

Do Bilinguals Perform Better than Monolinguals on School Foreign Language Examinations?¹

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Abstract

It is generally assumed that the bilingual students from immigrant backgrounds, because of greater opportunities for target language exposure, will perform better at school foreign language learning than monolingual learners from English-speaking backgrounds. This assumption underpins recent policy initiatives in some states of Australia, which attempt to compensate monolingual foreign language learners for the fact that they are competing against native or quasi native speakers on the Year 12 LOTE (Language Other than English) examination. The paper explores this issue further by comparing the performance of bilingual and monolingual subjects on the 1994 Year 12 Victorian Certificate of Education (VCE) examinations in three languages: Italian, Greek and Chinese

A questionnaire was administered to all VCE candidates to elicit data about a) the degree of out-of-school exposure to the target language, b) the nature and extent of prior target language instruction. Questionnaire data were analysed and each candidate was assigned to one of four language background categories on a continuum from native speaker to second language learner. This process was repeated by a second researcher to ensure reliability. Triangulation procedures were also used with a sub-set of 25 candidates to establish the validity of the categorisation process. ANOVA analyses were then performed to determine whether there were significant differences between scores achieved by the four categories of learner on each of the three LOTE examinations.

Findings were somewhat different for each of the three languages, because of variations in both the patterns of immigration and levels of LOTE exposure/maintenance within each LOTE learner

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population. In general, however, it appears that home use of the target language is not a sufficient condition for superior performance in classroom LOTE learning and that socioeconomic, cultural and psychosocial factors may compete with or override language background in determining level of performance on the relevant school foreign language examination.

The paper concludes with a discussion of the implications of research findings for LOTE teaching and assessment policy.

1. Introduction

Classes of Australian school-age LOTE (Languages Other Than English) learners commonly contain very different sub-populations. Some learners will be bilinguals from immigrant families who, although they use English in the public domain, continue to use the target language, or a variety of it for at least some of their interaction in the home. Others will be foreign language learners from monolingual English speaking backgrounds who have no contact with the target language outside the classroom.

It is generally assumed that the bilingual students, known in Australia as 'background speakers', will enjoy an advantage in classroom LOTE learning over monolingual learners from English-speaking backgrounds because of greater opportunities to use the target language. It is for this reason that the practice of grouping the two types of learner together is considered by many (eg Tuffin & Wilson, (1990) and Garnaut, (1992)) to be demotivating for the foreign language learners particularly in the latter years of schooling when the assessment of learning outcomes is taken out of the hands of teachers and measured on public examinations. Indeed, in some states of Australia (including Victoria where this study has been conducted) there are procedures in place to compensate foreign language learners in the university selection process for what is perceived to be unfair competition from native or background speakers with greater access to the target language.

However, a number of studies comparing the performance of native and non-native speakers on second language proficiency tests have shown that native-speakers are not necessarily 'expert users' of the target language and that as a result of factors such as age, intelligence, socioeconomic status or level of education, they perform

neither uniformly well nor uniformly better than non-natives (see for example Angoff & Sharon (1971), Alderson (1980), Oscarson (1986), Weir (1988), Hamilton et al (1993)). It seems likely moreover that this native-speaker variability will be even greater in language contact situations where, as in Australia, the native speakers may be first, second or third generation immigrants at various stages of shift away from their parents' L1 towards the language of the host community (in this case English). The assumption that these bilingual 'background speaker' subjects are advantaged on school LOTE examinations with respect to monolinguals, whose only exposure to the target language is in the classroom, may therefore need to be qualified. This paper explores this issue further by comparing the performance of these different types of learner on the Year 12 Victorian Certificate of Education (VCE) examinations in three languages: Chinese, Greek and Italian.

2. Method

2.1 Participants

The number of 1994 VCE enrolments for each of the three languages chosen for this study were as follows: .

Italian	794
Modern Greek	930
Mandarin Chinese	1 100

This study includes only those VCE candidates who completed a language background questionnaire administered statewide by the Victorian Tertiary Admissions Centre (VTAC) to all VCE LOTE candidates as part of a scheme (mentioned above) which attempts to identify learners who might be deserving of special consideration in the university selection process. Table 1. below indicates the number of LOTE forms submitted for each language as a percentage of the total number of enrolments for that language:

Language	No. of forms submitted	Percentage of total enrolments
Italian	647	81%
Modern Greek	667	71%
Chinese	916	83%

Table 1. Number of LOTE Forms per language

2.2 Instrumentation

2.2.1 The questionnaire

The questionnaire is made up of five sections with a combination of open-ended and directed-response items. Its purpose was to elicit information about a) the degree of learners' out-of-school exposure to both English and the target language and b) the extent and nature of their target language instruction in Australia and/or overseas so that learners could be grouped into categories according to the extent of their 'bilingualism' or their degree of 'native-speakerness' in relation to the language studied at VCE.

2.2.2 The interview

To establish the validity of the questionnaire and the subsequent categorisation of learners based on questionnaire data, interviews (each of approximately thirty minutes duration) were conducted with a sample of 25 VCE candidates who were undertaking their first year of undergraduate Italian study at one or other of the tertiary institutions in Victoria. It was considered that a face-to-face encounter would yield more fine grained information because of the greater opportunities for probing. Although the interview was open-ended it was at the same time a focused elicitation procedure (Merton and Kendall 1946 cited in Cohen and Manion, 1985) structured around a priori criteria which had already been applied to the categorisation of LOTE learners. In this sense it should be viewed primarily as a confirmatory rather than an exploratory technique.

As well as producing 'parallel' language background data which could be used to establish the validity or otherwise of the questionnaire, the interview schedule was designed to elicit information about aspects of subjects' background or experience which were not covered in the questionnaire, for example: what other opportunities for target language use were available outside the family. It was felt that this information might inform the interpretation of the results presented below.

2.2.3 The VCE LOTE examination

The measure of LOTE learning outcomes used for this study is the 1994 Victorian Certificate of Education (VCE) LOTE examination. This exam is usually taken on completion of secondary schooling and after a number of years' formal study of the LOTE. The 1994 VCE LOTE examination is made up of four common assessment tasks (CATs). Performance on each CAT is reported as a grade (from A+ to E) and the CAT scores are also combined to produce a global aggregate LOTE study score (on a scale of 0-50).

The nature of each CAT is described briefly below:

CAT 1 Report

An internally assessed research report (written in the target language) the development of which is monitored by the school LOTE teacher who signs plans and drafts of the work and keeps a running record of student progress.

CAT 2 Conversation and discussion

An externally assessed oral examination in which students are required to interact in the LOTE with two interlocutors/assessors. The examination is divided into three parts: a general conversation, a short pre-rehearsed monologue followed by a discussion, and a role play based on one of three situations specified at the start of the year for that LOTE.

CAT 3 Discourse creation

An internally assessed writing folio containing two extended pieces of writing in the LOTE. One piece is selected from work submitted

during the year and the other completed in class time under supervision.

CAT 4 Discourse comprehension and reorganisation

An externally assessed examination made up of three parts. Part 1 involves reading one or two thematically-related written passages in the LOTE. Part 2 involves listening to a 20-minute dialogue which extends the information provided in Part 1. Candidates take notes during both of these tasks and in Part 3, the only component which is assessed, they write a 250-300 word essay demonstrating their comprehension of and ability to manipulate the input from Parts 1 and 2.

Although the assessment criteria differ somewhat from CAT to CAT, more importance tends to be given to successful task completion in terms of content, organisation and effectiveness of expression than to linguistic control per se. The rehearsed nature of many of the CATs is such that the overall global score may be more a reflection of academic achievement than of proficiency in the sense of automatised target language production.

2.3 Procedure

2.3.1 Analysis of the questionnaire data

Learners of each language were grouped into one of four different categories. Although for some languages it would have been feasible to divide the population into more than four different subgroups it was decided to adhere to the constraints of the VTAC special consideration scheme so that the scheme itself could be evaluated and so that cross language comparisons could be made when interpreting the research findings. The criteria for categorisation differ slightly from language to language according to the particular sociolinguistic profile of the learner population and the proportion of learners within each sub-group (eg proportion of dialect speakers to non dialect speakers, of recent immigrants to long-term residents and so on).

The categorisation criteria for each LOTE are set out below together with the numbers and proportion of LOTE learners within each

category. The criteria are based on the assumption that the following conditions will favour proficiency in the target language.

The conditions are listed in order of importance:

- schooling undertaken through the medium of the target language (the more the better)
- home literacy in the target language or a variant (the more the better)
- home exposure to the standard (taught) form of the target language (the more the better)
- home exposure to a dialect or variant of the target language (the more the better).

Italian

Category	N size	% of cohort	Criterion for categorisation
1	204	31%	No Italian is spoken at home
2	127	20%	English is the main home language but some Italian dialect is used at home.
3	257	40%	Italian dialect is the main home LOTE.
4	41	6%	Standard Italian is the main home language AND/OR candidate has undertaken two or more years of Italian-medium instruction AND/OR candidate has been in Australia for less than seven years (n=4).
-	18	3%	A language other than English or Italian is spoken at home.

Table 2. Distribution of VCE Italian learners across categories

Modern Greek

Category	N size	% of cohort	Criterion for categorisation
1	22	4%	No Greek is spoken at home
2	187	30.4%	English is the main home language but some Greek is spoken at home OR Greek dialect is used sometimes or always at home (n=31).
3	340	55%	Greek is the main home LOTE (oracy and literacy).
4	64	10.5%	Greek or Greek dialect is the main home language AND candidate has undergone two or more years of Greek-medium schooling AND/OR candidate has been in Australia for less than seven years (n=11).
-	1	0.1%	A language other than English or Greek is spoken at home.

Table 3. Distribution of VCE Greek learners across categories

Chinese

Category	N size	% of cohort	Criterion for categorisation
1	124	13%	No Chinese is spoken at home
2	40	4%	English is the main home language but some Mandarin or Chinese dialect is spoken at home.
3	43	5%	Mandarin or a Chinese dialect is the main home LOTE (oracy and literacy) but candidate has not undertaken Chinese-medium schooling AND has been in the country more than seven years.
4	702	77%	Mandarin or a Chinese dialect is the main home language and candidate has undertaken two or more years of Chinese-medium instruction OR Mandarin or a Chinese dialect is the main home language and candidate has been in Australia for less than seven years (n=609).
-	7	1%	A language other than English or Chinese is used at home.

Table 4. Distribution of VCE Chinese learners across categories

The major differences between languages are in terms of the proportions in each category. Note that the proportion of foreign language learners to background speakers of Italian is quite large compared to the other two languages and there are many more recent immigrants studying Chinese than is the case for either Greek or Italian.

A further difference worth noting is that dialect speakers have been treated differently for each language. For Greek there are relatively few dialect speakers ($n=31$) so they have been placed in Category 2 (ie they are considered disadvantaged in relation to speakers of Demotic Greek who are assigned to Category 3 and Category 4. For Italian the dialect speakers are the majority and therefore it has been possible to make a distinction between them in terms of amount of dialect used (see Categories 2 and 3). Standard Italian speakers, who are a small minority, are confined to Category 4.

For Chinese also there is a majority of dialect speakers, but since all the dialects share a common script, those who have been educated in Chinese-medium institutions have all been placed in Category 4, regardless of the dialect they speak. If we were to increase the number of categories for this language, it might be appropriate to further subdivide the Category 4 group into those who speak the taught standard (ie Mandarin) and those who speak one or other of the Chinese dialects. Furthermore, in theory at least, it would be desirable to rank the dialects of each language in terms of their distance from the taught standards, but given the four-category constraint and the complexity of the language-distance issue (Davies & Elder, 1996) this has not been attempted.

Studying each of the three languages are a small number of learners whose home language is neither English nor the target language. These learners have been excluded from the analysis reported below.

2.3.2 Ascertaining the reliability of the categorisation process

Because of a) limitations in the design of the questionnaire and b) the complex nature of the categorisation process (which was undertaken by a single researcher and involved cross-referencing from one questionnaire response to another and a certain amount of inferencing when dealing with anomalous answers), it was deemed necessary to ascertain the reliability of the category ratings. To this end three research assistants² were employed—one for each

²All three research assistants were native or background speakers of the relevant LOTE and two of the three had training in Applied Linguistics. The third was a teacher with experience of teaching mixed background classes.

language—to make an independent rating of each candidate by sorting the questionnaires into categories using criteria specified above. The category ratings for each candidate were then recorded alongside the original ones and correlational analyses were undertaken to determine the extent of rater agreement for each language. The resultant *r* values are reported below:

Italian	0.93
Mandarin Chinese	0.87
Modern Greek	0.90

For all languages there was a respectable level of agreement between raters. Discrepant cases were examined by the initial researcher together with the research assistants and either recategorised or removed from the data base if no agreement could be reached.

2.3.3 Validating the questionnaire data

Since the language background data used for this study is based on a single source, which had a number of limitations, data from the subsequent interviews with 1994 VCE Italian candidates (see above) was used to corroborate the information provided on the questionnaires. Extensive notes based on the tape-recorded interviews were given to a second researcher with a background in sociolinguistics who was asked to use this source of information to group the interviewees into language background categories, applying the same criteria adopted for the categorisation of the LOTE forms.

Comparison of the categories derived from the two elicitation methods produced a strong correlation ($r=0.8523$, $p < 0.001$) with a different category assigned to only 4 of the 25 candidates. The discrepancies in categorisation from one method to another concerned candidates in Categories 1 and 2 which suggests that we should treat findings relating to these particular categories with some degree of caution. It seems likely, if the above sample is taken as representative of the larger population, that included in Category 1 are at least some students who have some exposure to LOTE in the immediate or extended family and, conversely, that there may be students in Category 2 who are from English-speaking backgrounds with no exposure to Italian outside the classroom.

However, the results obtained from these interviews suggest that, by and large, the responses produced on the Italian candidates' questionnaires can be treated as valid.

It seems reasonable to extrapolate from the results obtained for Italian to the other two languages, although it is conceivable, given the different nature of each LOTE population and the particular conditions surrounding the teaching of each LOTE, that there may be different sources of error for each language group. For Chinese, for example, the fact that the questionnaire elicits no information about country of origin is potentially more serious in terms of its effect on the categorisation process because the majority of candidates are recent immigrants.

2.3.4 Comparing LOTE performance across categories

The Analysis of Variance (ANOVA) statistic (Hatch & Lazaraton, 1991: 308) was used to determine whether there were differences in performance across each of the 4 language background categories on the VCE LOTE global score (from 0–50) and on the grades awarded for each of the four component CATs. For the purpose of this analysis the grades (from E to A+) were converted to figures as follows:

A+	50
A	45
B+	40
B	35
C+	30
C	25
D+	20
D	15
E+	10
E	5

The ANOVA statistic was computed and where between-group differences proved significant a post-hoc Tukey's test was used to locate these differences.

Because CAT scores were not in all cases normally distributed, the non-parametric Kruskal-Wallis test (Siegel, 1956) was also used for the between-group comparison. However, since the results were in

all cases consonant with the findings of the ANOVA analysis, they will not be reported here.

3. Results

Results of the ANOVA analysis are reported in Appendices to this paper and are described and interpreted below..

3.1 Italian

Results reported in Appendix 1 show that, as far as global scores are concerned, there is no difference in means across categories. Although the standard Italian speakers (Category 4) achieve a higher mean score than learners in the other categories, the difference is non-significant ($F=2.27$, $p=0.07$). Differences do however emerge on each of the component CATs.

There are significant group differences on the two internally assessed writing tasks, CAT 1 and CAT 3 with F values of 4.63 and 3.82 respectively. Tukey's post-hoc pairwise comparisons indicate that on both CATs learners in Category 3 (dialect speakers who use Italian rather than English as their main home language) perform significantly worse than those in all the other categories.

On CAT 2 (the externally-assessed oral examination) score differences according to category are highly significant ($F=9.53$, $p=0.000$) and the Tukey's test reveals that Category 1 students (the non-background speakers who use English only at home) performed at a significantly lower level than all the others. The mean score difference for Category 2 and 3 students is not statistically significant, but the mean for Category 4 students is significantly higher than that of all the other categories.

On CAT 4 (the externally assessed written exam) there is a gradual increase in mean scores in the predicted direction from Category 1 (the lowest) through to Category 4 (the highest) but the post-hoc analysis shows that the only significant difference is between learners in Categories 1 and 4 (ie at the extremes of the native/non-native continuum).

In sum, although it does seem that foreign language learners who do not use Italian at home are disadvantaged on the oral examination

compared to all others with a home background in the LOTE and on the written examination with respect to the speakers of standard Italian, this disadvantage is not evident on the two internally assessed CATs (1 and 3) where it is in fact the background speakers (or those for whom an Italian dialect is the main home language) who do significantly worse than the others. These differences however cancel one another out when the CAT scores are aggregated to produce the global VCE Italian score.

Modern Greek

The data presented in Appendix 2 shows that, as far as global scores on the VCE Greek examination are concerned, there is a significant difference across groups ($F=5.75$, $p=0.001$). The post-hoc Tukey's analysis however reveals that this difference is not in the predicted direction. Learners in Categories 1, 2 and 4 perform on a par with one another and the mean score of Category 3 learners is in fact lower than that of Category 2 learners (who speak a dialect or who have limited exposure to Greek in the home). It is also worth noting that while learners in Category 1 (those with no home exposure) do not appear to be disadvantaged in this subject, this may be due to the relatively small numbers in this group compared with those in the other categories.

The results for CAT 1 are similar, with a significant group difference ($F=5.75$, $p=0.001$), which reflects the fact that Category 3 learners are outperformed by those in Category 2. The mean scores for all the other groups are not statistically different.

For both CAT 2 (the oral examination) and CAT 3 (the internally-assessed writing folio) there is a non-significant category-by-score interaction ($F=1.95$, $p=0.120$ and $F=1.70$, $p=0.167$), although on the oral exam the lower mean score of Category 1 learners in combination with a higher standard deviation (compared to that of the other groups) suggests that some learners in this group may be disadvantaged.

Results on CAT 4 show a significant difference across groups ($F=2.78$, $p=0.040$). This is probably due to the tendency of both Category 1 and Category 3 learners to perform at lower levels than those in Categories 2 and 4. This can be ascertained from inspection of their

mean scores, although the Tukey's analysis reveals that no single pairwise comparison is statistically significant.

In sum, those classified as second language learners are not significantly disadvantaged on the VCE LOTE examination, although their mean score on CAT 2, 3 and 4 is lower than that of the background speakers. Contrary to the predictions implicit in the categorisation of LOTE learners it is the Category 3 students (whose main home language is Greek) who achieve a lower mean score than other background speakers on all four CATs and this disadvantage reaches statistical significance on both CAT 1 (the research task) and on the global VCE Greek score.

3.3 Chinese

The ANOVA comparison of VCE Chinese global scores presented in Appendix 3 shows a mean score difference according to category in the predicted direction ($F=-68.98$, $p<0.000$), and the post-hoc pairwise analysis reveals that performance differences across categories are highly significant with the exception of Categories 2 and 3 which are statistically equivalent.

Results for CAT 1 and for CAT 4 show a similar trend but on the latter task the category differences are more marked ($F=89.46$, $p=0.000$) as opposed to $F=29.28$, $p=0.000$). Category 1 learners (those from English-speaking backgrounds) are significantly disadvantaged in relation to all those with a home background in Chinese, particularly on the written examination. While a home background in Chinese is advantageous, it does not seem to matter on either of these tasks whether or not Chinese is the main home language (pairwise comparisons show no difference between learners in Categories 2 and 3).

On the oral examination (CAT 2—see Table 13) there are again significant differences in mean scores across groups ($F=11.68$, $p=0.000$) and the post-hoc pairwise comparisons indicate that Category 1 learners perform at a significantly lower level than those in Category 4 but not with respect to the other background speakers (in Categories 2 and 3). For CAT 3, the writing portfolio, (see Table 14) results show a similar pattern although the differences in performance across categories is greater ($F=64.62$, $p=0.000$) and the Tukey's comparison reveals that Category 1

students, while performing on a par with those in Category 2, are outperformed on this task by learners in both Category 3 and Category 4.

Thus on the VCE Chinese examination there is a clear native/non-native speaker divide on all assessment tasks, with native speakers performing better than non-natives. On CAT 3, the writing task, there is also a distinct advantage for the background speakers who use Chinese at home but have not undergone formal Chinese medium education (ie they achieve significantly higher marks than the second language learners with little or no home exposure to the target language). On other CATs what counts is having a home background in Chinese; the amount of home exposure does not make a difference.

4. Discussion

Before attempting to explain and consider the implications of the results reported above, it is worth summarising the findings of the ANOVA (see Table 5 below) analysis so that any patterns or differences across languages are immediately apparent.

The results of the ANOVA analysis indicate that the prediction of score advantages on the basis of background information about candidates is no simple matter and that the assumption of a uniform background speaker advantage across languages is not in fact tenable. Only in the case of Chinese is there a clear relationship between language background and performance at the global score level. Global scores for Greek, on the other hand, show that those who use Greek rather than English as their main home language are disadvantaged with respect to other learners and for Italian there appear to be no differences according to language background. Note, however, that while for Greek the pattern of performance across categories is reflected on each of the component CATs, for Italian the global scores actually mask important category differences which are evident on individual CATs.

The large mean score difference between native and non-native speakers of Chinese is unsurprising when we consider that the majority of the Chinese learner population, due to recent patterns of immigration, have had substantial amounts of schooling through the medium of the target language or have been in Australia for a

Global score	CAT scores
<p>ITALIAN</p> <ul style="list-style-type: none"> • There are no significant differences in performance across categories. 	<ul style="list-style-type: none"> • L2 learners are disadvantaged with respect to all other categories of learner on CAT 2 (oral). On CAT 4 (written exam) they are outperformed only by those who speak standard Italian/or have attended an Italian-medium school. On the other two CATs they perform at the same level or better than the background speakers. • Those with Italian dialect as their main home language perform worse than all other groups on CATs 1 and 3 (internally-assessed research and writing folio). • Speakers of standard Italian are advantaged with respect to all other categories on the oral and with respect to L2 learners on the final exam.
<p>MODERN GREEK</p> <ul style="list-style-type: none"> • There is a significant difference in performance across categories, but not in the predicted direction. Those with Greek as main home language (Category 3) perform at a lower level than background speakers of Greek whose main language is English (Category 2). 	<ul style="list-style-type: none"> • Those with Greek as main home language (Category 3) have lower mean scores than the background speakers of Greek whose main language is English (Category 2) on all CATs and perform significantly worse than them on CAT 1. • There are no significant differences according to category of LOTE learner on the other tasks.
<p>CHINESE</p> <ul style="list-style-type: none"> • There are substantial score differences between native/background-speakers and L2 learners in the predicted direction with Category 4 students outperforming those in Categories 1, 2 and 3. However, the distinction between those with limited home exposure to Chinese (Category 2) and those who use Chinese as the main home language (Category 3) is not significant. 	<ul style="list-style-type: none"> • Second language learners suffer significant disadvantage in relation to Category 4 students on all assessment tasks, but on the oral they perform on a par with students in Categories 2 and 3, and on the research and writing tasks with students in Category 2. • Those with limited home exposure to Chinese and those who use Chinese as the main home language perform at the same level on CATs 1 & 4. • Recent immigrants or those with Chinese medium schooling perform significantly better than all other categories of learner on CATs 3 and 4. • L2 learners have lower mean scores than all other groups on CATs 2, 3 and 4 but the difference is non significant.

Table 5. Summary of findings from the ANOVA analysis

relatively short time (Smith et al, 1993). The fact that there is a clear advantage for native speakers of Chinese with respect to the L2 learners is also partly attributable to the nature of modern standard Chinese, with its character-based script, which may take longer to master than that of other non-character languages. (It should be noted that the difference between native and non-native speakers is greatest on CAT 3 and CAT 4, both of which require the production of written characters.) Chinese characters are renowned for being particularly difficult because, unlike English, they offer little assistance to learners as far as phonetic and semantic clues to word meaning are concerned (Nation, 1990: 36) There are indeed suggestions in the literature (eg Kirkpatrick, 1995) that high levels of written proficiency in Chinese may be beyond the reach of all but the most able English speakers.

The lack of difference between native and non-native speakers of Italian in terms of their overall global score may by the same token be due to the rapid shift towards English amongst the local Italo-Australian community and the fact that in recent years there have been relatively few new arrivals to foster language maintenance within the Italian community (Clyne, 1991). The proficiency levels of the second and third generation speakers are constantly declining (Bettoni, 1991) which means that the second or quasi second language learners of Italian who continue into the higher levels of secondary school may, given a certain amount of aptitude, have sufficient classroom exposure to the target language to catch up with, and in some cases overtake, the background speakers in at least some of the skills measured by the VCE LOTE examination. Not surprisingly, it is on the two external examinations (CAT 2 and CAT 4) where there are fewer opportunities for rehearsal and revision that the differences between L2 learners and the background speakers occur. Thus it is only in the area of automaticity of production that L2 learners are disadvantaged.

Interviews with Category 1 candidates suggest a further explanation for the lack of overall difference in scores between background and non background speakers of Italian on the VCE LOTE examination. Of the six interviewees classified as non-background speakers there is only one student with no language other than English in her family background. One reason for the lack of difference between background and non-background speakers on the Italian examination may therefore be that many of the latter group,

although they use only English at home, themselves enjoy another kind of home background advantage: they come from families where the value of bilingualism is recognised and in some cases actively modelled. This may be an important factor in a) their decision to continue studying LOTE to VCE level and b) their degree of success in LOTE learning as measured by the VCE examination.³ Interviewees (both background speakers and non background speakers) confirmed that for foreign language learners to continue with Italian study in Year 11 and 12, given the lack of status generally accorded to the study of languages in Australia (Ingleson, 1989: 175; Tuffin et al., 1989: 46ff.; Leal, 1990: 38ff) required a special kind of motivation and ability⁴.

The same aptitude and motivation factors may account for the fact that foreign language learners of Greek, when considered as a group, appear able to keep up with the background speakers of the target language in spite of evidence (Tamis et al. 1993) which suggests that amongst the Australian-Greek community the levels of language maintenance are generally high. Given that most Greek language programmes in the upper secondary school are explicitly oriented towards L1 maintenance or revival (Tamis et al. 1993), it is likely that the only L2 learners who are prepared to continue their studies to VCE level are highly able students with a very particular commitment to the Greek language. While no interview data is available to support this assertion, it is worth noting that 3 of the foreign language learners in the 1994 VCE Modern Greek cohort are also students of Ancient Greek and this is likely to be an advantage in studying the Modern Demotic variety.

When considering the reasons why Category 1 learners of Italian and Modern Greek are able to hold their own with respect to the background/native speakers we should also bear in mind the possibility that the candidates assigned to Category 1 may not all be 'true' second language learners. While they may not speak English at home, it is quite conceivable that some of the English

³It should however be borne in mind that those who have been interviewed are a skewed sample, representing the cream of VCE students who have continued on to tertiary LOTE study.

⁴The introduction of the LOTE bonus for all Year 12 LOTE students, which was implemented for the first time in 1994, may ultimately have the effect of encouraging some of the less able students to continue with their LOTE studies.

speakers have family members other than parents who address them in the target language; they may also have exposure to this language in other domains such as at church and at community events. This is not an unusual state of affairs amongst second and third generation immigrants (Clyne 1991) and one limitation of the language background questionnaire is that it does not elicit information about patterns of LOTE use outside the home. It is also possible that many of the second language learners have opportunities for practising the LOTE (eg extra tutoring, travel and/or study in Italy) which are on a par with or in fact exceed those available to the background speakers. This is borne out by anecdotal evidence from the interviews.

An interesting phenomenon which is common to two of the languages (Greek and Italian) is the fact that those who report the LOTE to be their main home language (but have neither lived in a country where the LOTE is spoken nor studied in a LOTE medium school) appear to be disadvantaged on some assessment tasks. Those whose main home language is Greek but have not studied it overseas do worse than those with lesser amounts of LOTE exposure in the home environment on CAT 1 (research) and those Italian learners who have dialect as their main home language likewise perform worse on CAT 1 and 3 (research and writing portfolio) than the background speakers who declare English to be their main home language. Since both CAT 1 and CAT 3 are internally assessed by the classroom teacher it is possible that there is bias in the assessment process such that teachers and examination assessors mark the LOTE dominant speakers more harshly precisely because they consider them to be privileged and expect them to do better than those with fewer opportunities for target language maintenance.

Feedback from the interviews suggests a further possible explanation for the lower scores of those who use mainly Greek or Italian at home, namely that these learners may be less inclined to make an effort to study the language because they are overconfident about their ability. This reliance on what they already know or can do automatically may result in their having lower levels of accuracy and metalinguistic awareness than their second language learner counterparts who have had to make greater efforts to master the target language and who have learned it in a more systematic way.

An alternative explanation for the relatively poor performance of Category 3 learners with respect to the others is that extensive home use of the target is in fact a surrogate for another kind of background variable, namely low socioeconomic status (ie those who continue to use a LOTE as the predominant medium of communication at home may do so because they have no choice on account of the fact that their parents a) have remained in relatively low status occupations where English language is not required and is therefore poorly acquired, b) are not yet fully integrated with the Australian society, and c) are unwilling/unable to participate actively in their children's school education.⁵) In other words it may be class and cultural factors rather than linguistic ones which are disadvantaging these learners academically. The fact that the background speaker disadvantage shows up on those tasks which place greater emphasis on literacy in the academic sense rather than on more spontaneous language production adds weight to this hypothesis.

Also worthy of note are the differences between Greek and Italian as far as dialect is concerned. Implicit in the categorisation criteria for each of these languages was the assumption that dialect speakers would be disadvantaged because their language variety was likely to be viewed pejoratively in relation to the taught standard. On the Italian oral examination (CAT 2) the results conform with this assumption ie. the standard Italian speakers (Category 4) achieve a higher mean score than the dialect speakers (Categories 2 and 3). The self-stigmatising attitude of Italo-Australians to their own dialectal or regional varieties has been documented in the research literature (eg. Bettoni and Gibbons 1988, Clyne 1987) and, according to the Italian candidates interviewed, this is perpetuated in the classroom by Italian teachers (most of whom are themselves Italo-Australians). The analysis of the VCE Modern Greek results, on the other hand, suggest that dialect speakers are not disadvantaged as a group in the same way as the Italians. Learners in Category 2, who are for the most part dialect

⁵Although the educational background of parents of Italian students has been reported to be higher than the national average (over 25% of fathers and 20% of mothers have a tertiary degree or higher), it is not an unambiguously middle class sample given the fairly high proportion of parents (approximately 47% of males and 48% of females) without a Year 12 or equivalent qualification (Di Biase et al. 1994). I have thus far been unable to find parallel data about the educational level of Greek parents.

speakers, perform on a par with all the other learners on all tasks and in fact do better than some of the non dialect speakers (ie those in Category 3) on CAT 1, the research task. To avoid the risk of overgeneralising from this finding it should be noted that the majority of the dialect speakers were Cyprians. It has been suggested⁶ that there may be some predisposition for success in Australian schools on the part of Cypriot immigrants because of the British influence nature of the Cypriot society and the widespread use of English resulting from British colonisation. In other words what they lack in competence in Modern Greek may be compensated for by their command of English and their degree of acculturation to British-type institutions. This tallies with what was suggested above: that in the absence of school literacy in the target language (which few learners other than the Chinese students in Category 4 have had access to), the best predictor of success in LOTE or any other school subject is school literacy in English. We cannot ignore the fact that the LOTEs we are investigating are generally offered as academic subjects in the context of English-medium institutions and that the curriculum is designed, taught and assessed by people who have been socialised into the norms of an English-medium academic culture. An alternative and perhaps more appealing explanation for the lack of difference between speakers of dialect and the standard Demotic form is that Australian-born Cypriots and Pontians (the second largest group of dialect speakers in the cohort) are reported to perceive their dialects as equally integral to their identity as Modern Greek (Tamis, 1988). This positive attitude to dialect may be reflected in the attitudes of their teachers and assessors, who may be less inclined to penalise dialect speakers for their non standard accents or for any instances of dialectal transference than are teachers and assessors of Italian.

In sum the results of the ANOVA analyses indicate that language background as measured by the LOTE questionnaire does have some effect on LOTE learning outcomes at senior secondary level, but that its impact is not uniform across languages because of such factors as a) the profile of the particular background speaker population (eg whether learners are predominantly first or second generation immigrants, speakers of dialect or the standard language) b) the nature of the target language and its relative distance from English

⁶Stathis Gauntlett, Head of the the Department of Language Studies, University of Melbourne, personal communication, December 1995.

c) parental attitudes to bilingualism/LOTE learning d) the perceived status of dialect vis-a-vis the standard taught form e) extra-classroom opportunities for target practice (which are not revealed in responses to the questionnaire and which learners may have differential access to) f) the social status/cultural orientation of LOTE users and their level of school literacy. All of these factors make it impossible to predict with any certainty on the basis of information about language background alone which learners will be advantaged or disadvantaged. This uncertainty is compounded by the fact that the various components of the VCE LOTE examination measure different kinds of ability which may not always match the skills required for language use in domestic settings.

The complex relationship between language background and school performance in LOTE is encapsulated in a comment from Enzo, a native-speaker of Spanish who has spent most of his life in Argentina but continues to use Italian with his Italian-background father and to study the Italian language at school. When asked to comment on his experience of studying Italian in mixed classes made up of both background and non background speakers he responded as follows:

"The ones who are not of Italian background have often been to Italy so they've seen things that I haven't. I found that in some ways I've got an advantage, but overall it's not that much of a difference...because what you do at school in Italian is a lot different from what you use it for at home. The thing that made the biggest difference for me was spending all those years studying Italian at the VSL (Victorian School of Languages)⁷...If Dad hadn't made me do the extra study I would have been the same as, or maybe worse off than the others."

⁷The VSL (Victorian School of Languages) is a state funded enterprise which offers intensive Saturday morning classes in a range of immigrant languages for those students who are unable to study these languages in the context of their regular school curriculum. The classes are geared primarily to background speakers and are offered at all levels from junior primary through to VCE.

5. Conclusion

In practical terms the findings of this study point to the dangers of any policy which assumes a priori that background speakers are advantaged in their LOTE study and that monolingual foreign language learners should therefore be compensated by university selection officers for the allegedly unfair competition that they have suffered. It is clear that for languages like Chinese where there is an unusually broad range of abilities represented in the learner population, there is a need for separate curriculum and assessment procedures for the educated native speakers⁸. The provision of a two-tiered examination system needs to be accompanied by systemic incentives (such as bonus points towards a university degree or exemptions from some of the degree requirements) so that learners are motivated to self-select into the upper tier if they are capable of achieving at this level.

Special provisions for those at the top end of the native/non-native speaker continuum however leave unresolved the question of how to deal with the variability of backgrounds and abilities present amongst the remainder of the LOTE learner population (and for that matter within the top 'native speaker' stream). It is quite impractical, given the limited resources available, to create a plethora of study streams for different types of LOTE learner unless they are sharply differentiated in their overall level of proficiency. However much more needs to be done in university LOTE courses and in LOTE teacher education to make teachers aware of the sociolinguistic complexities they are likely to face in the classroom and to sensitise them to the need to take language background differences into account at the curriculum planning stage and to respond to them constructively in their day-to-day classroom instruction.

In theoretical terms, this study may be challenged in that it is not a tightly controlled experiment. It sheds no light, for example, on what the non-native speaker is capable of as far as ultimate attainment in the target language is concerned (Birdsong 1992)

⁸In 1995 VCE Chinese learners were divided into two separate streams for assessment purposes so that different criteria could be applied in rating the work of the native and non-native speaker students.

because the measures used here are based on what can be realistically achieved in a school foreign language context. Nor does the study make a powerful contribution to the debate about whether bilingualism is an advantage or a handicap in the educational arena. The relatively low levels of achievement of some of the bilinguals in this study may, as Cummins (1984) has suggested, be better explained by their socioeconomic or sociocultural status rather than by the simple fact of their using more than one language.

Nevertheless the data analysed is real-life data, indicative of the issues which policy makers and teachers have to grapple with. What this study does illustrate is the widely-attested difficulty of defining and measuring bilingualism (see for example Baetens-Beardsmore, 1982; Baker & Hinde, 1984; Mackey, 1966; Cahill, 1988; Hamers & Blanc, 1989; Hoffman, 1934; Kelly, 1969; Davies, 1991) and the potentially negative consequences for teaching and assessment policy of simplistic a priori assumptions about who is or is not a native speaker and what a bilingual or a monolingual can or cannot do.

References

- Alderson, C. (1980) 'Native and non-native speaker performance on cloze tests' *Language Learning* 30, 1: 59-76.
- Angoff, W. H. & A. T. Sharon (1971) 'A comparison of scores earned on the Test of English as A Foreign Language by native American college students and foreign applicants to US. colleges' *TESOL Quarterly*, 5: 137-145.
- Baetens-Beardsmore, H. (1982) *Bilingualism, basic principles*. Clevedon: Tietro.
- Baker, C. & J. Hinde (1984) Language Background Classification *Journal of Multilingual and Multicultural Development* 5, 1: 43-56.
- Bettoni, C. (1991) Language shift and morphological attrition. *Rivista di Linguistica*, 3, 2: 369-387.

- Bettoni, C. & J. Gibbons (1990) L'influenza della generazione e della classe sociale sugli atteggiamenti linguistici degli italiani in Australia. *Rivista italiana di dialettologia* 14: 113-137.
- Birdsong, D. (1992) Ultimate attainment in second language acquisition. *Language* 68,4: 706-755.
- Cahill, D. (1988) Difficulties in the assessment of language usage patterns of non-English immigrant families and their children's bilingual proficiency. In G. Davidson (ed) *Ethnicity and cognitive assessment* (:131-145), Darwin: Darwin Institute of Technology Press.
- Clyne, M. (1987) Bilingualism and community languages: the educational consequences. *Il Velcro* 1-2 Anno XXI, 57-70.
- Clyne, M. (1991) *Community languages: the Australian experience*, Cambridge: Cambridge University Press.
- Cummins, J. (1984) *Bilinguals and special education: issues in assessment and pedagogy*. Clevedon: Multilingual Matters Ltd.
- Davies, A. (1991) *The native speaker in applied linguistics*. Edinburgh: Edinburgh University Press.
- Davies, A. & Elder, C. (1996) Language distance as a factor in the acquisition of literacy in English as a second language. Paper presented at the *Pacific Second Language Research Forum*, Victoria University of Wellington, New Zealand, March 1996.
- Di Biase B., Andreoni, G., Andreoni H. & Dyson, B. (1993) *Unlocking Australia's Language Potential: Profiles of 9 Key Languages in Australia. Vol. 6—Italian*. Canberra: National Languages and Literacy Institute of Australia.
- Garnaut R. (1992) *Australia and the North East Asian Ascendancy*, Canberra: Department of Employment Education and Training.
- Hamers, J. F. & M. H.A. Blanc (1989) Dimensions and Measurement. In *Bilinguality and Bilingualism*, Cambridge: Cambridge University Press.

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- Hamilton, J. M. Lopez, T. McNamara & E. Sheridan (1993) 'Rating scales and native speaker performance on a communicatively-oriented EAP test' *Language Testing* 10,3, 337-354.
- Hatch, E. & A. Lazaraton (1991) *The research manual: design and statistics for Applied Linguistics*. New York: Newbury House.
- Hoffman, M. N. (1934) *The Measurement of Bilingual background*. Unpublished PhD Columbia University, New York.
- Ingleson, J. (1989) *Asia in Australian Higher Education*, Asian Studies Council.
- Kelly, L. G. (1969) Introduction. in *The Description and Measurement of Bilingualism*. L. G. Kelly (ed.) Toronto: University of Toronto Press.
- Kirkpatrick, A. (1995) 'Learning Asian Languages in Australia: Which languages and when?' *Babel* 30,1, 4-11 & 26-29.
- Leal, B. (1990) *Widening our horizons, Report of the review of the teaching of modern languages in higher education*. Canberra
- Mackey, W. F. (1966) 'The measurement of bilingual behaviour'. *Canadian Psychologist* 7: 75-92.
- Cohen, L. & L. Manion (1985) (2nd ed.) *Research Methods in Education*. London: Croon Helm.
- Nation, I. S. P. (1990) *Teaching and Learning Vocabulary*. New York: Newbury House.
- Oscarson, M. (1986) *Native and non-native speaker performance on a national test of English for Swedish students. A validation study*. Gothenberg: Gothenberg University. Department of Educational Research.
- Siegel, S. (1956) *Nonparametric statistics for the behavioural sciences*. McGraw Hill.
- Smith, D. Chin, N.B. Louie K. & Mackerras, C. (1993) *Unlocking Australia's Language Potential: Profiles of 9 Key Languages in*

Australia. Vol. 2—Chinese. Canberra: National Languages and Literacy Institute of Australia.

Tamis, A. M. (1988) 'The state of Modern Greek language in Australia.' in *Greeks in Australia*, Eds. A. Kapardis and A. M. Tamis (pp.67-94), Melbourne: River Seine Press.

Tamis, A. M., S. Gauntlett, & S. Petrou (1993) *Unlocking Australia's Language Potential: Profiles of 9 Key Languages in Australia. Vol. 8—Modern Greek.* Canberra: National Languages and Literacy Institute of Australia.

Tuffin, P. & C. Wilson, (1990) *Report of an investigation in disincentives for language learning at senior secondary level.* Asian Studies Council, Canberra, Department of Education, Employment and Training.

Weir, C. (1988) 'The specification, realisation and validation of an English language proficiency test' in Hughes, A. *ELT Documents 127. Testing English for University Study* Oxford: Modern English Publications and the British Council.

Appendix 1—ANOVA Results For Italian

Analysis of Variance on VCE Italian global score

SOURCE	DF	SS	MS	F	p
CATEGORY	3	289.5	96.5	2.27	0.079 ns
ERROR	625	26583.3	42.5		
TOTAL	628	26872.8			

				INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV	
CATEGORY	N	MEAN	STDEV	-----+-----+-----+-----+-----	
1	204	30.348	6.473	(-----*-----)	
2	127	31.480	7.001	(-----*-----)	
3	257	30.377	5.990	(-----*-----)	
4	41	32.683	8.241	(-----*-----)	
POOLED STDEV= 6.522				-----+-----+-----+-----+-----	
				30.0 31.5 33.0 34.5	

Analysis of Variance on VCE Italian CAT 1

SOURCE	DF	SS	MS	F	p
CATEGORY	3	999.2	333.1	4.63	0.003*
ERROR	621	44692.3	72.0		
TOTAL	624	45691.4			

				INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV	
LEVEL	N	MEAN	STDEV	-----+-----+-----+-----+-----	
1	203	39.286	7.569	(-----*-----)	
2	126	39.167	8.803	(-----*-----)	
3	256	36.758	8.990	(-----*-----)	
4	40	39.875	8.510	(-----*-----)	
POOLED STDEV= 8.483				-----+-----+-----+-----+-----	
				36.0 38.0 40.0 42.0	

Analysis of Variance on VCE Italian CAT 2

SOURCE	DF	SS	MS	F	p
CATEGORY	3	2742.4	914.1	9.53	0.000**
ERROR	624	59850.1	95.9		
TOTAL	627	62592.5			

				INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV	
LEVEL	N	MEAN	STDEV	-----+-----+-----+-----+-----	
1	204	32.230	10.704	(-----*-----)	
2	127	35.157	10.445	(-----*-----)	
3	257	35.545	8.722	(-----*-----)	
4	40	40.375	9.295	(-----*-----)	
POOLED STDEV= 9.794				-----+-----+-----+-----+-----	
				31.5 35.0 38.5 42.0	

Analysis of Variance on VCE Italian CAT 3

SOURCE	DF	SS	MS	F	P
CATEGORY	3	807.1	269.0	3.82	0.010*
ERROR	623	43890.3	70.4		
TOTAL	626	44697.4			

				INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV	
LEVEL	N	MEAN	STDEV	-----+-----+-----	
1	204	37.034	8.179	(-----*-----)	
2	127	37.480	9.061	(-----*-----)	
3	256	35.117	8.248	(-----*-----)	
4	40	38.375	8.195	(-----*-----)	
				-----+-----+-----	
POOLED STDEV= 8.393				36.0	38.0 40.0

Analysis of Variance on VCE Italian CAT 4

SOURCE	DF	SS	MS	F	P
CATEGORY	3	1167.3	389.1	4.17	0.006*
ERROR	619	57710.5	93.2		
TOTAL	622	58877.8			

				INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV	
LEVEL	N	MEAN	STDEV	-----+-----+-----	
1	203	32.488	9.392	(-----*-----)	
2	127	34.173	9.754	(-----*-----)	
3	254	34.449	9.704	(-----*-----)	
4	39	38.077	10.363	(-----*-----)	
				-----+-----+-----	
POOLED STDEV= 9.656				33.0	36.0 39.0

* significant at the 95% level of confidence

** significant at the 99% level of confidence

Appendix 2—ANOVA Results For Greek

Analysis of Variance on VCE Modern Greek Global score

SOURCE	DF	SS	MS	F	p
CATEGORY	3	707.3	235.8	5.75	0.001**
ERROR	609	24987.8	41.0		
TOTAL	612	25695.1			

				INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV	
LEVEL	N	MEAN	STDEV	-----+-----+-----	
1	22	30.727	7.729	(-----*-----)	
2	187	31.578	5.981	(-----*-----)	
3	340	29.665	6.203	(-*-*)	
4	64	32.500	8.004	(-----*-----)	
				-----+-----+-----	

POOLED STDEV= 6.406

30.0 32.0 34.0

Analysis of Variance on VCE Modern Greek CAT 1

SOURCE	DF	SS	MS	F	p
CATEGORY	3	909.8	303.3	4.31	0.005*
ERROR	609	42866.9	70.4		
TOTAL	612	43776.7			

				INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV	
LEVEL	N	MEAN	STDEV	-----+-----+-----	
1	22	43.409	9.927	(-----*-----)	
2	187	41.791	7.504	(-----*-----)	
3	340	39.544	8.631	(-*-*)	
4	64	41.797	8.969	(-----*-----)	
				-----+-----+-----	

POOLED STDEV= 8.390

40.0 42.5 45.0 47.5

Analysis of Variance on VCE Modern Greek CAT 2

SOURCE	DF	SS	MS	F	p
CATEGORY	3	262.9	87.6	1.95	0.120ns
ERROR	607	27234.8	44.9		
TOTAL	612	27497.7			

				INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV	
LEVEL	N	MEAN	STDEV	-----+-----+-----	
1	22	40.455	8.852	(-----*-----)	
2	187	42.285	6.109	(-----*-----)	
3	340	41.504	6.844	(-*-*)	
4	64	43.359	6.729	(-----*-----)	
				-----+-----+-----	

POOLED STDEV= 6.698

38.0 40.0 42.0 44.0

Analysis of Variance on VCE Modern Greek CAT 3

SOURCE	DF	SS	MS	F	p
CATEGORY	3	331.1	110.4	1.70	0.167ns
ERROR	609	39611.3	65.0		
TOTAL	612	39942.4			

INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED SIDEV			
LEVEL	N	MEAN	SIDEV
1	22	39.773	7.940
2	187	40.481	7.534
3	340	38.985	8.106
4	64	40.547	9.306

POOLED SIDEV= 8.065

38.0 40.0 42.0

Analysis of Variance on VCE Modern Greek CAT 4

SOURCE	DF	SS	MS	F	p
GROUP	3	419.5	139.8	2.78	0.040*
ERROR	609	30631.6	50.3		
TOTAL	612	31051.1			

INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED SIDEV			
LEVEL	N	MEAN	SIDEV
1	22	36.136	8.855
2	187	39.332	6.065
3	340	37.853	7.473
4	64	39.219	7.139

POOLED SIDEV= 7.092

35.0 37.5 40.0

Appendix 3—ANOVA Results For Chinese

Analysis of Variance on VCE Chinese Global score

SOURCE	DF	SS	MS	F	p
SOURCE	DF	SS	MS	F	p
CATEGORY	3	7129.4	2376.5	68.98	0.000**
ERROR	648	22326.2	34.5		
TOTAL	651	29455.6			

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

CATEGORY	N	MEAN	STDEV	
1	94	22.574	3.988	(---*---)
2	22	24.500	5.343	(-----*-----)
3	32	27.438	4.799	(-----*-----)
4	504	31.482	6.232	(---*---)

POOLED STDEV= 5.870

24.0 27.0 30.0

Analysis of Variance on VCE Chinese CAT 1

SOURCE	DF	SS	MS	F	p
CATEGORY	3	2373.2	791.1	29.28	0.000**
ERROR	646	17450.8	27.0		
TOTAL	649	19824.0			

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

LEVEL	N	MEAN	STDEV	
1	93	40.806	6.606	(---*---)
2	21	42.619	6.823	(-----*-----)
3	32	45.000	4.212	(-----*-----)
4	504	46.131	4.875	(---*---)

POOLED STDEV= 5.197

40.0 42.0 44.0 46.0

Analysis of Variance on VCE Chinese CAT 2

SOURCE	DF	SS	MS	F	p
CATEGORY	3	1638.2	546.1	11.68	0.000**
ERROR	642	30007.3	46.7		
TOTAL	645	31645.5			

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

LEVEL	N	MEAN	STDEV	
1	93	36.559	7.334	(---*---)
2	22	34.318	8.632	(-----*-----)
3	32	38.906	7.266	(-----*-----)
4	499	40.190	6.625	(---*---)

POOLED STDEV= 6.837

33.0 36.0 39.0 42.0

Analysis of Variance on VCE Chinese CAT 3

SOURCE	DF	SS	MS	F	P
CATEGORY	3	3883.7	1294.6	64.62	0.000
ERROR	642	12860.7	20.0		
TOTAL	645	16744.4			

				INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV	
LEVEL	N	MEAN	STDEV	-----+-----+-----	
1	93	40.000	5.265	(---*---)	
2	21	39.762	7.327	(-----*-----)	
3	32	43.594	4.620	(-----*-----)	
4	500	46.360	4.145		(*-)
POOLED STDEV= 4.476				-----+-----+-----	
				40.0 42.5 45.0	

Analysis of Variance on VCE Chinese CAT 4

SOURCE	DF	SS	MS	F	P
CATEGORY	3	13640.7	4546.9	89.46	0.000
ERROR	639	32477.9	50.8		
TOTAL	642	46118.7			

				INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV	
LEVEL	N	MEAN	STDEV	-----+-----+-----	
1	93	27.151	7.568	(---*---)	
2	21	32.857	6.239	(-----*-----)	
3	32	33.906	8.399	(-----*-----)	
4	497	39.879	6.991		(*)
POOLED STDEV= 7.129				-----+-----+-----	
				30.0 35.0 40.0	