way yielded evidence of the greater teaching effectiveness of the experimental methods, whereas a comparison with Chinese Middle schools following similar experimental teaching but taking tests only in Chinese showed no differences from the Anglo-Chinese experimental groups.

The conclusions to be drawn from the study are of course confined by the limitations of the sample of schools and the curriculum subjects used as well as by the somewhat arbitrary choice of cut-off points for levels of language proficiency. Nevertheless, subject to these qualifications, the results suggest that all but the top 30% (approximately) in language proficiency are unable to follow instruction through English to a level which justifies its use, even when enhancement of texts and teaching takes place, so long as they are required to answer test questions in English. By contrast, under the same conditions, somewhere about the top 30% appear to benefit by having more English in their teaching when the subject is heavily language dependent. Language proficiency affects achievement in tests using Chinese, but to a much less extent and it does not affect ability to benefit from learning opportunities. Teaching through English, without Chinese enhancement leads to lower achievement when students are tested through Chinese.

The implications for language policy are seen to be the need to avoid the grave disadvantage for the majority of students of receiving education through the medium of English. To do so by selecting those who are able to benefit from English medium instruction is seen to be likely to lead to a highly discrimatory and competitive system. To adopt universal Chinese medium education up to the end of Form 5 is seen as likely to lead to a sharp drop in the standards of English which would make subsequent education through English, at sixth form and tertiary levels improbable. To leave the decision to the schools or the parents is seen to be unjustified given the clear evidence of the disadvantaging of the majority of students by continuing English medium education.

在英文中學初中班級採用不同教學語言安排的研究（一九八五）（前教育署）

Studies on the Modes of Language of Instruction at Junior Secondary Levels in Anglo-Chinese Secondary Schools (1985)

(Former Education Department)

STUDIES ON THE MODES OF LANGUAGE OF INSTRUCTION AT JUNIOR SECONDARY LEVELS IN ANGLO-CHINESE SECONDARY SCHOOLS

ABSTRACT

THE STUDY

1. The study was conducted in 15 Anglo-Chinese secondary schools involving 7500 students in Form 1 to Form 3. The survey period lasted for two years. During these two years, tests were administered to the students to measure their proficiency in English and Chinese

(i) at the beginning of the study,

(ii) at the end of the first year,

(iii) at the end of the second year;

and to measure their attainments in Mathematics, Science and History (papers in 3 versions, namely, Chinese, English and bilingual)

(i) at the end of the first year,

(ii) at the end of the second year.

Questionnaires were administered at the end of each school year asking students about each of the four subjects: English, Mathematics, Science, and History, regarding

(i) what language mode their teachers used,

(ii) whether they understood their teachers' oral instruction,

(iii) whether they wanted their teachers to speak more Cantonese, and

(iv) whether they had difficulties with their textbooks.

The teachers were asked to fill in questionnaires about the language modes they used for each class and for each subject they taught.

FINDINGS

2. After all the data had been collected and analysed, the following were the important findings obtained:

(i) In recent years, it was evident that teachers were using more spoken Cantonese in class.

(ii) An increasing amount of spoken Cantonese was used in the four subjects in the following order :

(a) English (least Cantonese spoken)
(b) History
(c) Science
(d) Mathematics (most Cantonese spoken)

(iii) Students with a low proficiency in English reported that they understood less than half of their teachers' oral instruction in class, and they wished their teachers to speak more Cantonese. They also had difficulties with their textbooks.

(iv) An English proficiency scale of 14 grades (Grade 1 = the highest grade; Grade 14 = the lowest grade) was constructed for this study. It was found that teachers seldom used exclusively English to teach students whose English proficiency was grade 5 or below.

(v) Test papers of Mathematics, Science and History in English version, Chinese version and bilingual version were administered to students in Form 2 and Form 3. Students with high English proficiency performed equally well in the English version and in the bilingual version but not so well in the Chinese version. Students with low English proficiency had poorer results, and the lowest results were with the English version. For these students, there was no significant difference between the results of the Chinese version and the bilingual version.

(vi) Students from English primary schools were among the best in English in the sample. When these students were compared with a group of students with comparable general ability, they performed better in English and slightly better in History. They performed worse in Chinese and Science in Form 1; but, they were able to catch up by the end of Form 3. In Mathematics, there was no difference. It was also found that they were able to handle a greater amount of English in class at each form level as the teaching medium and they had comparatively less difficulties with textbooks in English.

CHAPTER SEVEN

SUMMARY OF FINDINGS

7.1 This research is a very comprehensive survey study of the present situation at junior secondary levels in Anglo-Chinese schools as far as the medium of instruction is concerned. The findings are therefore numerous.

7.2 It was found that teachers in Anglo-Chinese schools have tended to use more spoken Cantonese in class in recent years. Teachers might find that using Cantonese in class could stimulate more classroom interaction and also lead to better results especially in subjects which needed more verbal explanations.

7.3 The finding that Cantonese was more frequently used in Mathematics and Science than in History and English is not unexpected, since Mathematics and Science involve complicated concepts, which cannot be followed easily if explanations are given in a language which is other than the mother tongue.

7.4 Students who were less proficient in English had difficulty both in understanding the oral instruction in English and in reading their textbooks in English; and they expressed their wish that the teachers should use more Cantonese in the lessons.

7.5 Based on the teachers' reports on the actual situation in the classroom, the language mode has been related to the English proficiency levels on an English proficiency scale of 14 grades specially constructed in this study. It was found that teachers seldom used English medium exclusively in teaching students whose English proficiency was Grade 5 or below. Results also showed that only 10% of the Form 1 students, 21% of the Form 2 students, and 28% of the Form 3 students, passed this threshold.

7.6 Test papers of Mathematics, Science and History in English version, Chinese version and bilingual version were administered to students in Form 2 and Form 3. Students with high English proficiency performed equally well in the English version and in the bilingual version but not so well in the Chinese version. Students with low English proficiency had poorer results, and the lowest results were with the English version. For these students, there was no significant difference between the results of the Chinese version and the bilingual version.

7.7 Students from English primary schools were among the best in English in the sample. When these students were compared with a group of students from Chinese primary schools with comparable general ability, the former performed better in English and slightly better in History. The performance of the former in Chinese and Science was poorer when they were in Form 1, but they were able to catch up by the end of Form 3. There was no difference observed in Mathematics. The former group was able to handle a greater amount of English in class and had less difficulty with textbooks in English.

* * END OF REPORT * *

英文中學和中文中學初中學生學業成績的比較

(一九八五)(前教育署)

A Comparison of Academic Performance of Junior Secondary Students in Anglo-Chinese and Chinese Middle Schools (1985)

(Former Education Department)

A COMPARISON OF ACADEMIC PERFORMANCE OF JUNIOR SECONDARY STUDENTS IN ANGLO-CHINESE AND CHINESE MIDDLE SCHOOLS

ABSTRACT

Objective :

This project aims at comparing the academic performance of junior secondary students in Anglo-Chinese and Chinese Middle schools.

Sampling :

In this project, three cohorts of students (each of about 1400 students) respectively in F/M 1, F/M 2 and F/M 3 were selected for analyses. The samples concerned covered different ability groups. To ensure that the comparison was valid, students were carefully selected so that the students in the two language streams were of comparable ability.

Instrumentation :

Language proficiency tests (Chinese and English) and achievement tests (bilingual version) in Mathematics, Science and History were administered to the students on three occassions, i.e. October 1983, June 1984 and June 1985. (The third cohort of students, who were no longer in junior secondary classes in June 1985, were only tested twice.)

Results and conclusions :

In the comparison, the effects of student's ability, socio-economic background, school facilities and teacher qualifications were considered and properly controlled. It was found that the students in Anglo-Chinese schools showed superiority in their proficiency in English. The students in Chinese Middle schools achieved significantly better results in Chinese and History. The differences in the performance of students in the two types of schools in Science and Mathematics did not show a steady pattern though there were some indications that the students in Chinese Middle schools tended to do better in these two subjects.

從學生就讀中一時的基本語文能力與其在香港中學會考成績兩者之間的關係對教學語言分組授課進行的研究(一九九二)

(前教育署)

A Study on the Relation between Initial Language Proficiency at Secondary 1 Level and Subsequent HKCEE Performance for MOI Grouping (1992)

(Former Education Department)

ABSTRACT

The Study

The study was carried out in response to Education Commission Report No.4. The objectives are, first, to identify the cut-off points of English and Chinese in percentile terms by which Secondary 1 entrants can be grouped into English-medium classes or Chinese-medium classes and second, to find out the effect of various modes of language medium on students' rate of success in the Hong Kong Certificate of Education Examination (HKCEE).

Using a back-tracking approach, this ex-post facto study traces a cohort of Secondary 5 students sitting the 1990 HKCEE, relating their initial P.6 language proficiency in 1985 to their HKCEE performance. The students' primary schools were tracked down and their internal assessment results in the subjects of English and Chinese required for the purpose of Secondary School Places Allocation (SSPA) were retrieved. These results, scaled by the Academic Aptitude Test (AAT) and expressed in percentiles, together with a criterion of either 8 points and above, or 14 points and above in HKCEE, were used to categorize the students for analyzing their rate of success in HKCEE. The rate of success is defined as the number of successful students in HKCEE at or above a specified SSPA language percentile, over the initial total number of S1 entrants who were at or above the specified SSPA language percentile. In addition to this "hit and miss" method, the ANCOVA approach was also attempted.

There were four groups of students in the study: the target group of 676 from 14 Anglo-Chinese schools that used English as the sole medium of instruction, 390 from 13 Chinese Middle schools using Chinese as the sole medium of instruction, 4983 from 336 Anglo-Chinese schools where English is not the sole medium of instruction, and 247 from 25 Chinese Middle schools where Chinese is not the sole medium of instruction.

The Findings

1. There is a significant correlation between SSPA scaled scores in the two languages and the students' results in HKCEE, with respect to both language-loaded subjects (coefficients ranging from 0.39 to 0.50) and less language-loaded subjects (coefficients ranging from 0.36 to 0.43).

2. There is no significant difference in terms of the rates of success in HKCEE in the same group of students, between using initial English proficiency at a specified percentile as a criterion and using initial Chinese proficiency at the same percentile.

3. For students in Anglo-Chinese schools that used English as the sole medium of instruction, the cut-off point at or above which they could have a higher rate of success in the HKCEE is identified to be the 60th percentile in English and 60th percentile in Chinese. Of this group, 54.2% of the students would be expected to succeed, and 45.8% would fail to get 14 or more points in HKCEE. By applying this cut-off point to the S1 student population over the past three years (1988/89 - 1990/91), it was estimated that, if 32% of S1 entrants could be placed in the sole English-medium schools, slightly more than half of them would achieve 14 or more points in HKCEE results.

4. In the Hong Kong bilingual context, students in the same type of schools (Anglo-Chinese or Chinese Middle) but taught solely through one language (either English or Chinese) have a higher rate of success in HKCE than their counterparts in the same type of schools but taught through a mixed code of English and Chinese.

Recommendation

For the sake of parity of treatment for both languages and taking cross-lingual transfer into consideration, it is proposed that the language cut-off point for Secondary 1 entrants be set at the 60th percentile for both English and Chinese. On the other hand, to do justice to the students misclassified initially, it is recommended that schools be given discretion to transfer these students, should they give satisfactory performance in later years, to the English-medium classes within the same school during their course of secondary schooling.

全用母語授課與分科用英語或母語授課的學校 - 兩類學生中學會考成績的比較(一九九四)

(前教育署)

A Comparison of Pupils' HKCEE Results between Schools Using Chinese as MOI in All Subjects and Schools Using Chinese/English as the MOI by Subject (1994)

(Former Education Department)

A Comparison of Pupils' HKCEE Results between Schools Using Chinese as Medium of Instruction (MOI) in All Subjects and Schools Using Chinese as MOI by Subject

1. Background

In February 1994, the Education Department has completed a study to examine the effects of the change of medium of instruction to Chinese in secondary schools in Hong Kong on the academic performance of students and to establish the relation between students' performance and the language environment in school. A sample of 22 secondary schools with a total of 4543 S1 pupils in the academic year 1988/89 was selected for this longitudinal project. It was found that pupils in a high Chinese language environment had better performance than their counterparts in a high English environment at S3 in the subjects Mathematics, Science, History, and Geography but not Chinese and English. Furthermore, it concluded that schools with pupils of low English competence should better use Chinese as the teaching medium which their pupils would benefit more. A single-medium approach should be adopted and avoid using mixed-codes.

The purpose of the present study is to further investigate the effects of the use of different teaching medium in secondary schools on pupils' HKCEE results, particularly to compare the results of pupils from schools using Chinese as MOI in all subjects and those from schools using Chinese as MOI by subject. Another sample of schools will be chosen for this study.

The first step of the study is to identify schools using Chinese as MOI in all subjects and those using Chinese by subject. And it would be too simplistic to define the teaching medium a school used by merely referring to what the school claimed to have adopted.

A more reliable method for this identification is to make use of the proportion of teaching periods conducted in Chinese to the total number of teaching periods, termed as C/T ratio, which the Education Department has used as the basis for providing additional teachers to secondary schools to encourage them to use Chinese as the medium of instruction following the recommendation of ECR1. In fact, in the first circular issued to all schools by the Education Department in April 1986, the principles of providing more resources had been stated clearly. It was scheduled that the new policy would be implemented with effect from September 1988. According to that circular, the amount of Chinese language instruction used in junior secondary levels is determined by the ratio of the number of teaching periods in subjects other than English, Chinese, Chinese History, practical and technical subjects, per week or cycle in which Chinese is used as the medium of instruction over the total number of teaching periods allocated per week or cycle for such subjects. These principles still apply today. And the C/T ratio ranges from 0% to 100%. For the purposes of calculating the number of additional teaching posts provided to schools, this C/T range is subdivided into four smaller ranges, namely 0%-25%, 25%-50%, 50%-75%, and 75%-100%. In the present study the C/T ratio will be used to

classify schools into Chinese medium schools, English medium schools or schools using Chinese as MOI by subject.

2 Objective of the study

The objective of the study is to compare the HKCEE results of pupils from schools using Chinese as medium of instruction in all subjects and those using Chinese as MOI by subject.

3 Method

In the previous section we have discussed the use of the C/T ratio for classifying schools into Chinese medium schools, English medium schools, and schools using Chinese as MOI by subject. The C/T ratio ranges from 0% to 100%. All the schools in Hong Kong can first be categorized into one of these three types. Schools having a C/T ratio of 0% will be considered as English medium schools (Group E schools), those having a C/T ratio of 100% will be considered as Chinese medium schools (Group C schools) and finally schools having a C/T ratio between 0% and 100% will be regarded as schools using Chinese as MOI by subject (Group M schools). In the present study, the target schools are only Group C and Group M schools and Group E schools were excluded.

Sample:

According to the C/T ratio in the school year 1992-93, there are 33 Group C schools and 166 Group M schools. A stratified

random sample of schools was selected. Table 1 summarizes the number of schools selected in each stratum. Generally speaking, we randomly select one school for every ten schools within a stratum. And for practical purposes, the number of schools thus calculated is rounded up. Hence the resulting sample covered a total of 23 schools.

Table 1: Number of schools selected for this study

Type	C/T ratio	No of schools	No.of schools sampled
B	100 %	33	4
C	0%-25%	83	9
	25%-50%	44	5
	50%-75%	15	2
	75%-100%	24	3

Both the HKCEE results in 1993 and the SSPA scores in 1988 of all pupils in the chosen schools were extracted from two separate tapes for comparison purposes. The SSPA scores were used to adjust pupils' initial difference in academic abilities. Hence, only those pupils who had both HKCEE results and SSPA scores were included in this study. To this end, pupils' HKCEE record of results had first been matched with their SSPA scores five years before and all unmatched cases were excluded. Furthermore, those

pupils whose allocated school in S1 different from that in S5 had also been excluded.

In comparing the differences of scores between the two target groups, the actual subject marks scored, instead of grades obtained were used. On the other hand, grades were used to calculate pupils' total CE points. And the method of analysis of covariance (ANCOVA) was employed for further data analysis.

4 Findings

The results of a total of 2502 pupils were successfully obtained including 454 pupils from the 4 sampled schools with C/T equal to 100% and 2048 pupils from the 19 sampled schools with C/T from 1% to 99%. Tables 2 and 3 show pupils' raw scores as well as the scores adjusted by pupils' SSPA performance.

In the calculation of the CE points of the best six subjects, grades had first been converted to points with grade A01 equal to 12 points, grade A02 equal to 11 points, grade B03 equal to 10 points and so on. From the third column in Table 2, we notice that the raw score averaging over all pupils in the group using Chinese as the teaching medium in all subjects is higher than that in the other group. Moreover, the corresponding adjusted CE points in the following table also show the same conclusion. Furthermore, it can also be found from Table 3 that pupils from schools using Chinese as MOI in all subjects performed significantly better in most subjects, particularly in Chinese, English (Syllabus B) and

language loaded subjects such as Geography, History and Economics. There are no significant difference found in science subjects between the two groups.

4.1 Comparison of HKCEE results between schools with C/T=100% and schools with C/T from 1% to 50%

It is worthwhile to breakdown the group using a mix of English and Chinese into 2 subgroups with the first being those with C/T below 50% (Subgroup M1) and the second with C/T above 50% (Subgroup M2). In other words, the number of teaching periods taught in Chinese in the first subgroup is relatively smaller than that taught in English. The extent of Chinese being used as the medium of instruction is comparatively less. Likewise, the extent of Chinese being used as MOI is more in the second subgroup. After this breakdown, each subgroup will be compared separately with the group using Chinese as MOI in all subjects. The main purpose is to examine whether a varying degree in using a mix of Chinese and English as medium of instruction will have any effect on pupils' HKCEE results.

Table 4 and Table 5 show the results of the comparison between Group C and Subgroup M1. Similar results as stated in the previous section can be obtained from these two tables. Pupils in schools using Chinese as medium of instruction in all subjects are found to perform better in HKCEE than their counterparts in schools with more teaching periods conducted in English.

4.2 Comparison of HKCEE results between schools with C/T = 100% and schools with C/T from 51% to 99%

It can be found from Table 6 and Table 7 that pupils in Group C performed significantly better in all subjects than those in the other subgroup.

5. Conclusion

In conclusion, pupils in schools using Chinese as MOI in all subjects performed better in HKCEE than those in schools using Chinese as MOI by subject.

中學改用教學語言的研究(一九九四)(前教育署)

Research on Change of MOI in Secondary Schools (1994)

(Former Education Department)

Abstract

The Education Commission, in its Report No.1, encouraged secondary schools to adopt Chinese as the medium of instruction. A study was carried out to examine the effects of change of medium of instruction to Chinese on the academic performance of students, to study the learning process and related variables in schools adopting Chinese as the medium of instruction, and to establish the relation between students' performance and the language environment in school.

Preparatory work began in the 1987/88 school year. Eleven Anglo-Chinese schools with over 50% of subjects switched to the Chinese medium were selected as the experimental group. Eleven schools were matched as the control group. Initially 4543 S1 students in the 1988/89 school year were involved in this longitudinal study which tracked the students from S1 to S3.

Students' performance in Chinese, English, Mathematics, and three content-based subjects, i.e. Science, History and Geography, were measured. For Mathematics and the content-based subjects, there were three language versions of test papers: Chinese version for the experimental group, English and bilingual versions for the control group. Because of matching constraints, not all participating schools were tested on Mathematics and the three content-based subjects. The students' learning process and related variables were measured by using the Learning Process Questionnaires designed by Professor J.B. Biggs from the University of Hong Kong. Questionnaires for principals and teachers were also administered to measure their views on the choice of teaching medium. In addition, interviews with teachers and videotaping of classroom teaching were conducted to identify the actual medium used in the teaching process.

Medium Index

It is too simplistic to define the language environment in a school by merely referring to the medium of instruction the school claimed to have adopted. In this study, three factors were included to describe the language environment in school: (i) proportion of periods taught in Chinese to the total number of periods, i.e. C/T ratio, (ii) the attitude of teachers towards the use of Chinese / English in their teaching, and (iii) the perception of students towards the teaching medium used in class. The C/T ratio was reflected in schools' annual feedback to the Education Department while the other two factors were measured through the administration of questionnaires to teachers and students.

By grouping the measures of these three factors into a single score, a medium index (M.I.) ranging from "1" to "5" was devised to describe the language environment of a school. M.I. = 1 means that the school language environment is mainly English, while M.I. = 5 indicates that the school language environment is mainly Chinese.

However, this procedure led to inequality of ability particularly in the group of M.I.=5. There were two schools in this group where the teachers needed to use Chinese as much as possible because of the poor English competence of the students: those schools were in the lower school banding groups. Attempts were made to equate the groups but this was only partially successful.

Effects of Change of Medium of Instruction on the Academic Performance of Students

Except in the case of English, where students in the control schools performed better than their counterparts in the experimental schools, performance of experimental schools in all other subjects by S3 was either equal in the subject of Mathematics or superior in the subjects of Chinese, Science, History and Geography.

When the results were looked at across the five medium groups, making allowance for unequal distributions of ability, the same findings were obtained: performance in English was the best in an English environment, performance in the subject of mathematics was ambiguous due to unequal ability distributions, but performance in all other subjects, i.e. Chinese, Science, History and Geography was the best in a Chinese language environment.

Relation between Learning Process of Students and School Language Environment

When the students' learning processes were investigated, it was found that in a school language environment which was more Chinese than English, students generally were more 'deeply' or academically motivated. They were more likely to commit themselves to learning and to attempt to understand their school tasks rather than just to meet their teachers' requirements. They also tended to maximize their understanding by using various high level cognitive strategies to handle their school tasks. Their counterparts in the English medium schools who were not competent in English, however, tended to learn by rote memorizing, focusing only on selected details. They were more extrinsically motivated and more anxious in their studies. They had to organize their time and resources in order to cope with their learning in the English medium. Those students who were competent in English, on the other hand, were as likely to use high level cognitive strategies in learning as were their counterparts taught in the Chinese medium.

Effect of the Language Medium of Textbook on Students' Academic Performance

Students were found to be in an advantageous situation when they learned the language-loaded subjects through textbooks written in Chinese. The use of Chinese greatly reduces the language barrier experienced by them. This not only motivates them to learn but also facilitates their understanding of the subject matter.

Implications for Schools on the Choice of Medium of Instruction

The results clearly suggest that students of low English competence should not be placed in a language environment which is predominantly English. Otherwise, they are likely to have poor motivation and to apply superficial learning strategies like rote memorization to deal with the secondary curriculum, especially in studying language-loaded subjects. To enable these students to have better academic performance, it is advisable for schools to teach them through the Chinese medium.

As teachers play an important part in shaping the language environment in schools, it is recommended that schools should adopt a single-medium approach in class-teaching.

教學語言評估分組研究：

一九九四/九五至一九九六/九七學年 (一九九八)

(前教育署)

Evaluation Study on the Implementation of MOI Grouping in Secondary Schools: 1994/95-1996/97 school years (1998)

(Former Education Department)

Executive Summary

The Study

The study was carried out in response to the Education Commission Report No.4, published in 1990, which recommended that Secondary 1 entrants be grouped in terms of their ability to learn in Chinese or English and that regular reviews be conducted to monitor progress and to consider whether stronger measures may be required to achieve the objective of encouraging Chinese-medium instruction and minimizing mixed-code teaching. As a result, the Medium of Instruction Grouping Assessment has been implemented since 1994/95 school year under which all secondary schools are advised on the appropriate medium of instruction to adopt, based on the language proficiency of their Secondary 1 intakes. The major objective of this study was to gauge the effects of the different modes of teaching medium on the academic achievement of pupils. 219 target schools were divided into seven groups based on the mode of instruction and 56 of these schools with a total of 287 classes were sampled for the study. Each pupil of these classes was tested in one subject from Chinese, English or Mathematics and another subject from Science, Geography or History by matrix sampling. The cohort of pupils was tested again around the same time in 1996 and 1997 when they were in Secondary 2 and Secondary 3 respectively, so that a three-year effect could be drawn up.

Major Findings

2. Based on the analyses of the test results of the six subjects, it is found that mother-tongue teaching helps pupils achieve value-added performance in the subjects. This study does not support the general belief that attending an English-medium-instruction school would always help pupils achieve higher proficiency in the subject English Language. In general, pupils taught in English, especially those attending non-complying English-medium-instruction (EMI) schools, encounter a language barrier in expressing what they have learnt in the more language-loaded subjects, the subject History in particular.

3. Findings of the Questionnaire on Actual Medium of Instruction Used reveal that in all school activities, apart from school correspondence and non-academic activities which used mainly Chinese for all groups of schools, the medium of instruction used in non-complying EMI schools is different from that of complying EMI schools. For the non-complying EMI schools, mixed-code teaching is generally found. For the complying EMI schools, English is the main teaching medium.

4. Overall findings of this study support the policy stated in the Education Commission Report No.4 that the majority of pupils will benefit more from continuing their education at secondary level through Chinese medium of instruction. Pupils, those of lower academic ability in particular, would learn more effectively and achieve better results if Chinese is adopted as the medium of instruction.

Recommendation

5. The findings should be publicised widely so that parents and teachers are aware of the educational benefits of Chinese-medium teaching.

教學語言調查(一九九九)(語常會)

Survey on Medium of Instruction in Schools (1999) (SCOLAR)

教學語言調查研究摘要

一：研究方法

是次調查在一九九九年六月進行，對象是本港中學的校長、教師、學生和家長。調查以問卷形式進行。目的在收集上述四類人士在推行母語教學接近一年之後對該項政策的體驗和意見。

受訪者有來自以英語為教學語言的學校（英校），也有來自以母語（廣東話）為授課語言的學校（中校）。由於教師、學生和家長所涉及的人數太多，所以本調查從全港學校中，依照學校成績的分類，按比例於每類中隨機抽選學校樣本，最後得出八十間學校。約佔全港中學數目的20%，其中58所為中校，22所為英校。校長方面則向全港學校發出問卷，接受調查的人數達26,000人。有關四類受訪者的成功回收問卷數目如下：

	校長	回收率	教師	回收率	學生	回收率	家長	回收率
英校	63	56.3%	211	94.2%	3,937	99.4%	3,478	81.7%
中校	184	62.2%	528	84.5%	9,761	97.5%	7,938	77.4%

由於校長問卷的回收率接近六成，而家長、教師和學生的回收率在七成半以上，因此問卷調查的代表性相當高。

調查共擬設問卷八份給兩類學校中的四類受訪人士。每份問卷分為三部分：第一部分屬分類資料；第二部分是與體驗有關的問題；第三部分則屬與意見有關的問題。各問卷的題目總數雖然未盡相同，但都有不少可資比較的問題。

二：研究結果簡述

為便讀者，這裏把本研究撮述為十五點，如下：

1. 調查結果清楚印證母語教學能使教學更多樣化，教師也更容易引導學生深入淺出探討課題。在中文中學（中中），老師與學生的關係融洽親切，而學生在課堂上較熱烈參與討論。這種現象甚至在學生能力水平較差的中中，也很普遍。
2. 相對來說，只有少數的英文中學（英中）的校長和教師認為用英語授課可達致相同的效果。
3. 比對英中的教師，中中的教師過去一年有較大比率經歷到下述體驗：教學愉快（92%（中）對 75%（英）），與學生關係融洽（80%（中）對 37%（英）），學生在課堂上有熱烈討論（68%（中）對 28%（英））。
4. 比對英中的學生，中中的學生有更高比率喜歡他們學校採用的教學語言（70%（英）對 87%（中）），並認為自己敢於發表意見（39%（英）對 57%（中））。能在課堂上熱烈討論（53%（英）對 66%（中）），及和老師的關係融洽密切（35%（英）對 85%（中））。
5. 有 96.5%中中校長支持母語教學，而有 90%英中校長支持英語教學。中中的教師，有 83.1%說他們喜歡用母語來授課。
6. 有 70%中中家長支持母語教學，而有近 90%英中家長支持英語教學。
7. 中中和英中都各有約一半的老師認同打好母語的基礎有助學好英文。他們中也各有七成人同意不一定要用英語教學，學生的英語水平也可以提高。
8. 絕大部分（95%）中中教師覺得有信心用母語教學。
9. 有半數家長認為子女學好英語比學好一般學科重要；而有超過六成英中的家長為子女選擇學校，主要視乎它是中文還是英文授課。

10. 有七至八成的中文中學，他們的校長、教師和學生都認同現有的英文科教學支援措施（如外籍英語教師，英語廣泛閱讀計畫等）可增強他們對母語教學的信心。
11. 有大約四成的中中學生認為在中中就讀是次一等的。而中中的學生家長中，也有大約四成希望他們子弟就讀的學校轉用英語授課。
12. 大部分的英中校長和老師表示，在課餘絕大部分時間，老師與學生，以及學生與學生之間，都不是用英語溝通。
13. 有七成的中中校長認為容許部分中學採用英語授課的政策是錯誤的；但只有約兩成的英中校長有相同看法。
14. 中中或英中，無論校長還是教師，大部分都認同只有少數學生有能力用英語學習。
15. 無論是中中或英中，大部份的校長、教師和家長都同意教師的英語能力是學校採用英語教學的先決條件。
16. 英中的校長大都認為推動母語教學主要的阻力來自家長。

完

Commissioned by the
Educatoin and Manpower Bureau

推行《中學教學語言指引》之評鑑研究：一九九九年至二零零二年（二零零四）

（香港中文大學）

Evaluation on the Implementation of the MOI Guidance for Secondary Schools: 1999-2002 (2004)

(The Chinese University of Hong Kong)

Evaluation on the Implementation of the Medium of Instruction Guidance for Secondary Schools

Final Report (1999-2002)

EXECUTIVE SUMMARY

1. The Research Questions

In the summer of 1999, the Education Department (ED) of the Hong Kong Special Administrative Region (HKSAR) Government commissioned the research team to conduct a policy evaluation research. The policy was the *Guidance of Medium of Instruction for Secondary Schools* (*Guidance*) (ED, 1997). As stipulated in the tender document, the research was "a longitudinal research study (the Study) ... to evaluate and compare a cohort of students studying in schools adopting either Chinese or English as the MOI, with the aim of tracing and comparing the academic and personal development of students studying under each of the two media of instruction." (ED, 1999, p. 1) More specifically, the research questions to be investigated are defined as follows.

- To trace the academic and personal development of students in schools adopting either Chinese or English as the MOI;
- To compare the degree of improvement of students' academic and personal development in schools adopting either Chinese or English as the MOI;
- To compare the language ability (in both Chinese and English) of students in schools adopting either Chinese or English as the MOI; and
- To identify facilitating and hindering factors affecting students learning in schools adopting Chinese as the MOI.

2. The Study

To address these research questions, the research team designed a sample using two cohorts of students from 100 secondary schools. The two cohorts are students who entered into the secondary education system in the academic years of 1998-1999 (98 cohort) and 1999-2000 (99 cohort). These are the first two cohorts who entered into the secondary school system after implementation of the policy specified in the *Guidance of Medium of Instruction for Secondary Schools*. The 100 secondary schools were selected by stratified random sampling based on two criteria. One criterion was the Medium of Instruction (MOI) used in schools, which can be categorized English as Medium of

Instruction (EMI) and Chinese as Medium of Instruction (CMI). The other was the achievement level of the student intakes of CMI schools. These levels are differentiated into three categories, namely high, medium and low. The student intake achievement level is measured by students' Academic Ability Index (AAI) in the Secondary School Place Allocation (SSPA) system. As a result, schools selected were stratified into four strata, EMI schools, CMI schools – high intake (CHIG), CMI schools – medium intake (CMID), and CMI schools – low intake (CLOW). 25 schools were randomly sampled from each stratum. The population is just over 400 schools, so the sampling ratio is about 25%. Sampled students' AAI were used as the students' pre-entry achievement measures in the surveys. Throughout the past three years two cohorts of students in the 100 sampled schools were tracked from Form 1 to Form 3 and studied by means of achievement tests, questionnaire surveys, focus group discussions, and classroom observations. Teachers in the sampled schools were also studied, using questionnaire surveys and in-depth interviews. Administrations of the sampled schools were also studied, using questionnaire surveys and in-depth interviews. Finally, parents of the students in both cohorts were surveyed to collect data on family backgrounds.

3. Major Findings

Based on data accumulated over the past three years, the research team designed the following analysis to answer the research questions.

3.1. Differential effects between EMI and CMI schools on Academic Achievement

To assess the differential effects between EMI and CMI schools on academic development, the research team has conducted two sets of analyses. One is a value-added analysis and the other is a growth-model analysis. Both analyses consistently reveal that there are salient differential effects between EMI and CMI schools in three academic areas. These are the learning outcomes of English language, science and social studies. Chinese language and Mathematics show no such significant differences across either forms or student cohorts.

Results of both the value-added and growth-model analyses consistently reveal that CMI schools have asserted positive effects on students' science achievement relative to students in EMI schools. More specifically, the findings in the value-added models revealed that CMI schools in all three ability strata could, on average, raise students' science achievement scores by thirty percentiles in comparison with EMI schools. In other words, CMI schools have a value-added effect on science achievement equivalent to one and a half Bands in the old 5-banding SSPA system. There was a further revelation from comparison of the science achievement scores of EMI students, tested using bilingual papers and those tested with English-version papers. This showed

that EMI students tested with bilingual papers only lagged behind students in CMI schools by twenty percentiles. From this, we may infer that English classroom instruction will reduce EMI students' science achievement scores by twenty percentiles (i.e. one Band), while using English in assessment will reduce them by another ten percentiles (i.e. half a Band). Similarly, in the growth model, it is revealed that with regard to the effects on the general achievement levels (i.e. the mean-centered intercept) of the 3-year growth in science achievement, CMI schools have a value-added effect of more than twenty percentiles when compared with EMI schools. However, there are no significant differences in growth rate (the slop of the 3-year growth curve) between EMI and CMI schools.

In the matter of the differential effects on social studies achievement, it is revealed that CMI schools have produced positive effects on students' social studies achievement compared with EMI schools. In the value-added models, CMI schools in all three ability strata can raise social studies achievement scores of students by an average of about twenty percentiles by comparison with EMI schools. In other words, relative to EMI schools, CMI schools have a value-added effect on social studies achievement equivalent to one Band in the 5-banding SSPA system. Once again, by comparing the social-studies achievement scores of EMI students tested with bilingual papers with those tested with English-version papers, it is revealed that the EMI students tested with a bilingual paper do not show any significant drop in achievement in comparison with CMI students. Once again, we can infer that the one-Band disadvantage experienced by the EMI students in social studies learning is mainly due to the medium used in assessment rather than in classroom instruction. Findings from the growth models show that in terms of the effects on the general achievement levels of the 3-year growth of social studies achievement (i.e. the mean-centered intercept of the growth curve), CMI schools have value-added effects by ten percentiles in comparison with EMI schools. However, there are no significant differences in growth rate (i.e. the slop of the growth curve) between EMI and CMI schools.

On examination of the differential effect on English achievement between CMI and EMI schools, the findings of the Study have revealed that EMI schools have produced positive effects on students' English achievement relative to students in CMI schools. More specifically, in the value-added model, EMI schools on a whole can raise English achievement scores of students by twenty percentiles by comparison with students in CMI schools in all three ability strata. With reference to the 5-banding system of the old SSPA mechanism, we can say that EMI schools have a value-added effect on English achievement by one Band in comparison with CMI schools. Moreover, findings in the growth model indicate first of all that, EMI schools have produced value-added effect on the general achievement level of the 3-year growth of English

achievement by well over ten percentiles in comparison with CMI schools. The growth models have also revealed that the achievement gap between EMI schools and CMI schools with high- and medium-ability student intakes (CHI and CMID schools) will be widened. It can be evidenced in the findings that EMI students' growth rates in English achievement are significantly higher than students in CHIG and CMID schools.

3.2. Differential effects between EMI and CMI schools on Psychosocial Development

In assessing the differential effects between EMI and CMI schools on students' psychological development, a series of multi-level regression models were conducted. In each of these models, one measure of psychosocial development of students was taken as dependent variable, while individual students' AAI, gender (i.e. being female), school-means AAI, and the three dummy variables of sampling strata were used as independent variables. The findings revealed from models recorded in Table 5.1 to 5.18 indicate that there are significant and consistent differential effects between EMI and CMI schools on several areas of students' psychosocial development. The four areas which yield significant and consistent differences are, students' academic self-concept, learning strategy, attitude towards bilingualism and English learning, and perception of the quality of school life and school choice. However, there are no significant differences between EMI and CMI students in their general self-concept and self-concepts of relation with parents, honesty/reliability and emotional stability, civic attitude and orientation, social efficacy, and learning motive.

Among the six academic self-concepts presented in Tables 5.1 and 5.2, those for Chinese and science show no significant differences between EMI and CMI students. The most salient difference appears in the academic self-concept of English. EMI students' confidence and sense of competence in English proficiency are consistently higher than CMI students' in all three ability strata and in both the 99 and 98 cohorts. Another academic self-concept, which exhibits significant differences between EMI and CMI students, is the self-concept of interest in mathematics. EMI students have expressed greater interest in mathematics learning than CHIG and CMID students at Form 3 level in both the 98 and 99 cohorts. The same variation can also be found between EMI and CLOW students in the 99 cohort.

The second area of psychosocial development, which shows significant differences between EMI and CMI students, is students' learning strategy. Among the four dimensions of learning strategy, only *Deep Strategy* has produced some significant and consistent differences. EMI students are more likely to adopt deep strategy in learning than CHIG students from both the 98 and 99 cohorts. The same result can also be found between EMI and CMID students in the 98 cohort.

The third area of psychosocial development, which produced significant

differences between EMI and CMI students, is students' attitudes towards bilingualism and English learning. Among the eight dimensions of attitudes towards bilingualism and English learning, significant differences mainly occur in the four dimensions, *Interest in Learning English*, *Motivational Intensities in Schools, outside Schools* and *English Lessons*. It is revealed that EMI schools exhibit significant and positive effects in all four dimensions. EMI students indicated greater interest in English learning than CMI students in both the 98 and 99 cohorts. They demonstrate greater motivational intensities in English learning in English lessons and outside schools in both cohorts. EMI students also expressed greater motivational intensity of learning English in schools in the 99 cohort.

The last area of psychosocial development, which produced significant differential effects between EMI and CMI schools, is students' perception of their school life. First, among the eight dimensions in the instrument of Quality of School Life (QSL), three have consistently produced significant differences between EMI schools and CMI schools in all three ability strata in both the 98 and 99 cohorts. These dimensions are students' perceptions of the general *Opportunity* elicited from schoolwork, *Opportunity relating to the MOI* in use in schools and students' sense of *Linguistic Efficacy* in learning. They indicate that in comparison with CMI schools, EMI schools have produced significant and positive effects on students' perceptions of both kinds of *Opportunity* but negative effects on students' sense of *Linguistic Efficacy*. This shows that HK secondary-school students face a dilemma in their schooling. Students in EMI schools feel least effective in learning with EMI and yet they hold the perception that EMI will offer greater opportunities for their future studies as well as career. Conversely, students in CMI schools in all three ability strata feel they are much more effective learners with CMI, but hold the perception that their prospects are less promising than their contemporaries in EMI schools. Second, students' perception of the choice between EMI and CMI schools reveals that a feeling of ambivalence permeates the student body in CMI schools. When students were asked what medium they would choose if they could choose freely once again, a substantial portion of CMI students indicate that they would choose EMI and not CMI schools. These positive feelings towards EMI over CMI modes are strongest among CHIG students and they decrease in descending order from CMID to CLOW strata. The majority of students in EMI schools indicate they identify strongly with their choice of school.

Apart from the findings generated from the quantitative study, the data gathered from the qualitative study have revealed that students in CMI schools have strong feelings of abhorrence towards English and view it as difficult. English teachers in CMI schools have repeatedly registered that most of their students are afraid of English and they find it the most difficult school subject.

3.3. Accounting for Differentials in Students' Development

To account for the differentials in students' developments, the research team has conceptualized a five-tier learning environment framework to identify facilitating and hindering factors affecting students' learning. The conceptual framework can be mapped as follow.

1. Individual pre-entry attributes
   - 1.1. AAI in SSPA
   - 1.2. SES
   - 1.3. Gender
2. Students' learning habitus
   - 2.1. Academic self-concept
   - 2.2. Learning motive and strategy
   - 2.3. Attitudes towards bilingualism and English learning
3. Classroom learning environment
   - 3.1. Mode of instruction
   - 3.2. Instructional climate
   - 3.3. Disciplinary climate
   - 3.4. Students' perception of teachers' efficacy
   - 3.5. Students' perception of teachers' instructional leadership
   - 3.6. Classroom learning environment, from qualitative study
4. School learning environment
   - 4.1. Students' perceptions of quality of school life
   - 4.2. Teachers' perceptions of educational environment of school
5. Socio-cultural learning environment
   - 5.1. Parental involvement

The first tier consists of students' pre-entry attributes, i.e. factors that are beyond the control of secondary schools. Three such attributes have been identified and assessed in the Study. They are students' AAI, SES and gender, which have been shown to have significant effects on students' academic achievement. The effects are particularly prominent in English achievement, as evidenced in the finding that the models of pre-entry attributes can account for more than two-thirds of the total variances of the English achievement scores on average. Among these pre-entry attributes, measures of AAI at individual level have consistently produced significant and positive effects on academic achievement in all five school-subjects studied in both the 98 and 99 cohorts. As for measures of AAI at school level, they have consistently produced both

significant and positive effects on achievement in English, Chinese and mathematics. Gender (i.e. being female) has consistently produced significant and positive effects on Chinese and English achievements across forms and the cohort as a whole. It also has significant and positive effects on achievement in social studies in most of the models. Finally, measures of students' SES at individual level have consistently produced significant and positive effects on English achievement. The measures of SES at school level have also asserted significant and positive effects in most of the English models. However, students' SES has no significant effects on achievement in other four subjects.

The second tier of factors in the framework is students' individual learning habitués. It is revealed that these are able to produce some significant effects on students' academic achievement. First, measures of students' academic self-concepts at individual level have consistently produced positive and significant effects on academic achievement in all subjects and in both the 98 and 99 cohorts. However, measures of academic self-concept at school level have not yielded any such consistent and significant effects. Secondly, students' learning motive and strategy on the whole, have demonstrated significant effects on academic achievement. All three measures of learning motive at individual level have consistently produced positive and significant effects. They indicate that as long as students are strongly motivated to learn, no matter whether it is surface, deep or achieving motives. They all have a positive bearing on students' academic achievement. In the case of measures of *Deep Strategy* at an individual level, there is a positive and significant effect on achievement in all subjects, while for *Surface, Achieving* and *Rote-learning Strategies* at individual levels there is a negative and significant effect. However, learning motive and strategy at school level have no significant effects on academic achievement. Finally, students' attitudes towards bilingualism and English learning have also produced some significant effects on students' achievement in English. It is revealed that four dimensions of the construct at individual level, i.e. *Interest in English, Instrumental Orientation, Motivational Intensity in School* and *Motivational Intensity in English Lesson*, have consistently produced positive and significant effects on English achievement. At school level, *Motivational Intensity in English Lesson* also has significant and positive effects on English achievement. Taken together the findings on students' individual learning habitués reveal that the positive constituents of individual learning habitués are a high academic self-concept of oneself, strong motive in learning, adoption of deep strategy in the learning process, and strong motivational intensity of learning English in schools and especially in English lessons. Negative components of individual learning habitués are adoption of surface, achieving and rote-learning strategy in the learning process.

The third tier of factors in the framework is classroom learning environment. This has also produced some significant effects on academic achievement. Salient

effects of the three modes of classroom instruction on academic achievement are apparent. *Exposition of Content* appears to be the most prominent mode of instruction in the sampled classrooms. It has also consistently producing positive and significant effects on achievement in English, Chinese, mathematics and science. *Discipline Management* and an *Activity Approach* also produce significant and negative effects. Instructional climate is the second aspect of classroom learning environment under study. Among the four dimensions of instructional climate, *Accomplishment and Motivation* turns out to be the dimension, which has consistently produced significant and positive effects on Chinese and English achievements. They indicate that an instructional climate, which provides students with a sense of accomplishment and motivation, has positive effects on Chinese and English achievement. Third, the construct of disciplinary climate of classrooms, which is made up of *Disciplinary Order* and *Academic Order*, has also produced some significant effects on students' achievement. It is revealed that orderly climate, no matter in terms of *Disciplinary* or *Academic Orders*, produces positive effects on students Chinese and English achievements. Students' perception of teachers' efficacy in Chinese and English lessons is the third aspect of classroom learning environment that we have investigated. Among the three dimensions of teachers' efficacy, *Apathetic Teacher* stands out as the most significant hindering factor to Chinese achievement. They indicate that students perceiving their teachers as apathetic in Chinese lessons has a negative effect on their Chinese achievement. As for English lessons, *Stern Teacher* also has significant and negative effect on English achievement, but only in the 98 cohort. The last aspect of the classroom learning environment that we researched is students' perception of teachers' instructional leadership. Among the four dimensions of instructional leadership, *Organizing Instructional Task* has been able to produce significant and positive effects on Chinese and English achievements consistently in both cohorts. Taking the findings in classroom learning environment together, it is revealed that positive components of classroom learning environment are made up of adopting exposition of content as the predominant mode of instruction with the provision of sense of accomplishment and motivation to students. Negative constituents compose of adopting discipline management and an activity approach as the frequent modes of classroom instruction and apathetic and stern attitudes of teachers.

The data generated from the qualitative study, provides some significant information on the classroom environment in EMI and CMI schools. Teachers, who have switched from EMI to CMI mode, have repeatedly registered the effectiveness of mother tongue (MT) in teaching science and social studies in junior forms. They have agreeably signified the effectiveness of MT mode on explicating abstract scientific concepts and complicated social issues, and on relating and applying scientific or social

principles to daily life examples. These teachers have also reported that switching to MT has greatly enhanced students' participation in the learning processes in science and social studies. Students have assumed much more active roles in raising questions, bringing in new information and examples to classroom instructions, and engaging in group discussions and classroom deliberations. This contrasts with comments of teachers in EMI schools who admit the restraining effects of EMI modes on students' participation in classroom activities.

The fourth tier of the framework is school learning environment. This has uncovered some significant effects on students' achievement. Students' perception of the quality of school life is the first aspect of school learning environment that we investigated. It is revealed that the construct has only provided clearly identifiable effects on achievement in English and science. In the model accounting for English achievement, *Opportunity relating to MOI* in use in school has produced significant and positive effects on students' English achievement, while *Linguistic Efficacy* has negative effects. They basically confirm the findings that students in EMI schools hold high hopes for their prospects but suffer from language difficulties in classroom instruction and teacher-student communication. In the models accounting for science achievement, *Linguistic Efficacy* has positive effects on science achievement. The findings also confirm that students in CMI schools enjoy linguistic efficacy in CMI and have value-added growth in their science achievement. The second aspect of the school learning environment that we have investigated is teachers' perception of school educational environment. Among the eight dimensions of educational environment, *Student Body Composition* is the dimension that is able to produce definite effects on achievement. It is revealed that students' academic and behavioural compositions in school have significant and positive effects on achievement in English, mathematics and science.

The last tier of the framework is the socio-cultural learning environment provided by students' parents. It transpires that three dimensions have consistent and significant effects on achievement in all five subjects. They are *Supervision*, *Volunteer Activity* and *Encouragement*. The former two have yielded negative effects, while the last is positive. They indicate that parents' frequent supervision and participation in volunteer work at schools has negative effects on students' achievement, while frequent encouragement from parents has positive effects.

Having considered the effects of the five tiers of learning environment on students' achievement separately, it is now possible to account for the different effects of EMI and CMI schools on the significant differences in students' achievements in science, social studies, and English using a more holistic perspective.

Firstly, to account for the thirty-percentile difference in value-added effects between CMI and EMI schools in science achievement, one of the most prominent theses that has been found is the double second-language (L2) thesis. It has been well documented in related literature and in fact verified in the Study that learning science for the first time is inherently difficult in a linguistic sense. The scientific terminology and methods of inquiry are all foreign to children just like a foreign language. Furthermore, learning science in L2 imposes yet another hindrance on students. These double L2 effects have been revealed in the findings of this Study in a number of ways. As explicated above, in value-added models, classroom instruction in English has caused EMI students to lag behind CMI students by, on average, twenty percentiles in science achievement scores, while assessment in English would cause EMI students another ten percentile lag. Furthermore, in in-depth interviews science teachers repeatedly register that teaching science in English reduces their instructional effectiveness in both explication of subject matter and relating and applying scientific knowledge to students' daily-life experiences. Finally, these teachers also underline that EMI mode has constrained students' active participation in the learning process, such as answering or asking questions and in classroom discussions.

Secondly, to account for the twenty-percentile difference in the value-added effect on social studies between CMI and EMI schools, it is revealed that the double L2 thesis accounting for differential effect on science achievement cannot apply. All that can be claimed is a single L2 effect, namely, English. This is evidenced by the findings that when EMI students are tested with bilingual-version papers instead of monolingual-English papers, EMI students' twenty-percentile disadvantages in social studies achievement have simply disappeared, in other words, the differential effects between EMI and CMI schools have become statistically insignificant. These findings signify that L2 learners of social studies do not experience the hindrance of foreignness, which they experience in science learning, because the vocabularies and mode of inquiry in social studies are less remote from students' daily life experiences than those of natural science. Hence, the hindrances facing L2 learners of social studies are mainly difficulties in understanding English texts, especially those in assessments. Apart from the outcomes in achievement scores, it is also revealed in interviews with social studies teachers that there are significant qualitative differences in the learning processes of social studies between CMI and EMI classrooms. Social studies teachers have repeatedly registered that as the MOI has switched from EMI to CMI, they have experienced profound enhancements of instructional effectiveness in social studies lessons. These teachers underline that without the language barriers they can explicate concepts and theories in social studies in much greater details and illustrate them more realistically with current affairs examples, which students have already come across in

the mass media. Furthermore, these teachers also state that students have assumed a much more active role in the learning process of social studies once they have switched to CMI. Most of them have no difficulty in reading Chinese materials found in a variety of sources, e.g. newspapers, magazines, government documents and publications, and so on. For these reasons, they can bring additional information and materials to the learning process from the mass media and Internet. Most tellingly, these teachers have repeatedly underlined that by conducting the lessons in Cantonese-Chinese, students can engage in discussions and deliberations analytically and even critically on current issues related to the subject matter. As a result, students' analytical power and critical literacy on current public issues have been significantly enhanced in mother-tongue classrooms.

Finally, in explaining the twenty-percentile difference in the value-added effect between EMI and CMI schools on English achievement, it is revealed that there are two categories of factors at work in HK secondary schools. The first can be characterized as the thesis of comprehensible English input, more commonly known as the exposure thesis. It signifies that students in EMI schools are practically exposed more intensively and extensively to comprehensible English input than CMI students. The second category of factors is psychological. EMI students have higher self-esteem regarding their English ability right at the beginning of their junior-secondary years. They also display greater motivational intensity and interest in English learning. Lastly, they also believe that they have greater opportunities for educational and socioeconomic advancement. Taken together, it seems that a kind of psychology of elitist bilingualism has been constituted among students in EMI schools. CMI students have a profoundly different psychology towards English and English learning. Firstly, CMI students hold significantly lower self-esteem of their English ability. Second, they indicate significantly lower motivation and interest in English learning. Third, they seem to have developed a feeling of abhorrence of and sense of difficulty towards English. Lastly, they believe that the CMI mode will limit their prospects of educational and socioeconomic advancement. As a whole, they signify that a kind of self-denying and self-defeating psychology of English learning is permeating among students in CMI schools.

3.4. Institutional and policy effects on secondary school system

Apart from the effects of ability and MOI streaming on individual student's academic and psychosocial developments, the findings of the Study revealed that the ability-streaming effect of the SSPA system and the MOI-streaming effect of the *Guidance* have produced some significant institutional impacts on the secondary school, system of Hong Kong. First, it is revealed that Hong Kong secondary schools are highly segregated in terms of students' academic achievement levels right at their entry levels. This can be evidenced in findings that between-school variances of the AAI in both the

98 and 99 cohorts have constituted more than eighty per cent of the respective total variances. Second, when the between-school variances in the 98 and 99 cohort is compared with those in 1994, it is revealed that the implementation of the *Guidance* has increased the degree of ability-segregation in Hong Kong secondary schools at their entry level, by about ten per cent. This indicates that the *Guidance* has added a diglossic* twist to the institutional segregation among secondary schools, that is, Hong Kong secondary schools are aligned into EMI and CMI streams. Finally, when we put together the institutional effect of the SSPA system and the policy effects of the *Guidance*, it is revealed that a strong element of elitist bilingualism is permeating the secondary school system of Hong Kong. (see *Appendix I* for detailed explication)

4. Implications

The findings of the study reveal a number of implications worth-mentioning. They can be categorized into two levels namely implications at instructional level and at policy and institutional levels.

4.1. Implications at instructional level

Implications deduced from the findings, which may inform teachers in modifying their classroom instruction in EMI and CMI schools in Hong Kong, can be categorized into three groups as follows.

(i) Instructional implications for science education

Due to the double L2 effects at work in science classrooms in EMI schools, science teachers in EMI schools are facing formidable tasks in helping their students to overcome the hindrances generated from the unfamiliarity of subject matters of science, on the one hand, and the hindrances caused by using a foreign language, i.e. English, as MOI, on the other. Hence, it is advisable during teacher training or retraining programmes to alert science teachers in EMI schools to these hindrances and to raise their linguistic sensitivities. It may also be helpful if EMB can take the lead in summarizing and disseminating instructional practices of science teaching in EMI schools which have proven to be effective in helping students in EMI schools to overcome the double L2 effects.

As for science teachers in CMI schools, they should be made aware of the effectiveness of MT on science education as revealed in the Study. They include (1) the effectiveness of explicating scientific concepts and principles in greater depth and detail, (2) the effectiveness of relating and applying scientific concepts and principles to students' daily life experiences more frequently and with greater variety, (3) the

comprehensibility and accessibility of Chinese texts, which enable students to obtain knowledge by their own efforts from a much greater variety of sources, and (4) the effectiveness of allowing students to assume a much more participatory role in the learning process, such as participating or even initiating discussions relating to scientific knowledge and inquiry. How to sustain and enhance the effectiveness of CMI in their science lessons is the major task assigned to all science teachers in CMI schools.

(ii) Instructional implications for social studies education

Findings of the Study have revealed that in Hong Kong, junior-form students learning social studies in English have experienced language hindrance in comprehending the English texts found in textbooks, supplementary reading materials and in particular test items in assessments. Nevertheless, the Study has also revealed that students in EMI schools have less difficulty in understanding the subject matter of social studies than they do in science subjects. That is probably because the subject matter of social studies is less foreign to students' daily-life experiences than that of science. In light of these findings, it seems that the formidable task facing social studies teachers teaching in English is to bridge the literal gap between students' daily social lives and the alienating English texts.

As for students learning social studies in Chinese, the value-added advantages they enjoy over EMI students are not solely attributed to the comprehensibility of the Chinese texts. It has been revealed in the qualitative study, especially the in-depth interviews with social-studies teachers who have switch from EMI to CMI, that teaching social studies in Chinese has greatly enhanced the relevance of the subject matter to students' daily life. These teachers have repeatedly underlined that without the language barriers, they can explicate concepts and theories in social studies in much greater details and illustrate them with relevant current affairs, which students have already come across in the mass media. Furthermore, these teachers have also stated that students have also assumed a much more active role in the process of learning social studies once they have switched to CMI. Most of them have no difficulty in reading Chinese materials found in various sources, including newspapers, magazines, government documents and publications, and so on. This enables them to bring additional information and materials into the learning process. They can also engage in in-depth discussions or even debates on current issues related to the subject matter. As a result, students' analytical powers on current public issues have been significantly enhanced. Therefore, how to maximize as well as to disseminate these advantages given by CMI in social studies teaching is one area that both teacher trainers and officials should look carefully into.

Some teachers have emphasized that the advantages of CMI in teaching social

studies has not been fully capitalized on. They have also pointed out a number of structural hindrances which have arisen. The first is the limited supply of Chinese textbooks. They point to the fact that there are not many high quality Chinese textbooks in social studies, especially in subjects such as History. These shortages are especially serious at Form Six level. A number of experienced teachers pointed out that, under the mandate of the EC Report No. 1 (1984), the Hong Kong Government set up a fund to provide financial assistance for the publication of Chinese textbooks. They suggest that the HKSAR Government should re-activate the fund if it really wants to promote mother-tongue instruction. In relation to the policy measures in promoting mother tongue instruction initiated in the same report, teachers also pointed out that some of the English-Chinese glossaries of terms commonly used in the teaching of social studies subjects in secondary schools have not been updated for more than a decade. As a result, teachers switching from EMI to CMI have faced difficulties in finding standardized translations of terminologies to work with. (One teacher made the useful suggestion that these glossaries should be provided in CD-Rom format, so that teachers as well as students could learn the correct pronunciations. The teacher emphasized that this would benefit students in both EMI and CMI schools.) Another area of improvement suggested by teachers teaching junior-secondary social studies is regarding the instructional content specified in the syllabus and found in textbooks. A number of teachers have pointed out that the syllabus of social studies and even geography, in junior forms can be expanded both in depth as well as in scope in response to switching to Chinese MOI. They point out that while the depth and scope of the instructional contents found in English textbooks may seem to be at appropriate levels in consideration of the language barriers that Form-1 students encounter, in Chinese it will be too easy in the eyes of both teachers and students. They believe that if the syllabus of junior-secondary social studies could be expanded to take account of this, the advantages of CMI in teaching social studies may be further increased substantially.

(iii) Instructional implications for English education

It has been substantiated in the Study that junior-secondary students in EMI schools have significant value-added advantages in English achievement over students in CMI schools. These advantages can be attributed first of all to the English learning environment in EMI schools, in which students are intensively exposed to comprehensible English-language inputs in terms of time and the scope. It has also been discovered that the mandate of the *Guidance* has more or less "purified" the English learning environment in the classrooms of EMI schools. This can be evidenced in the findings in the in-depth interviews with schoolteachers that most of the teachers in EMI schools have switched from mixed code English and Cantonese to monolingual English code. These schoolteachers have also reported that in comparison with students exposed

to mixed-code classroom instruction, students in the 98 and 99 cohorts have improved in English writing, in terms of vocabulary and phrasal expressions, which, in interviews, they have attributed to their switch from mixed code to pure English instructions. Therefore, EMI schools and their teachers are advised to maintain English monolingual code, and to further improve a conducive English learning environment as this is vital to the success of English education revealed in their schools.

Apart from the conducive English learning environment found in EMI schools, another factor contributing to the value-added effect of EMI schools on English achievement is a set of psychological factors, which work jointly together to motivate EMI students' efforts and interests in learning English. First of all, it has been revealed in the Study that the English self-concept of EMI students became significantly higher by comparison with their counterparts in CMI schools, as soon as they were admitted to EMI schools. This relatively higher self-esteem on English competence has been sustained throughout EMI students' junior-secondary years. Secondly, it has been shown that EMI students have higher motivation and greater interest in learning English by comparison with students in CMI schools. Finally, it has been revealed in the Study that EMI students have more positive perceptions of their opportunities for educational and socioeconomic advancements. They attributed such opportunities to their being enrolled in EMI schools. It is of no surprise that such a psychology in EMI students has contributed to the value-added achievement in English found among EMI students. However, we will argue that such a psychology of EMI students can also be interpreted as resulting from the elitist bilingualism constituted by the policy measures of the *Guidance*. The constitution of the elitist bilingualism will be further elaborated in the section on the implication at policy level.

The findings explicated above also have significant implications for the English instruction undertaken in CMI schools. One of most obvious, which should be noted by the administrators and teachers of CMI schools, is that they have been confronted by the extremely formidable task of helping CMI students to learn English. First, they have to think of ways to enhance the English learning environment in CMI schools and, more specifically, to improve both the quality and quantity of the comprehensible English-language inputs. Furthermore, teachers in CMI schools need to pay particular attention to the kind of self-denying psychology found among CMI students in relation to their attitude towards English learning and their English abilities. As indicated above, in comparison with EMI students, those in CMI schools have lower self-esteem regarding their English proficiency. They display lower motivation and interest in the learning of English. They also believe that they have relatively less opportunities for educational and socioeconomic advancement. Apart from these findings, interviews with English-language teachers working in CMI schools, which

were previously EMI schools, revealed that CMI students have one other psychological block to the learning of English. Students in CMI mode found English much more difficult when they compared it with other school subjects, which are now taught in mother tongue and therefore appear to be relatively easier. These teachers pointed out that they did not find the same sense of difficulty with English learning by student cohorts before the change of MOI from EMI to CMI. These teachers point to the fact that students in EMI mode felt that the English used in other content subjects was much more difficult than that found in English language lessons. As a result, students in EMI mode would usually show no fear of English and would even indicate their love of the subject because it was simply easier, and useful to the learning of other subjects. Conversely, students in CMI mode would usually show greater fear of English as a subject, and indicate that the subject was not that useful to their study in general. Taken together, it is no surprise to find that these self-denying and self-defeating attitudes toward English learning are highly associated with the relatively lower achievement in English found among students in CMI mode. How to help CMI students to contain and even resolve these self-denying attitudes towards English learning and assist them to learn English effectively is, therefore, an essential task that administrators and teachers in CMI schools must address.

4.2. Implications at policy and institutional levels

From the findings in relation to the policy and institutional effects of the *Guidance* and the SSPA system, it is implied that policy reviews on the *Guidance* should move beyond the individualistic orientation and address the institutional and structural features so prominent in the secondary education system of HKSAR. These structural features include high degree of ability segregation among secondary schools, the diglossic structure of the Hong Kong schooling system, and strong sense of the elitist bilingualism among stakeholders in Hong Kong education system. (see *Appendix I* for detailed explication)

5. Limitations of the Study

The implications of the findings of the Study at both instructional and policy levels are by no means exhaustive or conclusive. They should not be taken as definite prescriptions for engineering MOI policy in HK secondary schools. They should rather be construed as suggestions to facilitate policy discourses or debates relating to the issue. These words of caution are mainly prompted by the following limitations of the Study.

It is true that this Study is by definition an *ex post facto* evaluation research on the implementation of an education policy, namely the *Guidance of Medium of Instruction for Secondary Schools*. Hence, the data collected and analysed are records of events which have taken place in natural settings and temporal sequences. Also, the Study is mainly based on surveys and achievement tests, so they provide extensive

accounts of the policy effects produced by the *Guidance* on a representative sample of schools and their teachers and students. The extensive quantitative data are also supplemented by in-depth qualitative data collected from classroom observations and interviews. Nevertheless, we would like to point to the fact that these data can not have captured the total educational activities undertaken in schools and classrooms, which were affected by the policy measures entailed by the *Guidance*. Therefore, we would like to recommend that the findings of the Study should be given to the educational professionals in secondary schools to serve as food for thought in facilitating a policy discourse on the MOI issue.

Secondly, this three-year longitudinal study has only traced the sampled students' academic and psychosocial development in their junior-secondary years. It in no way tells whether the effects of CMI or EMI on their development revealed here, will be sustained, increase, or decrease in the senior-secondary years or longer term. Hence, it is advisable that we exercise prudence towards these findings and wait for the findings generated from the second phase of the Study which will shed light on the MOI effects in sampled students' development in their senior-secondary years, i.e. Form 4 and 5. Following on from this limitation, it is worth pointing out that one prospect for further study on the issue is to trace these students further on their educational and socioeconomic attainment paths to see the longitudinal MOI effect further.

Thirdly, this three-year longitudinal study, which began in the second year of the implementation of the *Guidance* (i.e. 1999/00), can only assess the effects of the policy measures in their early stage of implementation. Usually, it takes time for policy measures, especially education policy measures, to mature and consolidate. For example, it takes time for school administration, teachers, curriculum leaders, textbook publishers, and other parties concerned to adjust to the policy changes and to come up with effective professional practices to cope with the new situation. Hence, the effects of EMI and CMI revealed in the Study may be augmented as the policy measures initiated by the *Guidance* are consolidated in the school environment and/or established as common professional practices in classroom situations. These propositions on the differential effects of developmental stages of policy measures have pointed to yet another prospect for the further study on the MOI issue in HKSAR.

Apart from these three empirical limitations, there is another limitation derived from the epistemological foundation of the study of policy of language in education. It has been documented in literature on language policy and planning that research on language policy in education is a formidable endeavor, especially if researchers take in not only the individualistic and neo-classical approaches but also the holistic and structural perspectives. Difficulties are spawned not only from the complexities of the empirical properties under study, but also from the complications of

the cultural, socioeconomic, and political contexts, in which the issues under investigation are embedded. In relation to this limitation, we would like to underline that the findings and implications of the Study should not be taken as a once-and-for-all conclusion to the MOI issue of the HKSAR, instead we would recommend that the findings of the Study should be taken as empirical references to facilitate a rational and democratic discourse on MOI policy in secondary schools in the post-1997 HKSAR.

Note:

* The application of the concept diglossia or even triglossia to the language situation of Hong Kong can be found in Johnson, 1994; Luke and Richard, 1982; So, 1989. The concept of diglossia was first developed by Ferguson (1959) and Fishman (1967). It refers to a stable language situation, in which two functionally differentiated languages or two varieties of a language co-exist. They are basically differentiated into high variety (H) and low variety (L). H variety is more likely to be used in formal situations, such as in legislature, fine literature, formal education, etc, while the L variety is used in informal situations, such as the local marketplace, folk literature, informal instruction, etc. (Fishman, 1967; see also Wardhaugh, 1992; and de Mejia, 2002) However, the concept of diglossia has been criticized by critical sociolinguists as structural-functionalist in perspective and not taking into account the inequality and power embedded in language situations. (Eckert, 1980; Martin-Jones, 1989; and McKinnon, 1984)
Taking these perspectives together, the concept used in this Study will not only conceptualize diglossia as the co-existence of functionally differentiated languages in various domains, but also take into account features of inequality and stratification among languages and symbolic power and violence (Bourdieu, 1991) embedded in diglossia.

英語教學的文獻研究 – 以第一語言及/或第二語言作為教學語言(一九九九)(語常會)

English Language Critical Literature Review: First and/or Second Language as a Medium of Instruction (1999) (SCOLAR)

EXECUTIVE SUMMARY

Recognizing the complex nature of the issue of using first and/or second language (L1/L2) as a medium of instruction, the critical literature review aims to:

- identify and critically examine the theories, concepts, and various options and models relevant to an understanding of using first and/or second language as a medium of instruction in schools,
- identify and critically examine practical studies and empirical research on the use of the first and/or second language as a medium of instruction, and various options in using different languages as instructional media at different stages of education which may be relevant and applicable to the Hong Kong context,
- identify and critically examine the best current practices in bilingual education in the world, giving special consideration to the experiences of countries or areas reverting from using a second language to using the mother tongue as an instructional medium, and
- identify the conditions under which successful practices elsewhere might be applicable in the local context to assist language planners, policy-makers and school practitioners to make informed decisions about the language(s) of instruction in schools to raise language standards in Hong Kong.

Eight internationally renowned regional experts were commissioned to prepare reports on the medium of instruction in schools in their respective regions (Appendix II). An extensive review of both the international and local research literature was conducted. The findings are summarized on the next two pages.

Conditions for Success in Using L2 as a Medium of Instruction (Immersion Education)

i. Sociolinguistic Factors

It is important for both the spoken and written forms of the native language (L1) of the students to be well-supported by the larger sociolinguistic environment, in terms of both (a) their prestige/status, and (b) their widespread and daily use for authentic communicative purposes.

ii. Parental/Home Support Factors

The successful immersion programs are all characterized by high levels of parental and home support in terms of attention and material support, as well as providing a home environment which is rich in resources for both L1 and L2 linguistic and literacy development, e.g., rich print environment at home.

iii. Educational/School Program Factors

One major factor is the *professional preparation* of teachers. All the successful examples of immersion education are characterized by strong professionalism and high bilingual proficiency levels on the part of both content and language teachers. Teaching methodologies and curriculums that are interactive, collaborative, activity- and meaning-based provide the rich second language input and opportunities for student productive language use necessary for L2 acquisition to take place.

Another important program factor concerns *the way* immersion is introduced and *at what level* it is introduced. In the Hong Kong context, where neither English nor Modern Standard Chinese literacy is widely supported by the larger sociolinguistic environment for the majority of students, *the following efforts seem to be especially important for additive bilingualism to develop among the majority of students*:

- *to improve the quality of the teaching of both Chinese and English, especially at primary and junior secondary levels*, and

- *to continue to maintain Chinese as a medium of instruction in some content subjects even after English immersion has been introduced* (i.e., to allow for partial immersion--"mixed mode").

The above three categories of factors appear to be the most important conditions necessary for success in immersion education. Other important factors include *learner attitude, commitment, motivation and threshold proficiency level.* Factors regarding the *linguistic and cultural distance between the L1 and L2*, however, do not seem to be essential if the other favourable conditions obtain.

Recommendation: A Proposed Mixed Model for Hong Kong

In view of current research evidence reviewed in this Report, we propose a mixed model that combines features of mother-tongue education, total immersion and partial immersion. Details of the proposed model and its resource implications are set out in Sections 4 and 5 of Chapter 5 in this Report.