
**NEW ZEALAND STUDIES IN
APPLIED LINGUISTICS**

VOLUME 16 (2) 2010

ALANZ

APPLIED LINGUISTICS ASSOCIATION
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ARTICLES

THE MAONZE CORPUS: ESTABLISHING A CORPUS OF MĀORI SPEECH

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Abstract

The MAONZE project investigates change over time in the pronunciation of the Māori language. This is the first such investigation of sound change in an indigenous language currently undergoing revitalisation and is made possible through the existence of recordings of speakers born in the late 19th century. The MAONZE corpus contains recordings of the Māori and English speech of three generations of speakers of Māori whose birthdates span 100 years. This article outlines the background to the project and gives details on how the corpus of recordings was compiled as well as giving information about two related corpora: the Tūhoe corpus and the Māori English corpus. We hope that the details provided here will encourage others to record older first-language speakers of Māori and develop corpora similar to those described here. A companion piece will describe the transcription protocols and the use that has so far been made of the recordings.

Introduction

The aim of the MAONZE (Māori and New Zealand English) project is to analyse changes in the pronunciation of the Māori language over time. This paper gives details on the methodology and design of the MAONZE corpus: how the recordings were obtained, and the various interviewing and recording protocols that have been used in the project. This paper also gives details of two related corpora: the Tūhoe corpus which comprises recordings of male and female elders of the Tūhoe tribe; and the Māori English corpus which contains recordings of young New Zealanders speaking English. Together these corpora contain a wide range of linguistic expression employed by Māori in both Māori and English. By providing details of our methodology, we hope to encourage other researchers who may be able to create corpora similar to those described here. Details of how the recordings were transcribed and brief indications of research methods and results of analyses from the MAONZE corpus will be presented more fully in a companion paper to be published in a later volume of this journal.

Background

The MAONZE project

The MAONZE project is an offshoot and development of the ONZE (Origins of New Zealand English) project which has traced the development of the New Zealand variety of English from its beginnings in the nineteenth century up to the present. This project was made possible through the existence of recordings made in the late 1940s of New Zealanders born in the late 1800s called the Mobile Unit recordings because they were collected by the Mobile Disc Recording Unit of the New Zealand National Broadcasting Service. These recordings were made on acetate disks which are now stored in the Sound Archives/Ngā Taonga Kōrero in Christchurch, New Zealand. In 1989, through the efforts of Elizabeth Gordon, Associate Professor in the Department of Linguistics at the University of Canterbury, analogue cassette copies of the Mobile Unit recordings were obtained by the University of Canterbury (see Gordon et al., 2004 for more details on the background to the collecting of the Mobile Unit recordings and the ONZE project and findings).

In cataloguing and working on the recordings, the ONZE team noted that the collection included interviews with seven Māori men, and that six of these men were recorded speaking both English and Māori. The ONZE project had documented great changes in the pronunciation of NZE during the twentieth century. The existence of these historical recordings means that it is possible to test whether there have been similar changes in the Māori language which has been in close contact with NZE over the same time period.

In order to study language change over time in Māori, the historical recordings needed to be supplemented with recordings of modern speakers. These new recordings together with the historical recordings now make up the MAONZE corpus, which consists of recordings from three groups of speakers: historical speakers (mostly born in the 1880s and recorded in the late 1940s), elders (mostly born in the 1930s) and younger speakers (mostly born in the 1980s). The speakers of the latter two groups were recorded between 2001 and 2009 by members of the MAONZE team. Overall, there are three parallel speaker groups, whose birthdates span 100 years. In addition to this main corpus, the MAONZE team have also created two related corpora comprising recordings of Tūhoe elders and of young Māori English speakers. The Tūhoe corpus was designed to investigate the extent of sound change amongst a community which continues to use Māori as the main medium of communication. The Māori English corpus enables investigation of features of the distinctive variety of New Zealand English associated in particular with young male Māori. Together, the three corpora provide a broad and useful contemporary and historical picture of the variety of linguistic expression of the Māori population.

Corpus Linguistics

Linguists have always collected data, but the form and format of this data have changed over time to reflect changes and advances in technology. Originally, linguistic data focussed on the written form, from collections of Old English poems to archives of modern newspapers. Starting at the end of the nineteenth century the advent of sound recording, first on wax cylinders and then on acetate disks, allowed the collection of spoken language. Tape recorders made the process much easier, and the development in the last quarter of the twentieth century of portable tape recorders allowed linguists to make recordings in the field. The area of corpus linguistics grew out of an intersection between linguistics and the advent of computer technology over the last thirty years. The advances in computer technology have allowed corpora, both spoken and written, to be digitised, and this, along with advances in data storage and programming, has allowed powerful and complex searches over large amounts of data. The advent of the World Wide Web in the 1990s has facilitated easy access to many corpora, allowing study by researchers across the world (for a history of the World Wide Web, see <http://www.w3.org/History.html>; Berners-Lee, 2000; Gromov, n.d.).

There are two basic types of corpora – ‘accidental’ corpora that preserve all examples that can be found of a particular type of linguistic artefact (e.g. collections of poetry from a particular time and place) and structured corpora that collect a specific number of words in a specified set of categories. Structured or balanced corpora tend to be large, typically containing millions of words. Compilation of the major modern English corpora started in the 1960s with the Brown corpus of American English, which contains one million words of texts printed in 1961, and was the first large computer readable general corpus. This was followed in 1978 by the LOB (Lancaster–Oslo/Bergen corpus of spoken British English), which used a similar method of compilation to Brown. More recent versions of these corpora, the Frown and the FLOB, have been compiled at the University of Freiburg, Germany, with texts from 1991. The International Corpus of English (ICE) began in 1990. It aims to collect comparable material from many different varieties of English. The websites for these corpora are included in the References and give details of the categories included in the various corpora and the factors considered in their design.

Sociolinguists also collect balanced corpora, but they tend to balance their corpora in terms of the speakers included rather than in terms of the numbers of words. Speakers are often grouped according to age, gender and social class and sociolinguists usually have a minimum of five speakers in each cell of the design (Labov, 1994; Milroy and Gordon, 2003).

The MAONZE corpora

The recordings of the historical speakers in the MAONZE corpus constitute a typical ‘accidental’ corpus. They consist of all recordings of male Māori speakers in the Mobile Unit Collection and all recordings of female Māori who were born in the nineteenth century that the team was able to discover in public archives. The modern speakers make the total MAONZE corpus a balanced corpus, in that they were chosen to match as closely as possible the historical speakers in terms of sex, age, and, where possible, dialect area. The historical speakers were interviewed for radio, so the interviews are relatively formal. The modern recordings are less formal, but most are not typical sociolinguistic casual conversations.

The Tūhoe corpus is an example of a small balanced corpus which contains interviews with five male and five female elders. The Māori English corpus is not balanced, but is a corpus structured to contain interviews with a range of young Māori men who were likely to be speakers of Māori English. Both the Tūhoe and Māori English corpora also contain some recordings with participants who do not quite meet the original parameters sought but who have been recorded nevertheless on the basis that it is sensible to record willing speakers even if they do not always fit the criteria required. Table One below presents an overview of the speaker groups in the three corpora and also indicates the approximate number of words for each speaker group. It indicates the number of words spoken by the interviewees.

Table One. Overview of the MAONZE, Tūhoe and Māori English corpora

Speaker group	Corpus	No. of recordings	Coding	Year of birth	Age at recording	No. of words
historical males	MAONZE	10	MU	1871-1885	62-77	47,600
historical females	MAONZE	8	WU	1881-1916	55-67	51,350
present day male elders	MAONZE	10	K	1925-1938	64-79	133,000
present day female elders	MAONZE	12	R	1918-1944	63-87	102,000
present day young males	MAONZE	10	Y	1969-1984	21-35	140,000
present day young females	MAONZE	10	H	1975-1992	17-32	146,750
present day Tūhoe elders males	Tūhoe	5	TK	1927-1943	59-82	63,500
present day Tūhoe elders females	Tūhoe	5	TR	1928-1935	73-80	50,500
Māori English, males	Māori English	26	ME	1970-1989	20-38	219,000
Totals		96				953,700

Note: not all the MU speakers have been fully transcribed, so there will eventually be more words for the historical male speakers

The total number of words in all three corpora including interviewers is approximately one million. This means that the three MAONZE corpora together

compare quite favourably with the major corpora described above. The MAONZE corpus contains approximately 109 hours of speech, the Tūhoe corpus approximately 19 hours and the Māori English corpus approximately 22 hours.

Methodology

In this section we describe the ‘nuts and bolts’ of setting up the original MAONZE corpus. We cover the design of the corpus, speaker selection and recording protocols. The MAONZE corpus has been constructed to allow for both diachronic and synchronic analysis. Further recordings of younger speakers and speakers from a range of dialect areas will expand its potential. The Tūhoe and Māori English corpora are discussed in a later section of the paper.

Speaker groups

Historical recordings

The corpus of historical recordings initially centred on the recordings of seven Māori male speakers which the ONZE project team had identified from the Mobile Unit recordings (MU). In 2008 the MAONZE team became aware of three further recordings of Māori men in the Mobile Unit collection of the Radio New Zealand Sound Archive which were not part of the collection originally obtained by the ONZE project. These recordings have been obtained and included in the main MAONZE corpus.

Five of the MU speakers come from regions in the Tainui tribal area, three are from Te Arawa and two from Taranaki. Birthdates are available for seven of the speakers who were born between 1871 and 1885. The MU speakers were recorded between 1946 and 1948, and were thus aged between 62 and 77 at the time they were recorded (see Table One).

All the speakers were recorded by older Pākehā males and on three occasions interpreters were used. The interviews are of varying length (10-90 minutes) and were intended for radio broadcast. In several of the recordings (notably MU01, MU02, MU03) the interviewer plays virtually no role at all with the Māori speaker typically talking about historical figures and giving tribal stories in Māori. The speaker then gives an uninterrupted version in English. For many of the English recordings of other speakers the interviewer often interrupts the narrative flow with questions as to dates and spellings of names. Besides historical narrative and legends some of the recordings also contain genealogy and waiata. For four speakers, only interviews in Māori were recorded.

After transcribing and analysing the male historical recordings from the Mobile Unit, the MAONZE project wished to examine sound change amongst Māori women. This was because in other international studies women have been shown to play a particularly important role in situations of sound change (Holmes, 1992).

However, obtaining comparable recordings of historical female speakers (referred to as the WU speakers) proved challenging. As a starting point, there were only two Māori female speakers in the Mobile Unit collection, with one of these speaking only in English. The team then investigated other collections held by Sound Archives/ Ngā Taonga Kōrero (SANTK) and also video recordings held in the Television New Zealand archive. Ultimately the recordings for the further historical female speakers were obtained from both these sources. In addition, recordings for two present day female elders (R speakers) were also obtained from Television New Zealand and SANTK.¹

Due to the dearth of recordings available, both the birth dates and recording dates for many of the historical female (WU) speakers differ greatly from those of the MU speakers. The MU speakers whose birthdates are known were all born between 1871 and 1885, whereas the birthdates of the WU speakers range from 1881 to 1922. In addition, the MU speakers were all recorded between 1946 and 1948 whereas the recording dates for the women range from 1938 through to 2003. This means that the women are a slightly less homogeneous group than the men. This demonstrates a basic difficulty with constructing a corpus containing historical material. Even though our intention was to create a well balanced corpus, the small number of historical recordings of women meant that we could not totally achieve our aim.

Contemporary recordings

In order to provide comparison with the historical speakers in the main MAONZE corpus 38 further recordings with modern day speakers were made, comprising 10 male elders (Kaumātua), 8 female elders (Rūruhi), 10 younger male (Young) and 10 younger female speakers (Hine).²

Labelling the speakers

To preserve anonymity, all speakers in the corpus are assigned an alphanumeric coding which usually consists of the group coding, as shown in Table One, plus a two or three digit numerical code. Thus MU07 is a historical male elder and R007 is a present-day female elder. However, the codings for the younger speakers are slightly different to allow for description of how they learnt Māori as either a first or second-language speaker (L1 or L2). Thus L1Y03 is a first-language young male speaker, and L2H04 is a second-language young female speaker.

Speaker selection

This section gives details on how the contemporary recordings were made. Because the project initially began with the historical male speakers it was decided to replicate as many of the features of these early recordings as possible, so the recordings would be as comparable as we could make them. Normally, the best practice, sociolinguistically, in making recordings is to match the interviewer and

interviewee for age, sex, ethnicity and so on (Labov, 1994, 2001; Milroy & Gordon, 2003). However it is often difficult to do this because of practical limitations. Furthermore, for this corpus, considering the early recordings had not followed this protocol we decided that the majority of the recordings would be made by project team members. The result is that most recordings have been made by a non-Māori interviewer, thus paralleling the situation under which the original recordings were made. However, this has not been consistent, with 7 of the 20 male recordings and 1 of the 18 female recordings being made by Māori interviewers.

The recordings also paralleled the Mobile Unit recordings in that they were semi-formal, with our interviewees being asked to read word lists and reading passages to allow for stylistic analysis. These passages can be downloaded from the MAONZE website, which is found at <http://www.ece.auckland.ac.nz/~cwat057/MAONZE/MAONZE.html>.

In sociolinguistics, it is generally regarded that 5-10 speakers are required to provide sufficient speakers to allow comparative analysis across groups (Labov, 1994). Because we had recordings of 10 historical male speakers we decided to also record 10 present-day kaumātua (male elders) and 10 younger male speakers. For the second part of the project we interviewed 8 present-day female elders and 10 younger female speakers.

Many linguistic projects use random sampling or else recruit participants through advertising (Milroy & Gordon, 2003). Because Māori society relies on links between people, such methods are not appropriate. Initially, the interviewers approached people they knew who fitted the age and language background criteria (explained below). All the male K and Y speakers were interviewed by a person of their acquaintance. However, the female R and H recordings made by the MAONZE team are somewhat different. Most of these recordings were made by just one person, Jeanette King. Because she lives in Christchurch, a place not noted for its large number of Māori elders, she needed to travel to the North Island and recruit informants not from direct personal acquaintance but through standard sociolinguistic ‘friend of a friend technique’ (Milroy, 1987). Six of the R participants and three of the L1H participants were recruited in this manner.

In setting up the interviews, interviewees were told the nature of the project and what was required of them. They were given a copy of an information sheet which explained the project in both English and Māori. Participants also signed consent forms which gave permission for the recordings to be kept at the University of Canterbury and made available to bona fide researchers. Demographic information such as the participant’s tribal affiliation/s and age were also obtained. Copies of these forms can also be found on the MAONZE website.

Each participant was given a koha consisting of \$50 in petrol vouchers. For those potential interviewees who were friends of friends the koha demonstrated that their participation and time were valuable to us. This form of recompense was agreed as being the most appropriate in lieu of cash.

The criteria we were looking for amongst potential present-day elder participants were that they should be a Māori over the age of 65 and that they should have been raised as native speakers in a rural Māori-speaking community learning English after they started school.

For the younger speakers our initial criteria were that the potential informant was a Māori between the ages of 18 and 30 who was a proficient speaker of Māori. However, there were typically two ways in which younger speakers acquire their Māori language. The majority are second language speakers who have learnt Māori post-pubertally, at either secondary or tertiary educational institutions. The other smaller group are those who have been raised as speakers of Māori through attendance at *kōhanga reo* and immersion schooling. Although this second group of speakers might be loosely regarded as L1 speakers of Māori it was our impression that the majority of these speakers could not be truly regarded as first-language Māori speakers in that their exposure to the language would be from a much more limited set of domains than those of our older L1 *kaumātua*. In particular, the home environment of a great number of these younger L1 speakers is not consistently a Māori-speaking one, and even if it is, this Māori-speaking environment is generally provided by L2 rather than L1 speaking adults.

As recording progressed we realised that we could, in fact, distinguish between two quite different types of younger speakers we had recorded: a group of L2 speakers and a group of L1 speakers, with the L1 speakers being largely distinguished by having been raised by L1 speaking grandparents or very committed L2 parents in a wider Māori-speaking family context. We then set out to record five L1 young men and five L2 young men and similar speakers for the women. This has allowed us to investigate possible differences between the two groups (Watson et al., 2006).

Tribal areas

We tried to obtain recordings of speakers from a range of tribal areas to allow for possible dialect studies. As shown in Figure One, the ten male historical (MU) speakers came from three different tribal areas and the ten present day male elder (K) speakers from four different tribal areas. Because we relied on obtaining interviews with older male speakers known to the MAONZE team we were not able to interview any speakers from the Taranaki area. The large number of K informants from the East Coast is reflective of the fact that Ngāti Porou is one of the larger tribes and its members are heavily represented in the tertiary teaching

environment where most of our informants were drawn from. In addition, one of our team members is from this tribe.

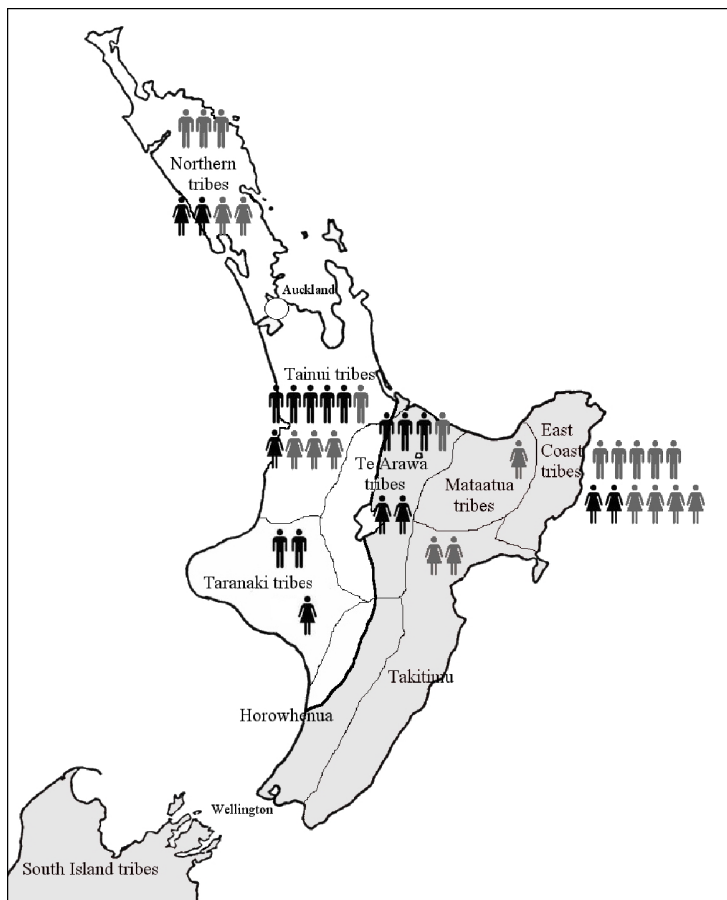


Figure One: Pictogram of historical (black) and elder (gray) male and female informants in the MAONZE corpus with affiliations to various tribal areas. Eastern dialect areas are shaded (as per Bauer, 1993, p. xxvi).

As shown in Figure One, the eight historical female WU speakers came from a wider range of tribal areas than the MU speakers. We had similar problems obtaining present day female elder (R) speakers from a wide range of tribal areas, thus also ending up with the largest group of speakers coming from Ngāti Porou.

Younger speakers' tribal affiliations are not shown on these maps for a number of reasons: firstly, the younger speakers typically cited more than one tribal

affiliation, and secondly, tribal affiliations were sometimes different to the tribal group of the area the person grew up in. In addition, dialect levelling is common amongst younger speakers as a result of urbanisation of the Maori population. The high input of second language learners as teachers and the creation of a large amount of new vocabulary for the Maori-medium education sector have also contributed to this dialect levelling. That is, overall, the tribal information of the younger speakers could not be held to be informative about the dialect, if any, the speaker spoke.

Recording methodology

The project used Sony TCD-D8 DAT (Digital Audio Tape) recorders to record most of the interviews. Marantz PMD series recorders were used for a small number of later recordings. Both the interviewer and interviewee wore Sony ECM-T145 lapel microphones. The digital recordings were made at 44.1kHz with manual adjustment of recording levels to ensure the speaker's voice was neither too soft nor too loud as either extreme would mean that it is difficult to obtain analysable tokens. When the project started, solid-state digital recorders were not readily available. Were we commencing the project now, we would use solid-state recorders (such as Marantz PMD670 or Sony MZ-NH1) since the DAT technology is now virtually redundant, and special purpose equipment is required to read the data. By contrast, for the solid state recorders, standard SD cards are used. Further the solid state technology means there are no moving parts in the recorder, unlike the DAT recorders; this means no equipment noise is added to the recordings.

Most of the interviews were recorded on 125-minute DAT tapes, which allowed each speaker's Māori and English recordings to fit on to one tape. Each DAT tape and tape holder were labelled immediately after the interview and the tabs slid across to prevent accidental erasure.

Location of interview

Interviews were conducted in a location of the interviewee's choosing. This was generally either the interviewee's home or place of work. Interviewers endeavoured to ensure a suitably quiet recording space inside a building, avoiding the presence of other people (especially young children), and external sounds such as noisy roads and lawnmowers. This was not always possible. Three of the young female interviewees (L1H01, L2H01 and L2H05) were interviewed at home while young children were in the house for at least part of the interview, and another young female (L2H04) was interviewed on a balcony at her place of work. This produced the least auditorily satisfactory recording with wind and traffic noise interference.

The interviewee and interviewer generally sat at a table or in easy chairs. The interviewer endeavoured to connect the recorder to an external power source

where possible and feasible, although the machine had battery recording facilities. Because of the small size of the recording device and the use of lapel microphones, most participants appeared to be quite relaxed after about five minutes of recording and, considering the nature of some of the material, some participants seemed to temporarily forget that they were being recorded.

Structure of interviews

Two interviews of up to an hour each were required with the interviewees, one in English and one in Māori (see Milroy and Gordon, 2003, p. 58, on length of interviews). While some of the recordings were made on separate occasions, most were made sequentially on the same occasion with the Māori interview preceding the English one. The recordings were made in this order because the interviewer was usually a second language speaker so it was felt that it would be easier to start off speaking Māori and then switch to English for the latter part of the session, rather than vice versa.

In addition to conversational style speech, the informants were asked to read word lists and reading passages in both the English and Māori recordings. The purpose of the word lists and reading passages is to provide a more formal speech style than that of the rest of the interview, thus allowing for stylistic analysis. The word lists in both languages are designed to elicit representative pronunciations of all monophthong and most diphthong forms. The reading passages also contain a range of words of interest in investigating known sound changes in NZE and Māori. The word lists and reading passages constitute two different styles which can be compared to the style elicited during the interview (Labov, 1994). The MAONZE project is currently investigating stylistic differences between the pronunciation of Māori in the reading lists and interviews (Harlow et al., 2010).

At the beginning of the Māori interview the participant was usually invited to talk about their upbringing. This led to most participants talking about their home and school environments, particularly from a linguistic angle. The interviewer endeavoured to intrude as little as possible and many participants were quite loquacious with little prompting required from the interviewer. Other participants were harder to get talking. The interviews did not follow any strict line of questioning, but the interviewers endeavoured to:

1. Gather relevant linguistic background of the participant,
2. Engage the participant in lively conversation,
3. Ask questions to ascertain the participant's awareness and opinions about sound change in the Māori language.

In trying to engage the participant, the interviewer sought to find topics the participant was particularly passionate about. Depending on the background of the

participant, topics ranged from political matters through to family concerns and kapa haka (Māori performing arts) to pig-hunting.

If the English interview followed directly on from the Māori interview, the interviewer would follow up on topics of conversation which had worked well in the Māori interview. This strategy was effective with older participants who had a lifetime's worth of experiences which could be drawn on. In contrast, having sufficient topics to talk to a previously unknown twenty-year old for two straight hours was often a challenge.

Storing the sound files

The ONZE project received copies of the MU recordings on analogue tape. As technology changed, they were transferred to DAT tapes. Still later, DAT tapes were converted to audio CDs (and later to DVDs) both for archival purposes and also to make them easier to work with. All recordings were converted into PCM WAV files using Nero Burning (proprietary software, <http://www.nero.com/ena/index.html>) or Audacity (free software, <http://audacity.sourceforge.net/>). Wav files can be quite large, so it was necessary to reduce file size to more usable sizes by:

- converting stereo recordings to mono. This halves the size of the file without losing audio quality.
- downsampling the recordings made by the MAONZE team from 44100 Hz to 22050 Hz. This also halves the size of the file without losing audio quality and allows acoustic analysis to at least 10,000 Hz, which is sufficient to analyse all vowels and most consonants.
- segmenting the recordings into separate tracks, each about 4 minutes in length. This allows quicker loading of material to and from a server.
- to preserve acoustic detail, recordings were retained as PCM WAV files and not converted to smaller MP3 files.

For the MU recordings which were originally made on acetate discs, the data is bandlimited to 5 kHz because of the limited frequency response of the original recording equipment. The MU recordings were digitised for analysis at 16,000 kHz which allowed an analysis of all the information originally recorded. Once the files were burnt onto a data CD, consistent conventions on naming both sound files and CDs were essential to ensure access to the sound when using our preferred browser software. The software, the ONZE Miner (Fromont & Hay, 2008), will be described in the companion paper.

Other corpora

The MAONZE project also contains two other corpora, the Tūhoe corpus and the Māori English corpus. This section gives a brief overview of these corpora.

The Tūhoe corpus

A recent project has been the recording of ten older Tūhoe speakers, five male and five female elders, from the Ruātoki Valley. These recordings were made on the premise that this was one of the few areas in the sociolinguistic survey research conducted in the late 1970s (Benton, 1991) where Māori was maintained as a community language. All of the recordings were made by Jeanette King during the early months of 2009. Speaker details are shown in Table One.

These recordings were made with the same protocols as the main MAONZE corpus, that is, participants were recorded in English and Māori for approximately one hour for each interview and they also read the word lists and reading passages as described earlier, the only difference being the addition of minimal pairs such as *huna* and *hunga* to the Māori word list to allow for analysis of the Tūhoe dialectal merging of /n/ and /ŋ/. These interviews have been transcribed and partially analysed.

The Māori English corpus

The construction of the Māori English corpus began in 2006. It currently contains 26 recordings of young speakers aged between 20 and 38. The majority of the speakers (18) are Māori and five are Samoan. One speaker is Fijian and two are Pākehā speakers of Māori English. Two of the speakers are female. Five of those recorded are fluent speakers of Māori and two are fluent Samoan speakers. These recordings were collected by Phillip Borell in Christchurch in 2006 and 2007 (20 speakers) and in Auckland in 2009 (6 speakers). The speakers were friends of the interviewer, or were found using the friend of a friend technique.

Each recording is 40-60 minutes long and participants read the word lists and reading passage as in the MAONZE English interviews. The interviewees were also asked about their background with and knowledge of the Māori language. The rest of the interview is a very casual conversation with Phillip, who is a speaker of Māori English himself.

Other Māori language corpora

As in other parts of the world, there is increasing interest in New Zealand in compiling corpora, archives and databases. There is only currently one publicly available corpus of Māori language collected under corpus principles: the Māori Broadcast Corpus (MBC). This corpus contains a million running words in Māori collected from broadcast sources in 1995 (Boyce, 2006).

There are, however, other databases of Māori material. The only two publicly available ones are Niupepa Māori, the Māori Newspaper collection (available at <http://nzdl.sadl.uleth.ca/cgi-bin/library>) and the Legal Māori Archive (available at <http://www.nzetc.org/tm/scholarly/tei-corpus-legalMaori.html>). Both contain

written Māori, most of which is from the 19th century, and provide useful data for comparative analyses.

The Māori Language Commission and Huia Publishers both have collections of Māori language material but these are not publicly available. Both include spoken as well as written material with the Huia collections consisting of Māori language material written for children as well as children's written and oral Māori (Mary Boyce, personal communication, 25 January 2010). However, while some of these collections contain recordings, it is only the transcripts which are searchable and there is no link to the recorded sound as there is with the MAONZE corpus.

Conclusion

This paper has described the setting up of the MAONZE corpora. The corpora that the MAONZE project has collected are designed to enable research into change in the Māori language over the last 100 years. The project has established that there has, in fact, been considerable change in the pronunciation of the Māori language over the this time period and an overview of results together with details of research methods will be presented in a companion paper. However many L1 speakers of Māori are now elderly and it is essential that their speech is recorded while they are still able to take part in an interview. The MAONZE project has taken a lead with recording the Tūhoe corpus. We hope further generations of speakers are added to the MAONZE corpora and that future researchers will use this and other databases for further research to answer questions about language use and change beyond the scope of the current projects. We also hope that the methodological details provided in this paper will inspire other researchers to record our older *taonga* and establish other comparable corpora of speakers from other tribal areas.

Ko tā te rangatira kai he kōrero.

Discussion is the food of chiefs.

Acknowledgements:

The collection and analysis of the MAONZE, Tūhoe and Māori English corpora were facilitated by grants from the Marsden Fund (UOC309 and UOC0702) and the University of Canterbury (Research Grant 6480 and College of Arts Internal Research Grants no. 21017 and 21014). We wish to thank the speakers without whom we could not have done the analysis, and the following research assistants who helped with data collection, transcription and analysis: Pariya Behnami, Stephen Bier, Phillip Borell, Bridget Broughton, Alison Bruce, Siobhan Buckingham, Anna Catherall, Hannah Chacko, Jo Clough, Brynlea Collin, Julia Corbett, Carleen Cordes, Amy Corson, Kimi Ennis, Lisa Furlong, Robert Fromont, Cherie George, Virginia Good, Charmain Gudmanz, Justine Hui, Irfon Jones, Stephanie Kaefer, Rosie Lamb, Amanda Lee, Grace Lindley, Toby Macrae, Te

Ingo Ngaia, Katene Aupouri Paenga, Elizabeth Quinn, Adele Sissons, Mark Sissons, Karlyn Spain, Kate Sutherland, Laura Thompson, Hannah van Tuill, Hemi Whaanga and Kirsten Wulff. We would also like to thank Christine Brown, Murray Brown, Canon Pine Campbell, Kelly Kells, Jimmy McLean, and many of the participants themselves, for providing links with potential participants.

Notes

1 The copyright for the Mobile Unit recordings is held by Sound Archives Ngā Taonga Kōrero (www.soundarchives.co.nz) while the copyright for the television recordings (used for some of the historical female speakers) is held by Television New Zealand Ltd.

2 Recordings for two further female elders, R009 and R010, were found in the Sound Archives. We are grateful to Joe Te Rito for giving us access to two of the speakers in his database. They are numbered R011 and R012 and are included among the present day female elders in Table One.

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IT'S NOT ALL GREEK TO ME: TEACHING WORD PARTS AND WORD PART STRATEGY TO INTERMEDIATE PASIFIKA STUDENTS

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Abstract

This paper presents research evidence to suggest that there is a strong link between vocabulary knowledge and academic success at school. It reviews studies that have investigated the impact of teaching vocabulary and word learning strategies on reading ability (Baumann et. al., 2002, 2003). It then describes an experimental study, inspired by Baumann et al, and implemented in an intermediate school in Auckland targeting a group of students who were identified as experiencing reading difficulties. The intervention involved the teaching of Greek and Latin word parts, and word part strategy, to a group of 11 to 13 year old Pacific Island students (n=17) with the intention of enabling students to comprehend text which contained these word parts. A control group continued with their usual literacy programme but took part in all testing episodes. Results showed that students who had received the intervention made significant gains in the ability to recognise target words and also previously untaught words that contained the taught affixes but did not demonstrate significant gains in overall reading comprehension. Possible reasons for the results obtained are discussed.

Background

One of the researchers was motivated to conduct this study as a result of her teaching experience in a central Auckland intermediate school. She had noticed obvious discrepancies between the literacy results of Pasifika and European students, a finding that has been officially documented (Ministry of Education, 2008b) and was keen to explore any initiative which might have a positive impact on the reading ability of low achieving Pasifika students.

Review of the literature

Research has demonstrated that bilingualism may have positive or negative consequences for a child. The Thresholds Theory, first postulated by Cummins (1976), shows that children who have insufficient or inadequate age-related competence in both languages will be negatively disadvantaged, whilst children who have age-appropriate competence in both languages will be at an advantage. The Thresholds Theory has helped explain that, for children in immersion educational contexts, there is often a lag in achievement while the curriculum is

taught through a second language. It has also helped explain why children from minority language groups taught in a second language, that is, English, often fail to develop adequate competence. Their low level of proficiency in English limits their ability to learn, and this situation is only rendered more serious if their home language is not appropriately developed (Baker, 2001).

Carlo, August and Snow (2005) document differential outcomes in the school performance of linguistic minority and majority children in the USA, although they do acknowledge that there was a complex set of potential causal factors in the explanation of these findings. Along with linguistic differences, they also identify differences in the socioeconomic, cultural and socio-political circumstances of the two groups. Closer to home, the Ministry of Education (2004) has identified that children with poor literacy skills are likely to occur in lower socio-economic groups and that these groups will include Pacific Island children, for many of whom English will be a second language. A crucial finding of the Carlo et al. study was the poor reading comprehension of students who had had a lack of exposure to the language of instruction (i.e. English). They identified low vocabulary as one major determinant of poor reading comprehension. This finding is not surprising, researchers have long recognised the important and complex role of vocabulary knowledge in the reading comprehension and consequently overall academic success of students (Laufer, 1989; Nation, 2001, 2006; Webb & Rodgers, 2009).

The Importance of Strategy Use

In looking at ways of increasing learners' vocabulary knowledge Nation's work is seminal. He stresses that the learning process should be as efficient as possible in terms of a time cost and benefit analysis. As a part of this he advocates the training of language learners in strategy use. One of these strategies, the learning of word parts, is said by Nation (2001, p.281) to "deserve time and attention because it can involve such a large proportion of English vocabulary." Further support for the importance of this strategy comes from Anderson and Freebody (1981) who state that, because many English words have been formed through combining prefixes and suffixes with base words and root words, if learners understand how this combinatory process works, they are better prepared for learning new vocabulary.

Graves (2006 p.3) also supports an emphasis on developing knowledge of word strategies, noting that "using word parts to unlock the meanings of unknown words is another widely recommended strategy and doing so is well supported by research." Hiebert and Kamil (2005) argue that it is important to give priority to developing strategies that students can use when they are reading independently to help them with the unfamiliar words that they will encounter. A focus on word strategy skills fits well with the Ministry of Education's (2008a) 'Literacy Learning Progressions' which outlines the knowledge skills expected from students at key points in their education. The chart of learning progressions

contained within this document states as a goal that by the end of Year Six, students can ‘use and explain several reliable strategies for finding and learning the meanings of unknown words.’”

Research findings on the effectiveness of teaching word strategy use

Research findings show mixed results for the effectiveness of teaching word part knowledge and strategy. Baumann, Edwards, Font and Tereshinski (2002) summarise the findings of relevant research to conclude that although there is evidence to support the teaching of morphemic analysis as a useful strategy, results regarding transfer and generalisation of knowledge are inconsistent. This may be because many of the studies have been limited in some ways.

Baumann et al (2002) undertook a study to compare and contrast the effects of instruction in morphemic analysis and contextual analysis. In this study four classes of fifth-grade students in an American school were divided into four groups (it is presumed that these students were from English-speaking backgrounds as there is no information given to the contrary). One group received morphemic-only instruction which involved twelve 50-minute lessons on eight frequently occurring prefix families (e.g. the *Below* or *Part* family). The second group received instruction in the use of context-only cues, while the third group received combined morphemic and context instruction. Length of instruction was equivalent across treatments. The final group acted as a control. Students completed a total of seven written post-tests, with a range of formats. These included production tests, multi-choice tests and a true or false test. They were tested on their ability to recall the meanings of words taught during the instruction, their ability to infer the meanings of uninstructed words that contained taught elements (transfer words) and to comprehend text containing transfer words. The results showed that there was an immediate and delayed effect of both types of instruction and that both types of instruction resulted in an immediate effect on ability to understand transfer words. However there was no evidence that instruction resulted in improved comprehension or that instruction in one type of analysis was any more effective than when the analysis was provided in combination. In discussing the results regarding the lack of evidence of comprehension improvement, Baumann et al. offer three possible explanations: insufficient transfer power (instruction in one or two measures alone does not provide enough ‘power’ to improve reading comprehension), measurement limitations and the implementation of a limited-scope, short-term intervention.

Baumann, Edwards, Boland, Olejnk and Kame’enui (2003) applied the principles of the earlier study to a more naturalistic setting. In this study they embedded combined word-part and context-clue instruction within the school curriculum, and integrated 15-minute strategy lessons into the programme. Classes were randomly assigned to one of two intervention groups: the experimental group was taught integrated strategies for using morphemic and context clues. For example,

in one lesson they were introduced to the word *disagreements* in a text excerpt and taught how they could use context and word-part clues to establish its meaning. They were then introduced to the ‘Not Prefix family’ (*dis, un, im, in*) and analyzed other words within this family.

The control group were taught the meanings and concepts associated with specific vocabulary items in their textbook. Students completed seven post-tests – both written production and multi-choice tests. The results showed that the experimental group outperformed the control group on a test of new words that contained the prefixes and suffixes that the students had been taught. They also outperformed the control group on a delayed (although not immediate) test of morphologically and contextually decipherable words. There was no evidence that the teaching enhanced their comprehension.

From studying the research findings the following conclusions may be drawn:

4. The teaching of word part strategies helps students to identify the meanings of words which contain these parts.
5. There is little substantial evidence to prove that this corresponds with gains in reading comprehension.

The Present Study

This study was inspired by Baumann et al. (2002) and sought to establish whether their research findings would be replicated in a different educational context with students, most of whom were exposed to languages other than English at home, and who were underperforming in relation to their peers in reading comprehension. It sought to answer the following questions.

1. Does direct teaching of common affixes and root words of classical origin increase students’ ability to identify the meanings of these items?
2. Does knowledge of these target items enable inference of the meanings of untaught (novel) words containing these word parts?
3. Does knowledge of target items enhance the comprehension of sentences containing taught word parts?

The intervention was designed to trial teaching the meanings of some common affixes and root words of Greek and Latin origin to a group of Pasifika students. The teaching pedagogy was designed to reflect the elements of instruction identified as useful for Pasifika students. Direct, explicit instruction was provided with clear definitions of expectation (Hill & Hawk, 2000). Aural, visual and kinaesthetic elements were provided to cater for a range of learning styles. Opportunities to use flashcards and to draw or sketch were provided within the lessons as means of consolidating learning.

Methodology

This quasi-experimental study involved a control and an intervention group. The independent variable in this study was the teaching intervention and the dependent variables were the measures of learning.

Participants

There were 34 participants (17 in each group). They were in years 7 and 8 and aged 11 to 13 years. All participants were New Zealand-born but identified themselves as belonging to Pacific Island ethnic groups. Precise detailed background information was, regrettably, not collected so information about this group is presented in general terms only. Many students had parents for whom English was a second language and so were used to hearing a Pasifika language at home and in church. Students varied in proficiency with respect to their ability to understand and speak a Pasifika language. Most had some understanding of a spoken Pasifika language, some could speak a Pasifika language and a few could also read and write in this language.

All participants had been identified as under-performing in terms of their reading ability in English. They had achieved a score in the standardised STAR reading test taken in February 2008 which showed they were below the national average of stanine 5. In addition, with the exception of 3 students, all had scored half or less than half of the available marks in the vocabulary section of the STAR test. Participants were matched across the two groups according to their STAR test stanine, the vocabulary component of the STAR test (raw score) as well as by gender and ethnicity.

Treatment Materials

The word part list taught in this programme consisted of 42 affixes and 14 root words (see Appendix A). In the following discussion, unless otherwise stated, the term 'word part' will be used to describe the affixes and root words taught in the programme. [The affixes were derived from the list used in Baumann et al. \(2002\), on which this study is based.](#) These were justified as worthy of teaching because of the frequency with which they occur in a number of "empirically and descriptively based listings" (Baumann, Font, Edwards & Boland, 2005, p.184).

In addition, the present study added 16 root words (see Appendix A) – mostly of a scientific nature – which appear commonly in the school texts read by students of this age. These root words were selected by scanning the science topic words which appear in the school planning documents for this subject and identifying those which had a Latin or Greek base.

The words in which the target word parts were taught were, for the most part, selected from Nation's list (1996) of the most frequent 2000 words in English.

Where this was not possible, words were again selected from topic word lists associated with the intermediate curriculum (see Appendix B).

The Intervention

Each 20-25 minute lesson introduced affixes in ‘families’ sourced from Baumann et al. (2005). Clustering in family groups helped students to learn, recall and apply the affixes. For example the first lesson introduced the ‘Not’ family and included the prefixes *un*, *dis*, *in*, *im*, *il*, *ir* and *non*. The second lesson taught the ‘Position’ family and included the prefixes *pre*, *fore*, *mid*, *inter* and *post*. A maximum of 10 affixes and/or word parts were introduced in each lesson, determined according to the researcher’s experience of teaching this age group. The root words were introduced without a relationship to each other.

Lesson Structure

The structure of each lesson varied slightly but the elements covered remained the same. The lessons were teacher-directed and followed a ‘present, teach and practise model’ (see Appendix C).

Learning expectations for each lesson were written on the whiteboard and discussed with the students. In the first lesson, it was explained that the reason for the programme was to teach the students some very useful word parts which occur in many words, as well as a strategy for breaking words into parts. It was explained that this was to help them to discover the meanings of words which they might not know. The students’ proven skill in memorising words was praised. The expectation, frequently reiterated, was that they would commit the word parts to memory. Flashcards were issued to the students.

Each subsequent lesson commenced with review/revision of previous word parts. New word parts were then introduced – often with a challenge to try and determine what they might mean. This was followed by teacher-modelling of the strategy of breaking words into parts. Students then practised this skill in their workbooks (see Appendix D). A cloze activity which required focus on the meanings of words followed. Finally the word part was written on one side of a flashcard and its meaning was written on the other.

Testing Instruments

Each test contained four subtests designed to measure a different aspect of vocabulary knowledge. Each subtest contained 15 items. The test did not have a time limit. It aimed to test participants’ knowledge of the meaning of word parts that they had been taught. It also tested their ability to transfer the knowledge that they had gained to see if they could derive the meaning of ‘novel’ words – that is, words that had not been taught during the intervention. These ‘novel’ words were

generally selected from beyond the first 2000 list of word frequency. Appendix E provides examples of the 'novel' words used to test the transfer of knowledge.

Two versions of the test were created. Each test consisted of the same set of subtests testing the same skills but the items in each were different. To guard against the risk that these two versions could differ in terms of difficulty, they were counterbalanced. This meant that half of each group of students sat Version 1 as a pre-test, Version 2 as a post-test and vice versa.

Subtest 1: Word Part Knowledge

This subtest measured knowledge of some of the prefixes, suffixes and root words taught to the intervention group. Examples of items are given below:

eg. Choose the meaning from the list below and write it beside each word. An example has been done for you.

re = again

anti

sub

not, over, across, against, under, before, middle, take away

Subtest 2: Strategy: Word Division skills

Subtest 2 was a measure of the ability to apply the strategy of dividing words into word parts. Students were asked to demonstrate that they were able to divide 'novel' words into word parts.

eg. disagree = dis / agree.

Subtest 3: Defining Meanings of Novel Words

Students were asked to supply a definition or meaning for the word which had been previously divided into word parts in subtest 2.

eg. disagree = to not agree with something.

Students were given one mark for each correct definition of a prefix in this section. No half marks were awarded.

Subtest 4: Comprehension of novel words in context

Subtest 4 was a measure of ability to comprehend the meaning of novel words within the context of a sentence. Note from the examples given below that some of

these novel words contained presumed known root words but some did not. The vocabulary used in the sentences in this section was not checked against any frequency list, the researcher used her experience as a teacher of this group to choose words she considered appropriate.

eg. The horse hurt its **forelegs** and so the vet put bandages on

- a. the front legs
- b. the back legs
- c. all four legs

e.g. A **malodorous** smell came from

- a. the fresh flowers
- b. the dirty socks
- c. the clean washing

Reliability was estimated using Cronbach's alpha and was found to be adequate. Results were as follows: Version 1, $\alpha = .851$ and Version 2, $\alpha = .810$.

Procedure

All students sat the pre-test. The intervention group then met the teacher/researcher in a classroom on eight occasions for lessons of approximately 30 minutes duration, contributing towards a total of four hours' instruction time. Lessons took place three times a week, during timetabled literacy lessons. All lessons were audio recorded. The control group remained in their classes and received their usual planned literacy instruction from their classroom teachers. On the ninth session all participants sat the post-test.

Results

An independent samples *t*-test established that there was no significant difference between the groups on the pre-test, $t(32) = 1.628$, $p = .113$.

Table One shows the difference in means after the intervention. As can be seen, the mean of the Intervention Group rose from 21.00 to 38.24. The mean of the Control Group actually decreased slightly from 25.18 to 24.18.

An independent samples *t*-test showed that there was a significant difference between the groups' post-test results, $t(32) = -6.354$, $p = 0.000$. This significant difference can be attributed to the intervention.

For the purpose of this discussion, the test will be divided into two parts. One part, consisting of subtests 1 and 2, is a measure of the learning of word parts and word division skills taught during the intervention (see Table Two). This part will be referred to as Word Part Knowledge. The second part, consisting of subtest 3 and

4, is a measure of ability to transfer this knowledge to a situation using new words (see Table Three). This part will be referred to as Transfer Knowledge.

Table One: Descriptive Statistics for tests

Group	Mean	SD	Minimum	Maximum
Intervention Group (<i>n</i> = 17)				
Pre-test	21.00	7.77	7	31
Post-test	38.24	6.52	29	51
maximum score= 60				
Control Group (<i>n</i> =17)				
Pre-test	25.18	7.18	10	35
Post-test	24.18	6.38	17	33
maximum score = 60				

Word Part Knowledge

The information presented in Table Two shows the pre- and post-intervention scores of the Control and Intervention Groups in the two subtests which measured the knowledge learning component of the intervention.

Table Two: Descriptive Statistics for Word Part Knowledge

Test	Intervention Group (<i>n</i> = 17)		Control Group (<i>n</i> = 17)	
	M	SD	M	SD
Word Part Knowledge				
Pre-test	0 .94	1.14	1.82	1.45
Post-test	10.82	3.95	1.12	1.27
maximum = 15				
Word Part Division				
Pre-test	10.24	3.95	11.29	2.54
Post-test	14.18	1.33	12.41	2.50
maximum = 15				

It is important to note that the students started with little prior knowledge of the word parts taught during this intervention (0.94/17 and 1.82/17). The Control Group mean showed a slight decrease over time (from 1.82 to 1.12), whereas the mean for the Intervention Group rose after treatment from 0.94 to 10.82. Both groups showed more initial ability to break words into component parts than to specify the meaning of word parts. The mean of the Control Group increased slightly from 11.29 to 12.41 in Word Part Division knowledge and the Intervention Group mean changed from 10.24 to 14.18.

An Independent Samples *t*-test showed a clear significant difference between the two groups in Word Part Knowledge, $t(32) = -14.598$, $p = .000$, and in Word Part Division, $t(32) = -2.567$, $p = .017$.

Transfer of Knowledge

The information presented in Table Three shows the pre- and post-intervention scores of the Control and Intervention Groups in the two subtests which measured the transfer of knowledge component of the intervention. It is interesting to note that pre-test results show that participants started with limited prior knowledge of the 'novel' (i.e. untaught) words (2.25/17 and 3.65/17) but that they were able to do significantly better at identifying the meaning of these words when they were presented in context (7.35/17 and 8.41/17).

Table Three: Descriptive Statistics for Transfer of Knowledge

Test	Intervention Group ($n = 17$)		Control Group ($n = 17$)	
	M	SD	M	SD
Transfer of Meaning				
Pre-test	2.25	2.87	3.65	3.30
Post-test	4.35	3.59	3.18	3.30
maximum = 15				
Comprehension in Context				
Pre-test	7.35	2.72	8.41	2.76
Post-test	8.94	2.44	7.59	2.44
maximum = 15				

An independent samples *t*-test shows that there was no significant difference in the mean results between the two groups for either transfer of meaning, $t(32) = -.995$, $p = .325$, or for comprehension of words in context, $t(32) = -1.543$, $p = .133$.

However, a paired samples *t*-test showed that the Intervention group made significant gains from pre-test to post-test on transfer of meaning, $t(16) = -2.576$, $p = .020$. A paired samples *t*-test revealed that the Intervention Group made gains from pre-test to post-test in comprehending in context that approached statistical significance, $t(16) = -2.008$, $p = .062$.

To summarise the findings, the current study found significant differences between the Control Group and the Intervention Group in total post-test scores.

In terms of the components of the test, significant differences were also found between the two groups in word part knowledge and word part division. Although no significance was found between the groups in the post-test analysis of the transfer of meaning and comprehension components of the assessment, the Intervention Group made significant gains from pre- to post-test in terms of their

ability to transfer meaning to new words. Furthermore, there was a difference which approached statistical significance in the Intervention Group's ability to comprehend novel words in sentences as demonstrated by a comparison between their pre- and post-test results.

Discussion

Research Question 1 asked whether direct teaching would increase students' ability to identify the meanings of target items. The answer to this question is yes. This study found that the students who received the intervention outperformed those who did not on measures of word part knowledge. This positive outcome is perhaps testament to the benefit of the explicit instruction and the teaching method employed, which introduced the majority of word parts in 'families' and may have aided learning of the meanings of the target items. Baumann et al. (2003, p.183) advocated this approach as they also found in their previous study (Baumann et al., 2002) that clustering affixes into groups of 'families' helped students to learn, recall and apply them. In addition, the competitive element of the 'pop quizzes' may have also been factors in motivating these students, as may have been the novelty of using flash cards. Many students in the Intervention Group were observed testing each other during interval times and classroom teachers reported that the flash cards were often revised during class time.

The explicit teaching method also resulted in a significant difference between the Control and Intervention Groups in the strategy of word part division. This result might perhaps be explained by considering two factors. The first is the practice which was undertaken in this skill, and second is that by virtue of learning word parts, the students were able to recognise them within a word, and therefore divide the word appropriately.

Research Question 2 asked whether knowledge of target items would enable inference of the meanings of untaught target transfer words which contain these parts. The answer to this question is both yes and no. Although an independent samples *t*-test result showed no significant difference between the groups, a paired samples *t*-test on the pre- and post-test results of the Intervention Group offers evidence that this group did show significant improvement in this skill. This may indicate that the treatment was beginning to show an effect which, with the benefit of further instruction and application, might have translated into significant rises in the gains of students who were receiving the treatment as opposed to those who were not. This is in contrast with the findings of Baumann et al. (2002) who found that students who received the instruction were more skilful at inferring the meanings of novel words that contained the elements of the taught prefixes immediately after instruction than were the students who did not receive the treatment.

One reason for a between-group difference not being apparent in the current study might be because the lesson series did not provide enough time for emphasis upon this skill. The Baumann et al. (2002) study was conducted over a four-week period and the intervention programme consisted of four 50-minute lessons a week. This resulted in over 15 hours' instruction time, as compared to four hours in the present study. This time difference must be considered a factor when comparing the results of this study with those of previous research.

A further difficulty faced was the limitation in the number of novel words which could be introduced in the lessons in order to practise this skill. The number of words introduced was limited by the time available and the difficulty in finding words which were appropriate to this age group. In a classroom situation, a teacher might provide further opportunities to practise this skill as words occurred in the normal context of discussion and texts met throughout the day.

Research Question 3 asked whether knowledge of target items would enhance the comprehension of sentences containing novel words. The independent samples test showed no evidence of a significant difference between the groups in their ability to understand sentences containing novel words, $t(32) = -1.543$, $p = .133$. The paired samples test which examined the pre- and post-test scores of the Intervention Group did, however, produce a result which approached statistical significance, $t(17) = -2.008$, $p = .062$.

This finding replicates that of Baumann et al. (2002), who also reported that there was no evidence of improvement in the ability to comprehend passages containing novel words as a result of instruction. The Baumann et al. study states "one potential reason for the lack of a comprehension effect is that instruction in the generalizable linguistic cues from morphemic elements and context has insufficient transfer power alone to influence reading comprehension" (p.169). References are made (p.186) to other studies which have also failed to show such gains (Hanson, 1966; Otterman, 1955; Tomesen & Aarnoutse, 1998). In evaluating these studies Bauman et al. state that "it may not be reasonable to expect effects of morphemic and contextual analysis instruction on comprehension in a once-removed manner" (p.169). They suggest that the extended hypothesis that morphemic/contextual analysis leads to vocabulary knowledge which then leads to reading comprehension might not be valid. This means that reading comprehension may require strategies beyond those taught in the intervention. They also suggest that the instruments by which we attempt to demonstrate these links need to be carefully developed to ensure the "alignment of text comprehension measures with the design of the vocabulary intervention" (p.169). It is interesting to consider to what extent there may have been a mismatch in this study between the instruction and the measures of learning. The instruction had an emphasis on oral as well as written presentation and practice. The post-tests, on the other hand, required responses in written form only. Finally, both Baumann et al. and Tomen and Aarnoutse suggest, as does the current research, that the

duration and scope of the intervention may have reduced the possibility of detecting a comprehension effect.

Encouragingly for this study, teachers at the school have reported anecdotally that several of the students who were in the study have evidenced their knowledge of word parts to infer meaning of words in their instructional small group reading situations. This suggests that different results to those obtained may have been evidenced had this study used a delayed post-test as well as a post-test.

Pedagogical Implications

Firstly, it should be noted that, despite the fact that using word parts to infer the meaning of unknown words is a reputable strategy, pre-test results showed that students in this study had very limited knowledge of what the word parts meant. This implies that they had either not been previously taught this information, or that they had not been taught it in a way which had resulted in learning.

This study has also shown that the direct teaching method employed resulted in major improvements in knowledge for the students in the Intervention Group. In a classroom situation, with teacher guidance, this knowledge and the skills of word division could be used daily to increase the vocabulary knowledge of students. Greek and Latin affixes and root words were found in the school-based literature designed to be used with the students in this study and so it could be concluded that students may be at a disadvantage when they don't know what these words parts mean. This study outlines one important tool in a toolbox of strategies which should be available to students. It seems apparent that, without explicit instruction such as has been outlined in this research study, this tool will remain unavailable to the students who need it most.

Limitations

This study was limited by several factors which need to be considered when assessing its implications for the classroom environment.

Firstly, the group size of 17 students is much larger than the usual reading group of 5-8 students. This meant that there was less time for the individual attention which might have resulted in improved transfer knowledge or comprehension.

Secondly the group was formed from students from a range of classrooms and therefore the dynamic between the group members took some time to settle. This meant that some students were distracted initially by the new interactions with peers.

Thirdly, the time constraints limited the amount of discussion, the number of word parts introduced and the time to practise the skills. As mentioned earlier, the

classroom situation would provide a much richer source of words which appear incidentally in text. It is also difficult to know how the lack of time between the treatment and the post-test as well as the omission of a delayed posttest may have impacted on results obtained. There was no chance for students in this study to demonstrate gains that would be consistent with consolidated learning.

Conclusion

This research project sought to investigate the effectiveness of the explicit teaching of affixes and root words to Pasifika students who were performing below expectation in measures of vocabulary knowledge and reading comprehension. The study demonstrated that the style of delivery and presentation of word part knowledge used did result in a significant gain in knowledge of word part meanings and in the ability to divide words into parts. There was also some evidence that students taught these skills were able to infer the meanings of unknown words. Gains in reading comprehension were, however, inconclusive.

A gratifying part of the study has been the students' engagement in learning the words. It can be concluded that the new knowledge and skills gained here are potentially powerful tools which could be exploited to increase the depth and breadth of the vocabulary of all students. It is hoped that this research will contribute to the body of research which supports the teaching of morphemic analysis and strategies as a part of literacy education.

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APPENDIX A: Affixes and Root words Taught in Intervention

<p>Lesson 1</p> <p>Affixes:</p> <p>un dis in im il ir non</p>	<p>Lesson 2</p> <p>Affixes:</p> <p>pre fore mid inter post</p>	<p>Lesson 3</p> <p>Root Words:</p> <p>spec port tele photo ped bio</p>	<p>Lesson 4</p> <p>Affixes:</p> <p>super over sub</p> <p>Root Words: geo script/scribe therm</p>
<p>Lesson 5</p> <p>Affixes:</p> <p>com con co mis mal anti contra</p>	<p>Lesson 6</p> <p>Affixes:</p> <p>uni mono bi tri quad penta dec cent semi</p>	<p>Lesson 7</p> <p>Affixes:</p> <p>re trans de ex under</p> <p>Root Words: phono milli tele vis phono auto</p>	<p>Lesson 8</p> <p>Affixes</p> <p>ee er or ist ful able/ible less</p> <p>Root Words aud kilo</p>

APPENDIX B: Examples of Teaching Words Used in Intervention

Lesson 1	Lesson 2	Lesson 3	Lesson 4
untied unlike unafraid	predawn prehistory previous	spectacle spectator inspect	superman supermarket
displace disapprove disconnect	forewarn foreleg forecast	portable export	overeate overheated overload
incomplete invisible	midnight mid-term midair	telephone television	subsoil subway
imperfect impolite	intercity interval	pedal pedestrian	geography
illegal		biology biography	post-script scribble scribe inscribe
irresponsible irresistible	post war post pone		thermos thermal geothermal
nonfiction non-violent			

APPENDIX C: Sample Lesson Plan

Example of Lesson

The structure of lessons as explained above is demonstrated below with examples from Lesson 4: The “Over/ Under Family”.

1. Introduction of Word Part

The students were asked to examine the words written on the whiteboard. They were asked to decide which two words belong together and why this might be so.

superhuman submarine overload

2. Deduction of Word Part Meaning

Discussion resulted in the identification of *superhuman* and *overload* as belonging together as they both mean ‘more’.

3. Modelling of Word Part Strategy

The teacher then modelled on the whiteboard breaking the word into word parts

super / human sub / marine over / load

4. Presentation and Practice of Teaching Words

The word families to be taught were then displayed, the meanings of the prefixes in the Over/Under family were explored and the teaching words introduced.

e.g. super – means over / high/ big/ extreme e.g. superman supermarket

Students then practised breaking the words into parts in their student workbooks.

e.g. superman – super / man supermarket – super / market

5. Focus on Meaning

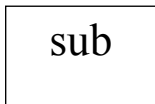
The students were instructed to choose a partner if they wished and to complete the cloze activities using the words from the lesson to give meaning to the sentences.

After zooming around in the hot skies Superman was sweaty and “I will have to cool down,” he thought. “I will find a shopping centre and visit ato find a cool drink. Etc.

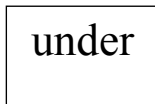
This was marked as a class and discussion was undertaken to ensure that the students had used the strategies of word part knowledge to select the correct word.

6. Flashcards

At the end of each lesson students were instructed to write each word part and meaning on flashcards which were used for rote learning.



Flashcard side 1



Flashcard side 2

APPENDIX D: Sample Workbook Page

The 'not' family

Un

Break these words into word parts

- untied un / tied
- unlike
- unafraid

Dis

- displace
- disapprove
- disconnect

Etc.

Use the words on this sheet to complete these sentences:

Tim and Tom were known as the terrible twins. Although the brothers were in looks they were alike in behaviour. Their poor teacher of their bad behaviour.
Etc.

APPENDIX E: Examples of Transfer Words used in Tests

Subtests 2 and 3 Word Division and Meaning	Subtest 4
prejudge incurable irreplaceable reunite international post-war pedestrian biologist changeable disloyal tricolour centurian millipede monochrome thermometer	exhaled subordinate forelegs malodourous quadruplets audiologist rupture semi-retired indestructible millisecond

WHY MIGHT SECONDARY SCIENCE TEXTBOOKS BE DIFFICULT TO READ?

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Abstract

This study focuses on the vocabulary in four high school level Science textbooks in the Pathway Series published by New House in Auckland for years nine through twelve (Hook, 2004; 2005; 2006; Relph, Croucher, & Castle, 2006). The target audience for this series is high school students aged between 12 and 17 years. The study investigates the coverage of West's (1953) General Service List of English words (GSL), Coxhead's (2000) Academic Word List (AWL), Coxhead and Hirsh's (2007) pilot science list for EAP over the textbooks. It also uses Nation's (2006) frequency lists, based on the British National Corpus, to find out how many words are needed to read these textbooks. Finally, we discuss the implications of this study for teachers and discuss how teachers might investigate the vocabulary in their textbooks and other classroom materials.

Introduction

The impetus for this study of the vocabulary load of a series of secondary school textbooks came from conversations with several high school teachers. These teachers were asking about the efficacy of teaching, for example, words in the Academic Word List (AWL) (Coxhead, 2000) to English as an Additional Language (EAL) secondary school students in Aotearoa/New Zealand, as a way to support their learners with reading. The teachers were concerned that classroom textbooks were too difficult for their students to read. These teachers are not the only ones who are concerned about the vocabulary in textbooks, whether for non-native readers of English (see Brown, 2007) or native readers of English (see Fang, 2006, for example). The reciprocal relationship between vocabulary knowledge and textbooks is critical. Biemiller (2001) shows that vocabulary deficiency in early schooling tends to be exacerbated throughout later schooling. That is, gaps in vocabulary knowledge can widen as children get older. Knowledge of words alone does not guarantee that students will be better able to read their textbooks. Learners need instruction that encourages them to explore the relationships between words and key concepts, and encounter and use these words meaningfully to increase their ability to understand subject area texts (Harmon et al., 2000, p. 270).

Another separate discussion is whether it should be the teachers who bear the responsibility for teaching students how to read subject-specific books (Chall &

Conrad, 1991) or whether publishers should take responsibility for ensuring the content and vocabulary of their books are comprehensible.

A key concept in this study is the issue of who is a native speaker and who is not a native speaker. In New Zealand, secondary school classrooms contain a mix of students who speak languages other than English at home. Some students were born in the country or were born elsewhere and arrived after the age of five. In English-medium schools, these students should develop a native speaker vocabulary of English. For those who arrive after the age of eight or nine, a vocabulary test is needed to assess their vocabulary knowledge (see Nation, 2001 for explanations and examples of such tests). The main problem to consider in this area is that, if some students in a secondary class already have a vocabulary of up to 9,000 words, including Coxhead's (2000) Academic Word List (AWL), then we need to aware that we might be teaching students words they already know (Paul Nation, personal communication, 10 September, 2010).

Textbooks in secondary schools

Textbooks play a key role in educational delivery at all levels according to Harmon et al. (2000) in their analysis of vocabulary instruction in social studies textbooks from grades four to eight in the USA. However, this role is not without challenges. One problem for EAL students is understanding textbooks and another is a lack of support for learners' reading from publishers (Harmon et al., 2000, p. 253). In informal discussions with teachers, we found that comprehensibility was an important factor in choosing a textbook to use in class. Teachers also considered how much students enjoy a textbook, the fit of a textbook with the New Zealand Curriculum, and its fit with assessment criteria such as specific National Certificate of Educational Achievement (NCEA) standards. Textbooks are not the only materials in a classroom, however, as teachers may draw on web pages, YouTube, Smartboard, and other in-house materials. These changes in focus are reflected in a survey on book spending (Bray & Liew, 2008) which shows that secondary school spending on textbooks for classrooms has decreased by 40% between 1989 and 2008. In contrast, spending on IT has increased 293% since 1997.

Early studies of textbooks emphasised measuring readability, for example, by looking at sentence length or words per sentence or the number of syllables per sentence (see Chall & Conrad, 1991). Taylor's (1979) corpus-based study of secondary textbooks in Australia (1979) looked at textbooks across the curriculum areas of maths, science, history, commerce, social studies, and geography. One of Taylor's findings is that science books are more difficult to understand in terms of vocabulary than the other subject areas.

Vocabulary size and reading

Vocabulary-based studies have looked at how many words are needed to read a range of texts. Nation (2006) finds that 8,000-9,000 word families are necessary to read a range of authentic texts such as novels and newspapers. These estimates stand in stark contrast to Nurweni and Read's (1999) finding that students learning English in Indonesia have a working vocabulary of 2,000-3,000 words after years of high school instruction in their country. The key point here is that the bigger a learner's vocabulary, the more efficiently the learner can read. The more the learner reads, the more encounters the learner has with vocabulary in context. Researchers have sought to identify the most useful words for vocabulary learning as a means to help to close the gap between learner vocabulary size and vocabulary needs. That is, what words will readers encounter more often in a range of texts?

Vocabulary lists

In this section, we look at four existing word lists that are used in this study to investigate how many words are needed to read secondary school science textbooks. It is important to consider the development and purposes of these word lists.

West's General Service List of English Words

West (1953) developed the *General Service List of English Words* (GSL) using several principles for selecting words. One of the principles, for example, was the coverage of a word. This principle meant that West selected one word over a synonym, for example *work* instead of *job*, because one of the words 'covered' more than the other. For this reason, *end* is in the GSL whereas *final* is not. The list is well known and well used but it is dated. Another related problem is that it does not contain commonly used words that have entered the lexicon since it was developed (*computer*, *television*, *internet*, and *email*, for example) (Richards, 1974, p.70). However, West's GSL performs well over a range of texts, by covering roughly 90% of fiction texts (Hirsh, 1993), 75% of nonfiction texts (Hwang, 1989), and 76% of a corpus of written academic English (Coxhead, 1998).

As yet, no replacement for the GSL has been developed. However, we will see below how Nation's BNC lists present different frequency-based sets of up to 20,000 words that allow us the opportunity to look at a wider range of vocabulary within spoken and written texts. West's *General Service List of English Words* remains a remarkably durable and principled word list.

The Academic Word List

Coxhead's Academic Word List (AWL) (2000) was developed for EAP teachers to be used as part of their programme to prepare learners for university study or to be used by students working independently towards that goal. Coxhead excluded the 2,000 words of West's *General Service List of English Words* (1953) from the Academic Word List written academic corpus of 3.5 million running words. The corpus contained 28 subject areas within four academic disciplines. The resulting AWL contains 570 word families. The coverage of the AWL over the corpus is 10%, and over each of the four disciplines coverage is: arts 9.3%, commerce 12%, law 9.4%, and science 9.1%. Coxhead's analysis included coverage of a fiction corpus (1.4%) and a newspaper corpus (roughly 4%). These figures indicate this list is clearly academic in nature. Other studies have shown similar coverage figures over a variety of written academic corpora, see for example, medical research articles (Chen & Ge, 2007) and agricultural science (Martínez, Beck & Panza, 2009). The AWL is used by teachers and learners in many English for Academic Purposes classrooms around the world. See Coxhead (n.d.) for more information about this list.

A study of science-specific texts at middle school in the USA was carried out using the AWL. Greene (2008) compiled an 18-million word corpus (109 texts) of middle school textbooks. Middle school students in the USA are usually aged between 11 and 14 years old. Greene's corpus contained textbooks from five subject areas: English, health, math, science, and social sciences/history. Her analysis shows that while the AWL occurs in these textbooks, it does not occur as often as it does in university level texts (5.98% in a middle school science text). This finding indicates that middle school textbooks tend to be written in a relatively reader-friendly way and thus are not as scholarly as tertiary texts. Greene developed specialized middle school word lists for classroom teachers and materials design because there was no list to cover the middle school content areas adequately. The science section of the Greene corpus, for example, contained 3.7 million words. The science-specific word list from this corpus contained 3,028 words. When the GSL, AWL (5.98%), and Middle School (11.95%) lists are combined, the coverage over the science subcorpus is 89.18%. Unfortunately, the Greene lists are currently unavailable (Jennifer Greene, personal communication, 22 September, 2009). However an online webinar by Coxhead and Greene (2009) contains data and examples from Greene's study.

A pilot science-specific word list

One question about specialisation of vocabulary is where a more general word list might stop and a more specialised word list might start. That is, when is it more beneficial for learners to focus on more specialised vocabulary in a particular area? Coxhead and Hirsh (2007) addressed this question through an analysis of the GSL and AWL in a 1,761,380-word corpus of 14 tertiary science subjects and

developed a pilot science-specific word list. The researchers found their resulting science list of 318 word families covered 3.79% of their written science corpus. The coverage of this science list was also well under 1% for each of the arts, commerce and law sections of a written academic corpus compiled by Coxhead (2000) and 0.27% of a 3.5 million word corpus of fiction. Coxhead and Hirsh (2007) note the principles for the selection of words in the GSL and AWL have an impact on the words in their science-specific list.

Nation's British National Corpus (BNC) Lists

A recent innovation in word list development is Paul Nation's work using the British National Corpus (BNC). Nation uses the spoken part of the corpus to develop these lists. He argues that people learn to speak almost without exception, while written language is not necessarily developed in the same way as spoken language (see Nation, 2004). Therefore spoken English data from the corpus reflects people's knowledge of vocabulary. Nation (2006, p. 79) points out that the amount of vocabulary knowledge needed for listening and reading are different in that,

If we take 98% as the ideal coverage, a 8,000–9,000 word-family vocabulary is needed for dealing with written text, and 6,000–7,000 families for dealing with spoken text.

Nation (2006) explores the number of words needed to reach 98% in a variety of texts using the BNC lists. This research is closely linked to different purposes for learning language. For example, 8,000 to 9,000 words are for reading a novel, 3,000 words for reading a graded reader, and 7,000 words and proper nouns for watching the movie *Shrek*. See Webb and Rodgers (2009) on the vocabulary in movies and Webb (2010) for a discussion on the use of glossaries to increase vocabulary coverage of two well-known television programmes. The present study builds on Nation's findings by looking at secondary science textbooks and finding whether similar levels of vocabulary are needed for reading these texts.

To the best of our knowledge, no study has looked into the vocabulary of science textbooks in New Zealand. For the present study, the corpus of science textbooks will be investigated using existing word lists: the GSL, AWL and science-specific lists. The purpose of this part of the study is to investigate whether these lists contain words that are also in the textbooks. If they do, then they can be used with some confidence to guide teachers in their selection of words to teach in classes. The second list is Nation's British National Corpus frequency-based lists. This second measure is used to provide a view of the vocabulary that is needed to read the textbooks. These lists rank the words by frequency.

Research questions

We have two research questions for this study:

1. What coverage do the GSL, AWL, and science-specific lists have over the science textbook series?
2. How many words do learners need to know to read secondary science textbooks?

Methodology

Our study began by considering how we might investigate the vocabulary of specific subjects in secondary schools. We collected several textbooks in history, geography, and science and ran a small pilot study to test out our scanning capabilities. We found that the history and geography textbooks were difficult to scan accurately because of formatting and contrast problems. The science textbooks in our pilot, on the other hand, were more easily scanned. We found a series that is readily available from libraries and, according to the publisher is a bestseller in New Zealand. We scanned all four textbooks from the *New Zealand Pathfinder compact course book series* of Science textbooks for years nine, ten, eleven and twelve (Hook, 2004; 2005; 2006; Relph, Croucher, & Castle, 2006) and converted them to text using MS Office Document Imaging with OCR text recognition.

The books are colourful and set out with many pictures and textboxes and include many scientific symbols. We encountered two specific problems when scanning them. First, the complex layout of pages meant that a linear representation of the text was not achievable. That is, the scanned text did not always follow the same pattern as the original text because text was scanned across the page regardless of columns or textboxes. This problem caused us to check each page of the scanned text to ensure we had obtained as much of the text as possible. This task was made trickier because we could not always match the source and scanned texts. The second problem was sections of text with lighter colours such as pale yellow with white did not scan well. This problem meant that the text recognition process was sometimes not accurate. Our guiding principle was that we would correct errors in the scanned texts and check them against the corresponding text in the original. We also checked words where the word was recognisable and contextually correct. For example, if the word *thermometer* did not scan well and appeared as *thermomxter**, we corrected the word. Finally, we found and replaced hyphens with spaces in the corpus so that the words making up the hyphenated words were counted as single lexical items by Range (Heatley, Nation & Coxhead, 2003), the computer programme we used to analyse the texts.

The total number of running words in the corpus of textbooks is 279,733. The year twelve textbook is the shortest with 56,058 running words while year eleven is the

longest with 88,685 running words. This imbalance between the numbers of words in each textbook presents difficulties for comparison because longer texts provide more opportunities for words to occur and recur. Table One below shows the total of tokens (or words) in each textbook.

Table One: Running words of the textbooks

	Year 9	Year 10	Year 11	Year 12
Running words	62, 757	72, 233	88, 685	56, 058

Analysing the data

The textbooks were analysed using the Range Programme (Heatley et al., 2003; see also Webb & Nation, 2009 for a description of this tool). Two versions of Range were used. One contains base files of the first and second thousand words of the GSL (headwords and family members), the AWL, and the science-specific word list. The second version uses the first 20,000 word families of the British National Corpus. For the present analysis, 23 files of word lists were used, from the first 1,000 up to 20,000 words. File 21 is a collection of proper nouns, which Nation is adding to as he develops his lists. File 22 is a small list of hesitation devices used in speaking, such as *um* and *ah*, which reflects the spoken origin of the lists. This data is not reported on here because it is not relevant to our study of written English. File 23 is transparent compounds, such as *arrowhead* and *breathtaking*. The final file contains a list of proper nouns. These lists and the Range programme are available from Nation's website (<http://www.victoria.ac.nz/lals/staff/paul-nation/nation.aspx>). For a discussion of the 20,000 BNC word lists, see Nation and Webb (2010). Analysing the texts using different base word lists gives us a different view of the vocabulary in these textbooks.

Results and Discussion

Research question one: What coverage do the GSL, AWL, and science-specific lists have over the science textbook series?

To answer this question, we carried out an analysis of the corpus using the Range program (Heatley et al., 2003) using the GSL, AWL, and science-specific lists. We included Nation's proper noun list in this analysis because it is useful to see these figures alongside the data from the word lists. The results in Table Two below show that 89.1% of the words in the textbooks also occur in these four word lists, plus 0.48% coverage from 269 word families in the proper noun list, which makes 90.39%. The four word lists plus proper nouns contain a total of 2874 word families. Of these families, approximately 76% (2207) appear in the textbooks.

We can break that down further into 88.7% of the words in the first 1,000 list, 65% of the second 1,000 list, 72% of the AWL, and 83% of the science list.

Table Two: Coverage of the four science textbooks by the GSL, AWL, and Science-specific word lists

Word list	Tokens/%	Running coverage	Families
GSL 1000	70.10	70.10	886
GSL 2000	6.86	76.96	645
AWL	7.05	84.01	412
Science-specific list	5.90	89.91	264
Proper nouns	0.48	90.39	269
not in the lists	9.61	100	???

It seems that a number of the families in the second 1,000 words of the GSL are working hard in these textbooks. It could be the case that the second thousand words of the GSL contains more of a ‘high school’ vocabulary. Table Two indicates that the coverage of the first 2,000 words of the GSL is 76.96%, nearly 6% higher than the 71% coverage of the list over the tertiary science corpus from Coxhead and Hirsh (2007). This higher figure indicates that the textbooks contain more words from the GSL than the tertiary corpus does. Secondly, the coverage of the second 1,000 words of the GSL at 6.86% is higher than the coverage over the AWL corpus as a whole (4.7%) and the science-only section of that corpus (5%). One of the reasons for this higher coverage of the second thousand of West’s GSL in these science textbooks is that ten words from the list occur over 250 times. These words are *electric*, *ray*, *temperature*, *solid*, *liquid*, *solve*, *false*, *reflect*, *angle*, and *plate*. These words are closely related to topics in science and to particular areas in science, such as *plate* in geology. The occurrence of these words is not uniform across all the textbooks. For example, *plate* occurs in texts for years ten through twelve, but not for year nine. This is because the former textbooks contain chapters on earthquakes whereas the latter does not. Other examples of uneven occurrences of these words include *ray*, *liquid*, *reflect*, and *angle*.

The AWL covers 7.05% of the textbooks. This figure is 2% lower than the coverage of the AWL over the science section of the AWL corpus at 9.1%. A total of 158 word families in the AWL do not occur in textbooks, which roughly equates to 27% of the words in the AWL. This lower coverage figure supports Greene’s (2008) finding (and the secondary school teachers’ observation) that the secondary school textbooks do contain AWL words but not to the same extent as university level texts do.

The science list by Coxhead and Hirsh covers 5.9% of the textbook corpus. This figure is higher than the coverage the researchers found over their tertiary science corpus (3.79%). This coverage figure suggests that the pilot science list contains a

large number of words that are used in both secondary and tertiary level texts. A total of 54 of the word families in the list do not appear in this corpus, which is roughly 17% of the words in the list. A reason for this difference might be that the tertiary corpus is roughly six times the size of the textbook corpus.

Below is an example of words from these four lists in a section of one of these textbooks. The sample of text below is from Hook's (2005) year nine textbook, from the chapter on atoms (p. 88). In this sample, the words from the GSL are in regular text, the AWL words are in **bold**, the science list words are shaded, and the words not found in any list are in *italics*.

Model B: *Mini Solar* System

As scientists **investigated** atoms more closely they discovered that atoms were actually made of smaller *sub* atomic particles. The three important *sub* atomic particles you need to know about are protons electrons and neutrons. Protons and neutrons are found in the central core or nucleus of the atom. Electrons travel at high speed around the nucleus. Atoms are largely empty space except for the dense nucleus. As electrons orbit the nucleus, scientists thought that atoms might be like *mini solar* systems with the nucleus being like the sun and the electrons orbiting like planets. But electrons are not found in simple orbits like planets. There is an international colour code that is used when making or drawing space filling models of atoms or molecules.

This marked version of the text illustrates how words in the science-specific list occur in almost every line and are repeated in the text.

Comparing the GSL/AWL/science coverage from years nine to twelve

The coverage of the GSL/AWL/science/proper noun lists over the four individual textbooks is shown in Table Three below. Overall, we can see that the lists cover a higher percentage of the words at year nine (92.24% or 92.61% plus proper nouns), which decreases year by year to 87.82% at year twelve (88.5% with proper nouns). The year nine text contains more words from the GSL first and second thousand (78.85%). The coverage of these two lists decreases slightly each year, to year twelve at 76.89%. On average, the GSL lists cover 77%.

The AWL maintains a steady coverage over the four texts and averages 6.99%. The science-specific list is slightly lower than the AWL, with an average of 5.8%. This figure is around 2% higher than the coverage over an academic science corpus in Coxhead and Hirsh (2007). However, the average over years nine through eleven is 6.24%, whereas coverage over year twelve is 4.58%. Further, the year twelve text contains fewer family members of the AWL than the other textbooks do. It is important to note in Table Three above that the number of words not found in any list

increases steadily from year nine (7.39 %) to year twelve (11.50). Note also that the proper noun coverage rises in this textbook by over half the coverage in years nine and ten, and almost double year eleven. These figures all suggest that the year twelve textbook has a different flavour to the other books.

Table Three: Coverage of the GSL/AWL/ Science-specific lists over the four individual textbooks

Text	Year 9	Running total	Year 10	Running total	Year 11	Running total	Year 12	Running total	Average
GSL 1000	71.03	71.03	69.88	69.88	69.64	69.64	70.08	70.08	70.1
GSL 2000	7.82	78.85	6.91	76.79	6.16	75.8	6.81	76.89	6.9
AWL	7.25	86.10	6.98	83.77	7.48	83.28	6.25	83.14	6.9
Science-specific list	6.14	92.24	6.45	90.22	6.13	89.41	4.58	87.82	5.8
Proper nouns	0.37	92.61	0.38	90.6	0.44	89.85	0.78	88.5	0.49
Not in any list	7.39	100	9.40	100	10.15	100	11.50	100	10.1

A final point to make about the data in Table Three is that just over 10% of the words in the textbooks do not occur in the four word lists used in this analysis. These words not found in any list include lexical items that are closely related to science. Thirteen of these words occur in all four textbooks over 100 times. These words are (most frequent first), *dioxide*, *crust*, *chromosomes*, *planet*, *genes*, *lens*, *sperm*, *offspring*, *gametes*, *gene*, *pole*, *friction*, and *sulphate*. Of these 13, only *genes*, *gametes*, and *pole* occur more than ten times in each textbook. The other words have more irregular patterns of occurrence.

To summarise, the four word lists plus proper nouns provide 90.39% coverage of the textbooks. This is reasonable coverage, but it means the existing word lists do not go far enough to cover the vocabulary that students need to read these books.

Research question two: How many words do learners need to know to read secondary science textbooks?

The purpose of this analysis is to find out the coverage of Nation's BNC lists over the textbooks and compare these data with earlier studies using the same lists. Table Four below shows the cumulative coverage of the BNC lists and the number of word families taken to reach that coverage. At the 14,000 list with proper nouns, the coverage of the textbooks by the BNC word families reaches 98.07%. The coverage of the proper noun list is just under 0.50%. It takes 4,274 word families to reach 98% coverage. The first 2,000 word families of the BNC lists reach 81.03% of the texts. If we compare this figure with coverage by the same lists over other corpora, we find it is close to the 83% over newspapers cited in Nation (2006, p. 72) but is lower than the 91% coverage of a graded reader in the same study (p. 73) and novels at approximately 88% (pp. 70-71).

Table Four: Coverage of all the science textbooks by the BNC lists

Word list	Tokens/ Percentage	Families
2,000	81.03	1602
4,000 + proper nouns	92	2851
9,000 + proper nouns	96.5	3842
14,000 + proper nouns	98.07	4274
Proper nouns	0.48	269
Not in the lists	1.23	???

How does the coverage of the BNC lists compare over years nine through twelve? Table Five below reports on 20,000 BNC lists and the proper nouns in each textbook. It shows that the coverage of the first 2,000 word families of the list is reasonably consistent across the textbooks, but drops two percent from year nine to year twelve. When we add proper nouns to the 4,000 list, we find coverage rises to 93.07% in year nine. Again, this coverage drops around two percent to 90.96% in year twelve.

Table Five: Text coverage of the four science textbooks by the BNC

Word list	Year 9	Year 10	Year 11	Year 12
2,000	82.27	81.29	80.53	80.09
4,000 + proper nouns	93.07	92.27	91.67	90.96
9,000 + proper nouns	97.28	96.81	96.32	95.52
11,000 + proper nouns	98.08	98.17	97.54	96.60
15,000 + proper nouns	98.72	98.74	98.17	97.18
Proper nouns	0.37	0.38	0.44	0.78
Not in the lists	0.87	0.75	1.33	2.08

We can see that 98% is reached at 11,000 plus proper nouns for years nine and ten, but at 15,000 plus proper nouns for the year 11 text. The year twelve textbook does not reach 98% because 2.08% of the words in the textbook do not occur in any of these word lists. Examples of words that do not occur in any list in the year twelve textbook include *sulphate*, *sulphur*, *gondwana* and *Gondwanaland*, as well as a number of the names of native New Zealand animals, including *tuatara* and *takahe*. Nation's (2006) study finds that 9,000 plus proper nouns are needed to reach 98% coverage of novels (p. 71), 8,000 plus proper nouns for newspapers (p. 72), and 3,000 plus proper nouns for a graded reader. Learners need a bigger vocabulary to read the science textbooks than they need to read novels and newspapers.

Here is the same sample of text we used to illustrate the occurrences of words in the GLS/AWL/science-specific lists above. This time, unmarked words in the text are in the first 1,000 words of the BNC, words marked with <2> are in the second

thousand words, words marked with <3> are in the third thousand words, and so on. Words marked with <!> are not in any of the lists.

<2>Model b <3>Mini <8>solar system

As scientists <2>investigated <5>atoms more closely, they <2>discovered that <5>atoms were actually made of smaller <2>sub <5>atomic <5>particles. The three important <2>sub <5>atomic <5>particles you need to know about are <9>protons, <9>electrons and <10>neutrons. <9>Protons and <10>neutrons are found in the central <3>core or <6>nucleus of the <5>atom. <9>Electrons travel at high speed around the <6>nucleus. <5>Atoms are largely <2>empty space except for the <5>dense <6>nucleus. As <9>electrons <5>orbit the <6>nucleus, scientists thought that <5>atoms might be like <3>mini <8>solar systems with the <6>nucleus being like the sun and the <9>electrons <!>orbiting like <4>planets. But <9>electrons are not found in simple <5>orbits like <4>planets. There is an <2>international colour <2>code that is used when making or drawing space filling <2>models of <5>atoms or <6>molecules.

We can see that the 9,000 BNC list contains key words for this short text, such as *electrons* and *protons*.

These data show that to read these textbooks, a learner needs to know at least 3,000 more words than to read a novel in English. Furthermore, there is a considerable increase between 11,000 plus proper nouns in years nine and ten to over 20,000 plus proper nouns in year twelve.

Implications for teaching, materials design, and learning

How can teachers make use of the data from this study to help prepare their students for reading textbooks? Firstly, we can see that textbooks might vary considerably in terms of length and purpose, even if they come from the same series. The earlier textbooks have a different vocabulary than later textbooks in this series do. This means that students who might struggle with a year twelve text on a topic could benefit first from reading another version in an earlier textbook. The reader will encounter many of the same words in the texts but not so many words that are less common. Teachers can also use the results of an analysis with Range (BNC or GSL/AWL/science versions) to create two levels of text on the same topic. A less challenging text can be created using more frequent synonyms for difficult words, so readers can tackle an easier version first to explore ideas and language and then read a more challenging version.

Secondly, we can see the potential for word lists to help quickly identify the words in texts which might cause a challenge. The GSL/AWL/science lists plus proper

nouns provide coverage of approximately 90% of the textbooks with 1798 fewer word families than the BNC lists. However, the BNC lists provide a higher coverage at 98% with 14,000 words plus proper nouns. Another benefit of the BNC lists is they illustrate how specialised science vocabulary can be spread across the different levels in the lists. Teachers could find out roughly how many words their students know using a vocabulary size test (see Nation, n.d.; Beglar, 2010) based on Nation's BNC lists. At the time of writing, the freely available test is up to 14,000 word families. Bilingual versions are also available on Nation's website in Korean, Mandarin and Vietnamese. Research is under way to develop and trial versions of the test up to 20,000 word families. The Vocabulary Levels Test (Schmitt, Schmitt & Clapham, 2001) contains the GSL first and second thousand and the AWL. (See Nation, 2001 or Coxhead, 2006 for versions of the test.)

Tools like Range can be used by teachers and students to investigate their own classroom texts and the results can be used to inform classroom material development. Both versions of Range are available on Paul Nation's website (see Heatley et al., 2003). Tom Cobb's Compleat Lexical Tutor website (n.d.) has a colourful interface using the Range programme, again with the two versions we used above. Another useful tool on the Cobb website is a concordance page. A teacher or student can input their own text which is then turned into an index of all the sentences in the text. By way of example, we found that the word *atomic* occurs 35 times in the year eleven textbook chapter on atoms. We also found that 25 of those occurrences were followed by the word *number* or *numbers*, as in the sentence, "Find the names of the elements whose atoms have the following atomic numbers". The other ten collocates of *atomic* are *atomic particle/s* and *atomic structure/s* (five each). Teachers can use these data to decide what other information is needed to understand the word *atomic* in light of its frequency and the words that co-occur.

The focus of this article is not teaching and learning vocabulary per se. We recommend developing activities to encourage vocabulary learning in and out of class. We also recommend students explore the content of the textbooks with a vocabulary focus. This means creating classroom activities that require learners to encounter and use words in a variety of ways, as Harmon et al. (2000) also suggested. See Nation (2008) for ways to develop activities such as split information, where learners have to share information to complete a task, and ranking activities, such as deciding which are the most important aspects of an atom, that focus on vocabulary. See Hirsh and Coxhead (2009) for ten suggestions of ways to focus on learning science-related vocabulary using Nation's (2007) four strands as a framework. These four strands are meaning-focused input, which involves learning from what students read and listen to, meaning-focused output, which involves writing and speaking, language-focused learning, which involves looking at different aspects of word knowledge such as how a word is spelled, pronounced, and used grammatically, and fluency. Coxhead (2006) contains ideas

on activities for reading, writing, speaking and reading that focus on the word families of the AWL.

Limitations and further research

A benefit of studying current textbooks in use is that we can provide up-to-date findings for teachers and students. A drawback of such research is that textbooks might be rewritten and the results of a study might be out of date quite quickly. The publishers of the textbooks in this study, for example, have just published a new series of the same textbooks after our analysis. It will be interesting to see whether the vocabulary in those textbooks is the same as or different from the vocabulary in this present study.

Another difficulty in studying textbooks is selecting books which are used widely and regularly in classrooms. That is, ensuring that the textbooks are representative of the reading that students in secondary schools actually do in their studies. It might be the case that teachers and learners only use small sections of the textbooks or use materials from other sources in lessons. For example, teachers might incorporate online materials such as clips from YouTube into lessons. Electronic texts, such as e-books, make texts more readily available for corpus analysis and materials development. When possible, entire texts in electronic form should be used in research such as this instead of scanned texts, to avoid difficulties when scanning.

More analysis with longer texts would shed light on whether the short texts or the nature of the vocabulary in these texts caused this high coverage. Useful further research would include investigating ways to develop word lists that would be better ways to cover the vocabulary needed to read these texts. A much larger corpus of textbooks at secondary level is needed to find out more about the vocabulary of secondary textbooks. We also need to know how many words secondary school students actually know.

Conclusion

In this article, we have looked at the vocabulary in a series of four science textbooks from years nine through twelve using two different approaches. We have found that existing word lists are useful ways of finding out what vocabulary is being used in textbooks but they do not provide enough coverage. Nation's BNC lists show the spread of the vocabulary in these textbooks and show that EAL students need a reasonably large vocabulary to be able to read these books. We found a progression of lexical difficulty in the series from the books for junior and senior years. We have found that one of the reasons why secondary science textbooks might be difficult to read is that they possibly contain many unknown words.

Acknowledgement

The authors would like to acknowledge the support of the Victoria University Summer Research Scholarship, 2009/2010.

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A READING INTERVENTION FOR THAI UNDERGRADUATES

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Abstract

This paper reports on the quantitative elements of a larger research project which was an attempt to find solutions to the low levels of reading competence of undergraduates at King Mongkut's University of Technology North Bangkok (KMUTNB, Thailand). A strategies-based reading intervention was tested with participants from the above university. A control group received more traditional instruction, familiar in second language reading classes in Thailand. Results show a general improvement in the second language reading competence for the experimental cohort. Change in first language reading competence was also tested for, with mixed results.

Introduction

Undergraduates in Thailand need to be competent at reading in English (their second language), as it is their language of learning and instruction at university and they require advanced reading skills in a variety of domains, including science and technology. However, these students seem generally to be inefficient readers in English and it was postulated that this might be the result of relatively ineffective instruction. Instruction for reading in English (a second or foreign language in Thailand) tends to involve the introduction of new vocabulary, explanation of grammatical features in the English texts and word-for-word translation (Chandavimol, 1998; Naranunn, 1998).

The present study put a reading intervention that trained students in the active processing of texts to the test. It was hoped that strategies-based instruction would prove to be a more suitable method for improving the English reading comprehension of Thai undergraduates, and that successful reading skills would in turn provide them with greater autonomy and success in their general learning. The intervention was predicated on the basic tenets that successful readers are actively involved in constructing meaning and that reading comprehension can be improved using a metacognitive strategy training approach (Chamot, 2005). Such an approach provides declarative, procedural and conditional (situational) knowledge. In reading comprehension, declarative knowledge involves knowledge about the strategies used by successful readers, relevant world knowledge and task knowledge. Procedural knowledge includes knowing how to plan one's reading, awareness of how to use reading strategies and understanding how to monitor

one's own reading and comprehension. Conditional knowledge entails knowing when and in which situations to use appropriate strategies.

Theoretical Background

Reading strategies

Reading researchers have identified a wide range of reading strategies used in both first and second language reading (see Abbott, 2006; Block, 1986; Chamot & O'Malley, 1994; Fisher et al., 2002; Kletzien, 1991; Mokhtari & Reichard, 2002; Olshavsky, 1976-1977; Phakiti, 2003; Pressley et al., 1989; Pressley & McCormick, 1995; Salatachi & Akyel, 2002). The strategies used in reading overlap to a great extent with the strategies used in general learning and in second language learning and are transferable to other learning and comprehension domains (Stanovich, 2000; Urquhart & Weir, 1998). It has been pointed out that "strong metacognitive skills empower second language learners" (Anderson, 2002, p. 2) and this is true of metacognitive skills and reading too.

Reading involves a set of interactive mental processes used to construct meaning (Alderson, 1984, 2005; Anderson, 1999). Readers employ a number of strategies to arrive at comprehension of written materials. These reading strategies are mental operations that readers select and apply in order to make sense of what they read (Abbott, 2006) and to overcome comprehension failures (Singhal, 2001). Reading strategies can be classified into bottom-up strategies involving local-level decoding by readers at word and sentence level and top-down strategies involving global-level processes. In top-down processing, readers' background knowledge and expectations interact with the incoming text, resulting in the construction of mental representations of the text and ultimately in comprehension.

As mental processes cannot be captured by direct observation, language learning strategies can be identified through learners' verbal reports while they are engaged in specific tasks (Cohen, 1998; O'Malley & Chamot, 1990; Rubin, 1975; Wenden, 1991). Reading strategies may also be reported verbally (Pressley & Afflerbach, 1995; Yang, 2006) and identified in simultaneous verbal protocols while individuals are reading (Abbott, 2006; Coté et al., 1998; Horiba, 2000; Seng & Hashim, 2006; Upton, 1997).

Transfer of reading strategies from L1 to L2

Reading uses a set of skills which are universal across languages. According to the common underlying proficiency theory (interdependence hypothesis), an underlying cognitive/academic proficiency is common to all written languages (Cummins, 1983, 1984). Second language learners can therefore benefit from proficiency in L1 or in L2, or in both, as literacy skills are common across languages. Based on Goodman's (1975) model and bolstered by studies such as

Esling and Downing's (1986) research on skills acquisition in general, the transfer hypothesis of reading suggests that literacy skills can be transferred from one language to another. Esling and Downing assume that reading skills can be developed through three stages, namely cognition, mastering and automaticity. The reading universal hypothesis put forward by psycholinguists such as Goodman (1973) and Coady (1979) and developed by later theorists suggests that the reading process is common across all languages with slight variations to accommodate the specific characteristics of the orthographic systems and the grammatical structures of each language. Gernsbacher's (1991) structure-building framework theory holds that reading comprehension is not primarily a linguistic skill, and that comprehension involves general cognitive skills which are not restricted to reading but are also used in various other modalities (involving visual and sound processing). These theories highlight cognitive commonalities in reading comprehension processes across languages or in all comprehension across modalities and languages.

Recent research has explored the transfer and access of first language reading skills to second language. While it is apparent that L2 readers have access to reading skills which they have developed in their first languages (Nassaji, 2002) and it has been suggested that literacy skills can be transferred from L1 to L2 reading (Bernhardt, 2005), it is also apparent that L2 readers have additional loads on their working memories (Walter, 2007), which make it difficult for them to access their L1 reading skills while reading in their L2. The Language Threshold Hypothesis (Alderson, 1984), maintains that transfer can occur only once a certain level of linguistic competence in the L2 has been reached. However, this hypothesis is not without its own detractors (see Bernhardt, 2005). Bernhardt proposes a compensatory processing model which has various sources of knowledge compensating for lack of linguistic competence in L2 reading. Of particular interest to this study is that metacognitive knowledge of reading strategies can act as a compensatory strategy.

Metacognitive awareness and monitoring

Metacognitive strategies are what good readers consciously employ to plan, control, monitor and evaluate their comprehension. Metacognitive awareness is knowledge that readers have of their own (relatively automatic) cognitive comprehension processes and also of the processes under their conscious control which they use to monitor and regulate their comprehension while reading (Mokhtari & Reichard, 2002). According to Cohen (1998) and Paris et al. (1994) skilled readers with high metacognitive awareness choose reading strategies that are relevant to their own reading objectives and task requirements and which fit their own cognitive styles. They monitor their own comprehension of texts and evaluate the effectiveness of their chosen strategies and change strategies if and when necessary.

It has become clear from research that metacognitive knowledge and skills monitoring are significant factors in skilled reading (Grabe, 1991). On the basis of a survey of research studies on first language reading comprehension, Pressley and Afflerbach (1995) determined that successful readers are more responsive to text structures and are more able to employ comprehension strategies efficiently and flexibly than poor readers are. Skilled readers know how to monitor their own use of such strategies (Paris et al., 1994; Paris, 2002).

Classroom strategy training is underpinned by the belief that learning strategies are teachable and that learners can benefit from being coached in acquiring relevant strategies under the right conditions (Cook, 1991; Larsen-Freeman, 1991; Nunan, 1997a, b; O'Malley, 1987; Oxford, 1990; Rubin, 1975; Thompson & Rubin, 1996). The same is true of reading strategies and interventions which train students in the use of such strategies in both first language reading (Alfassi, 2004; Collins, 1994; Kusiak, 2001; Macaro & Erler, 2007; Salataci & Akyel, 2002; Stanovich, 2000) and in second language reading (Phakiti, 2006; Urquhart & Weir, 1998). In other words, teachers can train learners to acquire and develop metacognitive skills which will enable them to understand, monitor and control their cognitive comprehension processes (Anderson, 2002; Pintrich, 2002).

The present study attempts to explore the impact of strategy instruction on reading development in an EFL (English as foreign language) situation, in an educational environment which is normally dominated by teacher direction, relatively poor standards of reading ability and limited exposure to reading generally. Essentially, this study set out to determine which of two teaching approaches (metacognitive reading strategy awareness-raising or teacher-fronted grammar-translation instruction), would be more effective in enhancing the English reading comprehension of Thai undergraduate students. The researchers were also interested to learn whether there would be any transfer of participants' newly acquired (i.e. via instruction) L2 reading strategies back to their L1 reading.

Methodology

Participants

The participants were second- to fourth-year Thai EFL undergraduates (n=227) at King Mongkut's University of Technology North Bangkok (KMUTNB) in Thailand during the period November 2008 to February 2009. In the final analysis, the data from 164 participants was used as the data collected from the other 63 participants was incomplete. The participants came from seven existing classes in the Reading I course, comprising students in scientific and technological disciplines, namely mechanical, electrical, civil and production engineering, industrial management, computer science and information technology. This EFL reading course is an elective subject in English for Academic Purposes (EAP) and is offered by the Department of Languages, Faculty of Applied Arts. As all

students would have completed two mandatory courses in English (English I and English II), the participants' English language competence was taken to be relatively homogenous and up to par for this reading course.

In this quasi-experimental study, four existing classes were randomly assigned to the experimental cohort and the other three classes became the control cohort. The researcher (the first author of this paper) and a trained assistant (a colleague at the university in Thailand) each taught two experimental classes using a strategies-based approach. The strategies that were taught to these participants are outlined in the appendix to this article. Another colleague (also trained to assist in this project), taught the three control classes using traditional, teacher-fronted methods.

Research instruments

The research instruments used included an English reading comprehension test and a Thai reading comprehension test. The English pre- and post-tests were taken from the Nelson Denny Reading Test (NDRT) (Forms G and H) (Brown et al., 1993). The Thai pre- and post-tests were the Thai language critical reading test (Forms A and B) (Prasansorn, 2001). To prevent participant familiarity with test materials in the pre- and post-tests, different versions of the tests were given to different cohorts of participants.

Data Collection Procedures

The whole project took place over sixteen weeks. Data was collected in three phases, namely the pre-instruction phase (Weeks 1 and 2), the intervention phase (Weeks 3-15) and the post-instruction phase (Week 16).

Pre-instruction phase:

In the pre-instruction phase, all the participants were tested to determine their levels of English and Thai reading comprehension. By means of \pm standard deviation of the mean scores gained from the pre-tests, the participants in each treatment cohort were divided into three different sub-groups, namely high, moderate and low levels of reading proficiency in English and Thai. The results of the independent samples t-test indicated that there was no significant difference between the English and Thai reading proficiency of the two cohorts of participants at this stage of the study.

Intervention phase:

All treatment cohorts received three hours of instruction per week for thirteen weeks. The experimental cohort was taught using a strategic reading development approach (Grabe, 2004) in which students were instructed in the co-ordinated use of multiple L2-based reading comprehension strategies. This entailed the explicit

and direct teaching of forty-six strategies in five categories, namely fourteen bottom-up strategies, sixteen top-down strategies, eleven metacognitive strategies, three social/affective strategies and two test-taking strategies. In each teaching session, strategies to be introduced were selected proportionally from all categories. The strategies themselves formed the declarative knowledge for the learners. The teachers' and students' discussions about the textual contexts in which the strategies should be applied provided the conditional (situational) knowledge. Procedural knowledge was acquired by the students as they learned how to utilise these strategies in effective combinations.

Students practised applying strategies to the reading of written materials. The teacher used the Reciprocal Teaching Procedure (RTP), initially modelling the combined use of four key strategies (e.g. predicting, questioning, clarifying and summarising), thus providing scaffolding and support. Students gradually took over independent use of the strategies in group activities. As out-of-class assignments, students were required to produce weekly portfolio entries in which they recorded retrospective accounts of how they had used the strategies learned in class in their own reading of English texts. Well-produced entries were selected and shown to the rest of the participants in the other classes, reinforcing that it was important for learners to provide meaningful descriptions of their own strategy use.

During this instruction phase, the control cohort was taught using traditional, teacher-fronted methods. The framework for this instruction was established on the basis of interviews with current teachers of English in the research setting, and observations of reading instruction in Thai classrooms, undertaken prior to the study. Classes in this cohort were led by the teacher using lessons from a prescribed course book aimed at promoting reading for pleasure, comprehension and thinking skills. Each session comprised pre-reading activities, during-reading activities, post-reading activities and application activities. Warm-up activities were used to stimulate students' interest in the topics and to activate their background knowledge, followed by explanations of the lesson of the day in the course book.

The teacher chose sample passages and taught students how to read intensively, starting from the beginning of a passage and emphasising word-for-word translation. The passage was either read aloud by the teacher or the teacher randomly chose some students to read aloud individually. At times, students were instructed to read silently. After that, the passage was translated by the teacher or by randomly-selected students. Following that, students completed a number of comprehension-testing exercises. The teacher helped the students by translating each question and locating the answers in the text. These questions were assigned to the students to answer in pairs or groups. Unfinished exercises were assigned as homework.

Post-instruction phase:

The intervention was followed by post-tests. The scores obtained were compared with the scores obtained in the pre-tests. Scores of the different reading proficiency groups were also compared with one another, as were scores on L2 and L1 reading.

Results

As can be seen from Table One, strategy training had positive effects on the English reading comprehension skills of the majority of the participants in the experimental cohort. However, the English reading comprehension skills of the control cohort participants did not show a general improvement. Amongst those in the control (teacher-fronted instruction) cohort, only the proficiency of the low-level reading sub-group improved. Neither method of instruction (i.e. that used with the experimental cohort or that used with the control cohort), had an affect on the participants' reading proficiency in Thai (their first language), except in one sub-group. The Thai reading comprehension post-test scores of the experimental cohort participants in the low-level reading competence sub-group increased significantly.

Table One: Summary of quantitative findings

Reading Comprehension	Findings	
	Experimental Cohort	Control Cohort
English (L2) reading comprehension		
• Overall reading improvement	Yes	No
• Improvement of sub-groups at different levels of reading proficiency	High = Yes Moderate = Yes Low = Yes	High = No Moderate = No Low = Yes
• Significant improvement	Low	Low
• Experimental over control	Yes	
Thai (L1) reading comprehension		
• Overall reading improvement	No	No
• Improvement of sub-groups at different levels of reading proficiency	High = No Moderate = No Low = Yes	High = No Moderate = No Low = No
• Significant improvement	Low	No
• Experimental over control	Yes	
	(remaining within the bounds of the same reading performance level)	(showing a decrease in the mean scores from pre- to post-tests)
Observable correlation between English (L2) and Thai (L1) reading proficiency	Yes	No

The experimental cohort participants outperformed their control cohort counterparts, remaining within the bounds of the same reading performance level. The Thai reading comprehension post-test mean score of the control cohort participants decreased considerably.

The experimental cohort revealed a low but statistically significant positive correlation between their English and Thai reading abilities. The correlation for the control cohort was not statistically significant.

To determine whether the different teaching approaches enhanced the English reading competence of Thai undergraduates, the pre- and post-test mean scores of the experimental and control cohorts were compared. The results revealed a significant difference between the mean scores obtained for the two tests. The English reading proficiency of the participants in the experimental cohort improved after they were taught to use multiple reading strategies consciously and deliberately. The results showed no significant gain in the English reading ability of the control cohort after instruction – there being no statistically significant difference between the pre-test and post-test mean scores (see Table Two, below).

Table Two: A paired samples t-test comparison of the pre- and post-test scores of L2 (English) reading comprehension of the experimental and control cohorts

	Experimental Cohort (N = 82)			Control Cohort (N = 82)		
	Mean	SD	Sig.	Mean	SD	Sig.
Pre-test	30.11	7.12	0.000	29.02	5.60	0.057
Post-test	33.04	9.37		27.55	4.77	

$p < 0.05$

The post-test scores of the experimental and control sub-groups were analysed further, resulting in two additional differences (see Table Three):

Table Three: Post hoc analysis of the post-test mean scores L2 (English) reading comprehension

Sub-group	Experimental Cohort			Control Cohort	
	N	Subset		N	Subset
		1	2		1
Low	9	28.67 (18.56 pre)		9	28.33 (19.11 pre)
Moderate	57	30.70 (29.02 pre)		57	27.26 (28.33 pre)
High	16		43.81 (40.50 pre)	16	28.12 (37.06 pre)

1. In the experimental cohort, the post-test mean scores of all the sub-groups (i.e. the high, moderate and low reading proficiency level groups), were higher than in the pre-test scores. The reading comprehension of the low-level sub-group members improved to the same level as that of the moderate-level participants.
2. In the control cohort, the post-test mean scores of only the low-level reading proficiency participants were higher, while those of the high- and moderate-level reading proficiency participants were lower.

Not only was the reading proficiency of the experimental cohort enhanced as a result of the intervention, there was also a significant difference in the level of English reading ability between the two cohorts of students who had had the two different teaching approaches. When the post-test scores (English reading comprehension) of the experimental and control cohorts were compared, it was found that the experimental cohort participants had made more substantial progress in their English reading proficiency after the instruction than the control cohort had made after their instruction (see Table Four, below).

Table Four: A comparison of the post-test scores in L2 (English) reading comprehension of the experimental and control cohorts

Cohort/Scores	N	Mean	Std. Deviation	t-value	Sig. (2-tailed)
Experimental	82	33.04	8.37	5.159	0.000
Control	82	27.55	4.77		

$p < 0.05$

To determine whether the two different teaching approaches (strategies-based instruction and teacher-fronted instruction) made any significant difference to the Thai (i.e. first language) reading comprehension of the participants, the pre- and post-test mean scores of the two cohorts were compared. The results showed no enhancement in the first language reading proficiency of the experimental cohort after the strategies-based intervention. Similarly, the participants in the control cohort did not show significant gains in their first language reading proficiency after the teacher-fronted intervention. There was, in fact, a decline in their mean scores between their pre- and post-tests (see Table Five).

Table Five: A paired samples t-test comparison of the pre- and post-test L1 (Thai) reading comprehension scores of the experimental and control cohorts

	Experimental Cohort (N = 82)			Control Cohort (N = 82)		
	Mean	SD	Sig.	Mean	SD	Sig.
Pre-test	38.56	5.29	0.587	38.66	5.39	0.000
Post-test	38.23	5.36		35.32	8.16	

$p = 0.05$

Moreover, the first language (Thai) reading comprehension post-test mean scores of the participants in the high-level proficiency sub-groups in both the experimental and control cohorts were considerably lower than they had been for the pre-test. Their reading ability dropped to the same level as that of the moderate-level proficiency participants. However, despite dropping, the proficiency levels (reading comprehension abilities) of the moderate-level and low-level proficiency participants in both the experimental and control cohorts remained within the bounds of the reading ability level at which they had started out. It was only for the low-level proficiency participants in the experimental cohort that the post-test mean scores improved in first language (Thai) reading (see Table Six).

Table Six: Post hoc analysis of the post-test mean scores (Thai reading)

Sub-group	Experimental Group			Control Group		
	N	Subset		N	Subset	
		1	2		1	2
Low	17	34.70 (30.06 pre)		17	28.12 (29.41 pre)	
Moderate	53		38.94 (39.81 pre)	53		36.77 (40.11 pre)
High	12		40.08 (45.08 pre)	12		39.08 (45.33 pre)

To determine whether there was any significant difference in the level of first language (Thai) reading ability between the two cohorts of students as a result of the different teaching approaches, the post-test scores of their Thai reading comprehension were compared. The participants in the experimental cohort had higher mean scores in their first language (Thai) reading comprehension post-tests than did the control group participants. This indicates that the participants in the experimental cohort maintained their first language (Thai) reading ability throughout and outperformed their control group peers whose post-test mean score decreased considerably (see Table Seven).

Table Seven: A comparison of the post-test scores (Thai reading) of the experimental and control groups

Group/Scores	N	Mean	Std. Deviation	t-value	Sig. (2-tailed)
Experimental	82	38.23	5.36	2.704	0.008
Control	82	35.32	8.16		

$p < 0.05$

In other words, the first language reading ability of the participants in the experimental cohort was not affected by the strategies-based teaching intervention.

However, the first language reading ability of the participants in the control cohort decreased after the teacher-directed and relatively traditional reading classes.

This study also attempted to determine whether there was any significant correlation between the participants' post-test scores for first language (Thai) and second language (English) reading comprehension. A correlation analysis obtained from the experimental cohort revealed a low positive correlation with statistical significance between L1 (Thai) and L2 (English) reading comprehension in the post-tests (see Table Eight). Their English reading comprehension post-test scores correlate directly with their Thai reading comprehension post-test scores. The correlation value obtained from the control group was not statistically significant (see Table Nine).

Table Eight: Correlations between post-test scores of L2 (English) and L1 (Thai) reading comprehension for the participants in the experimental cohort

		Post-test (English)	Post-test (Thai)
Post-test (EFL)	Pearson Correlation	1	0.243
	Sig. (2-tailed)	.	0.028
	N	82	82

$p < 0.05$

Table Nine: Correlations between post-test scores of L2 (English) and L1 (Thai) reading comprehension for participants in the control cohort

		Post-test (English)	Post-test (Thai)
Post-test (EFL)	Pearson Correlation	1	0.194
	Sig. (2-tailed)	.	0.081
	N	82	82

$p > 0.05$

Discussion

The results of the present study support the claims that strategies-based instruction improves students' L2 reading competence. The results of the pre- and post-test English reading comprehension in this study reveal that the reading proficiency of the experimental cohort improved significantly after the sixteen-week instruction period, and that the experimental cohort achieved better results than did the control cohort. All the experimental sub-groups (high, moderate and low) made gains on their English reading abilities (showing increased mean scores between pre- and post-tests). The low-level reading proficiency students showed larger gains which scaled their reading competence up to the equivalent of those at higher levels. This finding concurs with that of Kusiak (2001) in which strategy training was found to be more effective with less proficient readers.

This may be due to the fact that, before the strategy instruction, the low proficiency readers did not have much metacognitive awareness about reading and

monitoring and adjusting their own comprehension. After they were trained in the strategies-based intervention course, they had more metacognitive awareness. As a result, they were more likely to be able to interpret reading tasks according to the situational conditions, to choose reading strategies relevant to their reading objectives and task demands and to monitor their own comprehension of texts, assess the effectiveness of their chosen strategies and change their strategies if necessary (Cohen, 1998; Paris et al., 1994). It is possible that the participants with higher-level reading proficiency levels already used many of these strategies and strategy instruction therefore had less effect on their reading proficiency.

In this study the control cohort did not make any significant progress in reading competence. Furthermore, the reading comprehension scores of the high-level reading proficiency sub-group showed a marked decrease at the end of the course. Such outcomes suggest that teacher-directed and teacher-fronted instruction may not be the most efficient methods with which to promote students' reading abilities.

The strategy instruction used in this study aimed to raise students' awareness of the mental processes used in reading and to equip them with knowledge of and competence in the use of processing strategies that would allow them to become more and eventually more effective strategic readers. The intervention incorporated the co-ordinated use of multiple strategies, teacher modelling, teacher scaffolding of student learning with the gradual withdrawal of support by the teacher to enable the equally gradual adoption of independent strategy use by the students. The success of the experimental cohort in this study corroborates the findings of previous research in ESL and EFL settings, in which learners who received a combined-strategies intervention showed greater improvement in reading comprehension test performances than those who had not received any training (see Kusiak, 2001; Macaro & Erler, 2007; Salataci & Akyel, 2002).

The pre- and post-test results of L1 (Thai) reading comprehension do not show any significant increases in reading ability. The overall first language reading abilities of the high-level reading proficiency sub-groups in both the experimental and control cohorts showed a downward trend. While there seems to be no transfer of reading strategy use from the students' L2 reading back to their L1 reading, the Pearson product-moment correlation coefficient discloses that there is a positive and significant correlation between the English and Thai reading post-test scores of the experimental cohort. The reading comprehension test performances are in direct proportion to one another which suggests that, if reading comprehension improves in one language, it will improve in the other. As they slowly become able to orchestrate the use of the relevant strategies autonomously and without teacher support, students thus are also able to develop the ability to transfer the strategies to other reading and learning situations (see Stanovich, 2000; Wenden, 1991). However, there was no such correlation between the L1 and L2 reading comprehension scores of students in the control cohort.

The lack of improvement in L1 reading may be due to the following two factors: 1) linguistic variables and 2) a lack of specific instruction in the use of reading strategies in the reading of L1 texts. For example, Van Ginkel (2007) suggests that “L2 reading skills and strategies are not as easily transferable to the L1 when the L2 and L1 are linguistically quite different” (p. 39). English and Thai are linguistically very diverse: they have different writing systems and belong to quite disparate language families.

Conclusion

This study has found that explicit strategy instruction was beneficial and positively affected the reading proficiency of this cohort of undergraduate students in Thailand. Providing EFL student readers with metacognitive reading strategy instruction seems to be a pedagogically rich method that could usefully replace the traditionally teacher-dominated classroom or may, as a starting point, be incorporated into the usual classroom settings in Thailand.

Results from this study reveal glimpses of a positive relationship between the L2-based strategy instruction for EFL reading and the learners’ L1 reading proficiency. The transfer of reading strategies from the L2 back to the L1 may increase if teachers train students to understand their own learning processes and metacognition.

This study was limited to EFL classes which were already in place and thus L1 reading instruction was not an available option. In a country such as Thailand where little voluntary reading takes place, the role of a reading instruction course may not be just to facilitate the reading of L2 texts but also to instil and foster reading habits among students in their L1.

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Appendix

A list of reading strategies taught to the experimental cohort

#	CATEGORY	DEFINITION
Cognitive strategies		
Cognitive strategies are directly related to the target language and world knowledge of the learners, which allow them to construct meaning from text and to perform the given tasks (Phakiti, 2003, p. 651).		
Bottom-up		
<i>Bottom-up, local, language-based reading strategies focus primarily on word meaning, sentence syntax, or text details and are associated with attending to lower level cues (Abbott, 2006, p. 637).</i>		
1.	Resourcing	The reader looks for further information about the texts in other resources (e.g. dictionary, online dictionary, encyclopaedia, thesaurus, books).
2.	Breaking lexical items into parts	The reader breaks words into smaller units to promote comprehension (i.e. affixes and word stems).
3.	Scanning for explicit information	The reader scans the text for specific details or explicitly-stated information.
4.	Using local context clues to interpret a word, phrase or sentence	The reader uses the words in a sentence that precede or follow a specific word or phrase to understand a particular word or phrase.
5.	Deciding which words are important	The reader identifies key words in the text.
6.	Using knowledge of grammar	The reader uses an awareness of grammar, syntax or parts of speech to help to understand sentences or parses sentences by putting slashes (/) into sense units to grasp the main components of each sentence easily.
7.	Paraphrasing for better understanding	The reader rephrases or restates ideas in his/her own words, but with the same sense, to better understand what s/he is reading.
8.	Re-reading for better understanding	The reader re-reads difficult parts of the text or a portion of the text either aloud or silently to help to understand what is being read, or to give him/her time to reflect on the content.
9.	Translating	The reader transfers ideas from one language to another in a relatively verbatim manner.
10.	Being aware of linguistic transfer	The reader recognises words, prefixes or suffixes, because of their similarity to his/her native language.
11.	Marking the text	The reader marks, underlines, circles or draw stars above important information in order to help him/her to remember it.
12.	Adjusting reading rate	The reader changes reading speed depending on the difficulty of the text, or according to what s/he is reading, or reads more slowly, but carefully, to be sure s/he understands what is being read.
13.	Paying close attention to particular parts of the text	The reader pays closer attention to certain parts of the text, and the beginning and end of each paragraph, or follows the line being read with a finger or pen.
14.	Paying no attention to unknown words	The reader pays no attention to unknown words or leaves them for later processing.

#	CATEGORY	DEFINITION
Top-down		
<i>Top-down, global, knowledge-based reading strategies focus primarily on text gist, background knowledge, or discourse organisation and are associated with attending to higher level cues (Abbott, 2006, p. 638).</i>		
1.	Making predictions	The reader predicts the likely content of the following portions of the text.
2.	Confirming or modifying of predictions	The reader confirms or rejects the prediction s/he has made about the content of the following portions of the text.
3.	Skimming for gist	The reader draws on the major points of the passage or summarises the main concept.
4.	Integrating textual information	The reader relates new information to previously stated content, or synthesises scattered information presented in different sentences or parts of the text.
5.	Making an inference based on information presented in the text	The reader makes an inference, draws a conclusion, or forms a hypothesis about the content.
6.	Elaborating on prior knowledge	The reader uses background knowledge (personal experiences, real world or academic situations) to speculate beyond the text, or adds information to the story.
7.	Recognising discourse format or text structure	The reader uses discourse format, discourse markers or text organisation to construct meaning (e.g. discriminating between fact and opinion or cause and effect, noting how the information is presented, distinguishing between main points and supporting details, discussing the purpose of the information).
8.	Interacting with the text	The reader ponders on the significance or veracity of content, or questions the information in the text, or uses his/her questions to guide reading.
9.	Summarising text information	The reader makes a mental or written summary to reflect on key ideas in the text.
10.	Taking notes while reading	The reader writes down the main ideas, important aspects, key words, summary of the concepts or what s/he needs to remember in the form of either text or graphics (e.g. outline, chart, list, diagram, story map, drawing).
11.	Using grouping and classification	The reader organises the information into groups or categories, or classifies the characters or events in the story.
12.	Using imagery and relating verbal information to accompanying visuals	The reader uses tables, figures, diagrams and pictures in the text to increase his/her understanding.
13.	Visualising information read	The reader draws something to help him/her to remember what s/he is reading, or makes mental pictures, or visualises the events or places or characters, in order to understand the text.
14.	Reacting personally to the text	The reader reacts emotionally to information in the text.
15.	Pausing to reflect on reading	The reader pauses occasionally to think about what s/he is reading.
16.	Understanding the meaning without translating	The reader tries to understand the meaning of the text, without translating it into his/her native language.

#	CATEGORY	DEFINITION
Metacognitive strategies		
Metacognitive strategies are related to self-management or self-regulation in a given reading activity (Phakiti, 2003, p. 651).		
Planning		
<i>Previewing or overviewing the organisation of the text (including reading passages and reading tasks); developing directions of what needs to be completed; developing appropriate actions or strategies to handle reading tasks; creating a plan for each reading passage and its tasks to overcome difficulties that may interfere with successful completion of the reading tasks (Phakiti, 2003, p. 698)</i>		
1.	Advance organisation	The reader uses the title and chapter headings to form a general idea of what the text is about.
2.	Advance preparation	The reader organises a comprehensive preview to clarify the objectives of the text, anticipates reading tasks, and poses strategies for handling them.
3.	Problem identification	The reader identifies what types of reading tasks or problems need to be solved, and selects appropriate strategies to solve them.
4.	Goal setting	The reader decides, before reading, to attend to general and/or specific aspects of language input or situational details that help him/her to understand reading tasks and task completion, and to ignore irrelevant information.
5.	Self-management	The reader understands the conditions that help him/her to accomplish reading tasks successfully, and arranges for the presence of those conditions.
6.	Goal prioritisation	The reader determines which goals are more important and which are, therefore, necessary to attend to first.
Monitoring and evaluating		
<i>Checking, verifying, or correcting reading performance against external standards, while completing reading tasks, or after completing reading tasks (Phakiti, 2003, p. 699)</i>		
1.	Comprehension monitoring	The reader checks, verifies or corrects his/her own comprehension of the text.
2.	Double-checking	The reader checks, verifies or corrects understanding across the tasks (at least) one more time.
3.	Performance evaluation	The reader evaluates her/his overall performance in the reading tasks; that is, determines whether or not the required standards or set goals have been reached.
4.	Strategy monitoring and evaluation	The reader is aware of the comprehension processes and evaluates the effectiveness of strategies used.
5.	Problem monitoring and evaluation	The reader explicitly identifies the central point that needs resolution in a task, or identifies an aspect of the task that hinders its successful completion.
Social/affective strategies		
Social and affective strategies involve interacting with another person to assist learning, or using effective control to assist a learning task (Chamot & Kupper, 1989, p. 16).		
Social		
<i>Social strategies include the actions which the learners choose to take in order to interact with other learners and with native speakers (Cohen, 1998, p. 8).</i>		
1.	Discussing reading with others	The reader discusses textual information with others or elicits additional explanations from a teacher or peer.
2.	Co-operating with others in the reading tasks	The reader works together with peers to solve a problem, pool information, check a reading task, model a reading activity, or

#	CATEGORY	DEFINITION
		get feedback on his/her comprehension.
Affective		
<i>Affective strategies serve to regulate emotions, motivation and attitudes (Cohen, 1998, p. 8).</i>		
1.	Self-talk	The reader reduces anxiety by using mental techniques that make him/her feel competent to do the reading task, or identifies his/her inability to understand a particular word or the meaning of a portion of the text.
Test-taking strategies		
Test-taking strategies are used by the test respondents to help to produce responses to testing tasks (Cohen, 1998, p. 219).		
1.	Understanding the comprehension-testing questions before reading the test passage	The reader, as a test taker, reads the comprehension-testing questions, before reading the test passage, so that s/he can form general ideas about the text, and can locate specific information in the text to answer the test questions.
2.	Re-reading the test passage to answer the comprehension-testing questions	The reader, as a test taker, re-reads the test passage to reconfirm his/her comprehension, before answering the comprehension-testing questions.

LEARNING TO READ AT UNIVERSITY: ENGLISH L2 STUDENTS LEARNING ON THE JOB

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Abstract

Reading is a key skill in the university, serving as an important source of input for learning, especially for students whose language proficiency excludes them from full participation in lectures. However, reading at tertiary academic level is itself demanding on many counts. This article reports on the expectations, challenges and developing skills of a group of Chinese international students studying undergraduate business and information sciences degrees in a New Zealand university who took part in an interview-based study with both longitudinal and retrospective perspectives. Initial confidence in their reading proved misplaced as they found the length and density of university texts beyond their skills. However, the importance of reading to their assessment activities, which began soon after enrolment, created an imperative to improve their skills and led to the development of strategies allowing for effective reading in this context. There are implications suggested for both the university and English language centres.

Introduction

Teachers within institutes of higher learning generally expect their students to read at a level, volume and purpose which assume the skills of very able readers. However, domestic and international students alike are often ill-prepared for the task (Haggis, 2006). This was certainly the case with the Chinese international undergraduate students that this article reports on. Initially it seemed that reading was a controllable and accessible skill that could be brought into service for the basic university task of learning new content, to compensate for deficiencies in their listening, and recent success in IELTS provided a degree of confidence about it. However, most of them discovered that reading demands were far more complex than they expected and their skills were not immediately adequate. This article will consider sources of their difficulties, describe strategies they developed to overcome them and reflect on whether they might be avoided.

The nature of reading

Reading is a complex process involving an interaction between different component parts, each in itself complex (Grabe, 2009; Macaro, 2003). At the lower level, processes including “word-decoding, syntactic parsing (using grammatical information), and semantic proposition encoding (building clause

level meaning from word meanings and grammatical information)” (Grabe, p. 22), unpack the text itself to provide the building blocks of comprehension. These are described as lower level not because they are simple, but because they are subject to automatization, and in fact must be automatized in order for the reader to attain fluency. Nevertheless, a painstaking process of word-by-word deciphering is a necessary precursor to fluency and cannot be by-passed by reliance on contextual clues (p. 37). A significant factor in the development of this fluency is the size of the reader’s vocabulary (p. 28), with Nation (2001, p. 147) suggesting that at least 95% of words in a text must be known to allow readers “a standard of minimally acceptable comprehension.” Coxhead (2000, p. 224) points out that in academic texts around 20% can be expected to be beyond the 2000 most frequently used words in English.

Higher level processes build a network of understanding which uses the evidence in the text, links this with wider context and prior knowledge, and brings a strategic dimension to reading, so that reader goals decide what information will be salient (Grabe, 2009). At text level, for example, transition signals indicate the relationship of new information to that already held in the working memory, helping to construct an awareness of the central ideas. As we begin to read, we also activate other elements from our long-term memory, which assist in “an effective interpretation of the text in line with the reader’s goals” (p. 44). The emphasis on the text itself will be greater when readers have limited background knowledge of the subject matter (p. 47). Where difficulties arise, the reader is likely to call on a strategic approach to adjust their processing: “strategy use generally requires some recognition that the text is difficult or that the goals of the reader are not being met” (p. 52).

While an L2 reader may draw on L1 reading skills, Macaro (2003, p. 130-1) suggests “the more distance between current L2 knowledge and text difficulty, the less there is a transfer of appropriate reading strategies from L1.” In such cases, a concentration on decoding each word leads to surface-level reading and perhaps a loss of coherence, while too much reliance on contextual information leads to “wild guesses” at meaning resulting in a weak understanding of the text itself.

A more sociocultural framework of reading, seeing it as “contextually influenced, with the ability to make meaning from text linked to variables such as what we are reading (*content*), what kind of text (*genre*), in what *context* and with what *purpose*?” (Wallace, 2005, p. 94), brings a valuable perspective in placing reading (and different ways of reading) as part of the complex repertoire within what Gee (2004) calls the “big-D Discourse” of the university. Freebody and Luke (2003, pp. 56-57) identify four ‘roles’ which are needed to allow for a “broad and flexible repertoire of practices” constituting “effective literacy”:

Breaking the code of texts (an essential but not sufficient first step)

Participating in the meaning of texts (as co-constructors of understanding)

Using texts functionally (understanding the purposes of text-reading within the context, such as recognising the relationship with other course materials).

Critically analysing and transforming texts (the ultimate goal in reading for university assignments).

In longitudinal accounts of ESOL students studying in English-medium universities (e.g. Leki, 2007), there is often closer focus on the development of the more visible writing process than reading, but Spack's (2004) account of one learner's acquisition of academic literacy over her degree study provides a clear picture of her development as a reader. In spite of a general English proficiency in excess of that required for university study, initially her reading did not serve her study needs. However, her determination led to the adoption of increasingly effective strategies, such as reading fluently for gist, and deciding to skip difficult sections. Although they are not reported in that way, these reveal a gradual assumption of all four of Freebody and Luke's roles appropriate for university demands.

Both these perspectives, the internal processing of the text described by Grabe (2009), and the development of awareness of how to use reading to achieve a sense of competence within the complex requirements of degree study (Freebody & Luke, 2003), were reflected in accounts participants in the current study gave of their reading, indicating that becoming skilled, purposeful readers was a multifaceted endeavour.

The study

This paper reports on one aspect of a study, begun in late 2003, of the expectations, emerging issues and change experienced over the course of their degree study by a number of Chinese international undergraduate students studying business and information sciences. It was undertaken in response to the growing presence of such students in New Zealand universities at the time, and in recognition of the fact that in-depth, longitudinal studies of undergraduate international students in the 'West' in general (Leki, 2006), and in New Zealand in particular (Butcher, 2004; Ward, 2001), were rare (though see Holmes, 2004, 2006). The New Zealand setting had its own characteristics, in terms of how academic culture has evolved here, and also in the cohort of students enrolled, including many who had not been particularly successful in China, as was the case with most of these participants. Most of them had entered the university with IELTS bands of 6, or, under an arrangement existing at the time, for some with previous study at tertiary level in a relevant subject, 5.5. The research adopted a phenomenological approach, eliciting the students' own understanding and personal experience of the processes they were going through. It was based on semi-structured interviews which used two perspectives chosen to take account of the temporal aspect of complex learning, the retrospective (10 participants with

existing New Zealand study experience) and the longitudinal (12 students recruited in the first days of theirs, initially for a one-semester period). Both perspectives proved invaluable, but the longitudinal, in particular, allowed for a close-grained account, with revelations of new demands, recognitions of struggle and the dawning of new skills over the period of the study. There were three interviews over the first semester, then for the six students who chose to extend their involvement, one at the end of the first year and each year thereafter until graduation, two or three years in total, depending on cross-crediting from earlier study in China.

Each semi-structured interview was transcribed by the researcher then analysed, with attention to the units of meaning expressed within it, but also, through a process of “constant comparison” (Glaser, 1998; Strauss & Corbin, 1998), with data from other participants’ interviews, and with the participant’s own previous interviews. This allowed for an iterative approach in which in each successive interview matters that emerged as significant in earlier accounts could be followed up. A range of methods was used for this, including follow-up questions about particular issues, diagrammatic representations of students’ earlier accounts for further discussion, and more open invitations to self-reports. This process facilitated discussion of a number of significant factors of the experience, and some of these have been reported on elsewhere (e.g. Skyrme, 2004, 2007, 2008, 2009). The focus of this article, reading, emerged as an important issue in initial enquiry into the students’ expectations of the journey ahead and it remained one of the focuses, in view of the key role of language-based activities in their experience.

All students are here referred to by pseudonyms. For those in the longitudinal study, represented by given names, the number indicates the interview from which the quotation comes (see Appendix One). Initials indicate a participant in the retrospective study.

Student reports on their reading

The value of reading

In his second interview, Thomas expressed the value of reading thus: “I depend on myself and read the book. I think, you know, my speaking is poor, so I didn’t go to depend the lecture” (2). This view was widely shared by participants. The contribution reading could make to their learning was seen as multifaceted. In itself it could provide understanding of content, but done in advance, it could also provide more access to lectures, thus deepening learning and allowing them to embody more fully the imagined experience of being a university student:

If I did preview reading and then I go to lectures, everything after the lecture finish, everything's in my mind. I will understand really better and I know all the details and I know what's going on there. (TY)

It was also essential for assignments, and the time needed for this reading often precluded any other, even the prescribed textbook. Reading contributed, too, to the advance of other English skills:

The amazing thing, reading help listening I find, not only writing. Reading I found in the four part, reading, speaking, listening, writing, I think is the key point. (DX)

In the event, however, they discovered that their reading skills were not initially able to produce all of these results, either as a result of the opacity of the texts ("I just open the book, I look at the book and book look at me, and I was so nervous. Nervous and nervous," DX), or because of time demands. Assertions of the value of preview reading, including TY's above, were generally followed by admissions that they rarely had time for it.

Early multiple readings

Detailed accounts of their early reading show why time was a significant feature. Connor, at the end of the first semester, described his process for finding meaning. The over-dependence on bottom-up processes for difficult texts predicted by Macaro (2003) was evident in his description of his initial approach to a text:

First time I should find some words which I don't understand, and try to clearly what's the meaning, because sometimes the word have a lot of meaning, I don't know what meaning is good, fit for the principle ... write some notes in the textbook. (3)

However, the patched-together sense that this process gave was insufficient for the understanding he needed, so he followed this reading with a second, the text now annotated with L1 translations of unknown words, which allowed him to think about the whole meaning more. This still did not give him a firm enough grasp to allow him to integrate the meaning for his own use:

I know something but hard to describe it and explain and write the whole thing, essay, for explain the question or the problem. But in the third time maybe faster, reading is faster, because I have done it twice, so—also I should write down something and make some notes by myself. (3)

The third reading was thus a process of participation, and an interaction between the levels of reading (Grabe, 2009), achieving the fluency necessary to allow Connor to unify the meaning for himself. Interestingly, he said there was also a gradual transfer from thinking in L1 for the first reading, "because it is easy to

understand the meaning of the principle,” to trying to commit it to memory in L2 on the third reading “because the text in English.”

Other participants, too, spoke of this multiple-reading approach ending with a final holistic reading, “fast and deeply” (Scott, 3). For CN, this had made the difference between a first semester failure and a second semester B+, “because in the second semester I read the book five times, but the first semester just only one time, even [if] it’s hard.”

Reading was heavily implicated in the difficulties and the extreme demands of time that participants struggled with in their first semester. As suggested by Grabe (2009), however, when readers encounter and recognise reading difficulties, they are likely to develop strategies to overcome them. While reading remained time-consuming to all the students who remained in my study over the course of their degree, they were able to make it far more effective. Strategies that were significant in facilitating their work as students in later semesters are indicated below.

Becoming skilled readers

Reading with a ‘blueprint’

A key issue in the early period of study was the ability to build an overview of meaning, which Scott (3) called a “frame on my mind.” The students were aware that they had a role in participating in the meaning of texts by connecting it with a world beyond: “You know, sometimes not just read, when I read, I need to think and understand and connect with a lot of parts. It takes me time” (Linda, 2). However, in unfamiliar disciplines these were novice readers often lacking the prior knowledge to draw the parts of the dense text together into an overall interpretation: “there’s no blueprint in my mind” (JN).

We can see above how Connor’s first two readings prepared for the final fluent reading when pertinent meaning emerged. Initially some students struggled to see the relationship between different course materials and processes, but eventually these, too, could provide the framework they needed. For example, two of the students mentioned the Study Guide prepared by the teacher to give information and guidance about the course. It summarised key points which allowed them to read with more specific goals drawing from the textbook what was important to the course, and equally crucially, indicating what could be left unread. In later semesters, greater familiarity with a discipline, as concepts and vocabulary became familiar, similarly provided such a frame.

Guessing meaning and reading for gist

Another student, Gemma, found by Semester Two that incessant dictionary use impeded understanding, and reversed the process, choosing to “read the whole thing through without any hesitation, and then just highlight the words that I didn’t

know and go back” (4). Reducing dictionary use was a method that depended, though, on high tolerance of ambiguity. Gemma, who had had one of the highest levels of English on enrolment, felt by this point that she understood about 60% on first reading and May found, using the same strategy, that “I just know what they normally talking about but not actually what sentence for that, what sentence for the other one” (4).

The strategy of reading for gist in spite of unknown vocabulary was one that could be called on only when there was a closer match between level of proficiency and demands of the text than most had arrived with. Notably no accounts of reading this way occurred in Semester One. Nor was it always appropriate: May became flexible in her reading strategies, pointing out that when she was reading for assignments she needed more certainty: “I will read very carefully for each sentence and try to catch it and understand it” (4).

Reading on target

Another way that participants became more efficient readers was by learning how to locate and record relevant material. In the first semester, a number of students mentioned the difficulty of identifying which books, and which parts of books, would be useful, and keeping track of their ideas. By his final semester, Mike found:

It's more confident to find the exactly useful book and then I will just looking for the major part, so it's more quickly, more effective. ... and then I will compare this book and the other book, the ideas, and textbook so I will choose just one useful. (5)

His strategy was to reduce the challenge of synthesising ideas by restricting the number of sources he used.

Reading more widely

At various times participants talked of hoping to read more widely, but attempts were usually truncated by another due date. However, at the end of his first semester, Gao, a very highly achieving student, was able to add value to an assignment by doing so, and gained personal satisfaction:

actually the more reading the more knowledge I can get, which is not included in the paper, I can get extra experience. ... I did some extra reading, so I can use different technique from other students. And I enjoyed. (3)

By his final year, Mike was discovering pleasure in reading: when “I need to find resource, sometimes I'm read a book find a related topic, but another topic is interesting, I will still read a little bit” (5).

Reading critically

“Critically analysing and transforming texts” is the fourth role identified by Freebody and Luke (2003), and a goal that we can recognise as one of the university’s core values (e.g. Nightingale & O’Neill, 1994). Not all participants were confident that they reached this stage:

Maybe it’s because of my culture, you know, back to China we would not encouraged to have critical thinking. We just believe what teacher say and what the books say. No, I still believe my professor and books.
(Gao 5)

He and others did recognise a questioning impulse, but were influenced by the course itself: “I do have critical thinking but it is something Professor has her own belief and you might believe” (Gao, 5). May (5) said that she questioned what she read at all times, but would suspend her disbelief in cases where it seemed that the course materials supported a particular reading. This was very likely a wise strategy in undergraduate courses.

One student’s journey: a longitudinal account

The interviews of one of the students, Mike, provide a coherent account of his development as a reader, reflecting many of the aspects already described (see Table One). Although he proclaimed himself to be a very limited reader even in L1, his initial enthusiasm about reading for study was obvious: “Before the lecture I read the books and see the WebCT and then the tutor say anything, I know. Because I read the books, textbooks” (1). However, in his first few weeks, he found his books ceased to provide such clear links:

No idea about what I should do and even I do that I still no idea, ‘Oh, why I do that? and what I do?’ ... and waste time, and open the book and for few hours I just read little page. (Mike, 2)

His difficulty was that he could not draw sufficient meaning to relate the text to the course content: “Not useful for me because I haven’t read it carefully. I just general, or something” (2).

The first step forward in his process came as he prepared for his first test, held in Week Four of the semester. He amassed together his own notes from the lectures, the printed lecture notes, the textbook, and, crucially, the previous year’s test paper lent by a friend, and this provided for him the “blueprint” required, guiding him to what meaning needed to be drawn from the reading and how it related to other parts of the course: “I saw that and, oh, this question relates to the textbook and my notes and I should read my notes and text carefully with the lecture notes” (2). The restoration of his sense of competence as a university student was evident:

“The result [of the test] is good and I know I’m doing this is right and it’s useful” (2).

There was, though, another major lesson that Mike needed, and it was the exams, and in particular his failure in one of his courses, that provided this:

I realise when I read the text or books I think [if] I understand, I can remember, so I just general read the books and then actually I can’t remember. (3)

Participation in the meaning was not sufficient to support university study demands; to use texts functionally here he needed to read for long-term retention.

Two features of his second semester reading advanced his skills and his sense of competency as a university student. The first was developing strategies to control his use of library sources (see above, ‘Reading on target’), and the second was his ability to “read the book in different way and I get the opinion in my own. Because in China they always use one way to look at the question” (4). He counted this nascent critical approach as the most important way he was learning at the university at that point.

In his final interview, he reported that he sometimes took time to follow up reading of interest that did not relate directly to his course needs (see ‘Reading more widely’). Mike was not a high-flying student, but for someone who had never read a whole book in Chinese, these gains were invaluable, and contributed to his firm sense of the value of his New Zealand experience.

Table One: Mike learns to read for the university

Int	Situation	Mike’s account	Strategy adopted
1	<i>Preparing for lectures</i>	Before the lecture when I read the books and see the WebCT and then the tutor say anything I know.	<i>Preview reading</i>
2	<i>Unable to draw meaning from reading. Looking at course material in conjunction with test paper Notes taken from reading without careful references</i>	No idea about study and worry about the textbook. Many vocabulary I don’t know and I’ve got no idea what they are talking about. I borrow my friend’s last year’s test, I saw that and, ‘Oh, this question relates to the textbook and my notes and I should read my notes and text carefully with the lecture notes.’ I read the books and I just generally read and, ‘oh, this idea is good, I’ll write down that.’ And somebody called this books and I return to library, and a few days later I read my notes, ‘Oh, what did this idea come from? Oh, I think it’s this book but I returned.’	<i>Preview reading abandoned Careful reading with purpose provided by course materials Systematic recording of references</i>
3	<i>Connecting textbook reading with course work</i>	First time I will general read the books and second time I will more focus on the notes on the textbook. Notes? I draw it at the first time and I will according to the lecture notes.	<i>Multiple reading</i>

	<p><i>Recording dictionary translations on reading materials</i></p> <p><i>Low exam results because of poor recall from reading</i></p>	<p>just like the concept, if I use English to explain what it may be a long ... if you translate Chinese just two words, I understand what the whole thing is.</p> <p>I realise when I read the text or books I think [if] I understand, I can remember, so I just general read the books and then actually I can't remember.</p>	<p><i>Using L1 to support L2 reading</i></p> <p><i>Reading for retention</i></p>
4	<p><i>Locating useful material efficiently</i></p> <p><i>Keeping track of ideas from reading</i></p> <p><i>Confusion arising from trying to incorporate a range of similar sources.</i></p> <p><i>Finding reading involves personal interpretation</i></p>	<p>First I will look at the book's name and the table of content, and I found the [headings] and I open the book.</p> <p>First I will write some [heading] and I will read the books and mark the page on the paper. And later I can find.</p> <p>I read many books but final maybe I will just use one or two. ... Because I found if I read too many books and I think this is important, it's useful and mark down and later that book is the same, and so I will find confused sometimes.</p> <p>I can read the book in different way and I get the opinion in my own. Because in China they always use one way to look at the question.</p>	<p><i>Using layout to assist navigation</i></p> <p><i>Recording page numbers with quotes</i></p> <p><i>Being selective after initial wide reading</i></p> <p><i>Evaluating reading</i></p>
5	<p><i>More efficient preparation of assignments</i></p> <p><i>Using reading to support a personal stance</i></p> <p><i>Reading beyond assignment topics</i></p>	<p>It's more confident to find the exactly useful book and then I will just looking for the major part, so it's more quickly, more effective.</p> <p>then I will compare this book and the other book, the ideas, and textbook so I will choose just one useful. In the first year I will put all the related topic together, so sometimes confused.</p> <p>[when] I need to find resource, sometimes I'm read a book find a related topic, but another topic is interesting, I will still read a little bit. (5)</p>	<p><i>Locating useful material without wide initial reading</i></p> <p><i>Being selective based on personal ideas</i></p> <p><i>Reading for personal interest</i></p>

Discussion

The reports above indicate a gap between on-arrival skills and expectations and the demands of university reading. The question arises whether this gap could have been reduced.

All students quoted here had attended English language centres in New Zealand before their enrolment. Significantly, though, like many other international students aspiring towards further study, they had enrolled not in university preparation courses, but in general English study, which they interpreted as an appropriate pathway to the IELTS score needed for bachelor degree enrolment. Foundation courses were required only for those with no tertiary study experience in China, and participants assumed they were remedial and unnecessary for more experienced students ("Foundation is rubbish," commented Saul, 4). The discussion that follows of how the reading required for their general English courses might have differed from what they met at university draws on comments from the students, but also from teachers and from consultation of texts being used in English language centres at the time.

Although the students were extremely positive about their language centre experiences and believed they had been very effective in orienting them towards life and study in New Zealand, when asked how they might have been readier for early challenges, they did have a few suggestions. One of these was using texts with an academic focus and level, “kind of potential education, or that kind of background education to help, or to influence the student to familiar with the real university life”, rather than “kind of fairy tale, lovely story” (4) that Saul remembered. They may not have been the norm, but a disconnect between the two types of text is indicated.

Another major area of difference was length and treatment of text. IELTS reading texts are far shorter than what was required for university courses, as are those from commercially produced reading textbooks (e.g. Glendinning and Holmstrom, 1992, and Seal, 1997 include no readings longer than about two and a half pages). This controls the cognitive load, as students do not have to retain and build up meaning over an extended period of reading. Nor is there usually any requirement for long-term retention of content as in university exams: “I just read the book, I know! But maybe the next week but I [indicates nothing]. So just reading, so sometimes you easy to forget” (Mike, 5). Participants pointed out that remembering in L2 is extra challenging, and the importance of putting effort into doing so was one of Mike’s moments of metacognitive advance, achieved only at the cost of failure.

It is likely that the students’ language centres had provided reading activities that introduced them to a range of reading strategies. This is certainly a recommendation frequently made (e.g. Grabe, 2009; Harmer, 2007; Hudson, 2007). The participants’ inability to transfer these initially to university reading can be explained by the very challenging texts. Guessing vocabulary from context, or deciding which words could be ignored, had to be deferred until the students’ academic and discipline-specific vocabulary approached the level suggested by Nation (2001) and Coxhead (2000) above. Using predictive skills to organize expectations prior to reading (e.g. Harmer, 2007; Glendinning & Holmstrom, 1992) was not possible without an initial “blueprint” or “frame”. Eventually, course materials and growing knowledge provided them with something they could use as an advance organizer, but this was often in contrast to an early period of total incomprehension and helplessness.

Re-constructing reading in dilemma-driven learning

Within the university, stakes were high, with assessments that would contribute to final marks beginning within four weeks of semester start, and participants invested a great deal of energy in becoming more efficient readers. Lave and Wenger (1991, p. 33) talk of “the concerned (engaged, dilemma-driven) nature of learning activity,” and that notion is relevant here: these realisations were wrung from lived imperatives. Two of the students, for example, gave up when there

were no obvious routes to learning content from their reading, but the threat of failure forced them to revise their decision. This was another area where they noted a difference between the language centre and the degree study. While their periodic attempts at the IELTS exam had provided a pass-fail imperative during their preparatory period, individual course tasks did not, and Mike recommended teachers should insist that students complete assignments, “because sometime I haven’t” (4). However, he also emphasised the challenge of getting such a messages across: “If just do the preparation, I think many people still not really understand, not really got the message, got the meaning of what we are doing” (5). As long as students had only to gain an IELTS score, language centres were seriously limited in how well they could demonstrate the importance of what they advocated.

Implications

It is important, of course, to point out that the study was based on a small number of participants (22 in total), but that, especially for those in the longitudinal study, the methodology allowed for a close attention to developing skills. The accounts were very consistent with each other and so can be seen as useful in providing insights into the lived experience of entering a new academic culture.

The discussion above has outlined some of the ways the language centre experience of these students appears not to have provided a very direct preparation for the harrowing demands of university reading. However, the complexity of the teachers’ task in bridging the passage between very different academic cultures, recognising and responding to affective jolts, and looking ahead to future demands should not be underestimated (Singh & Doherty, 2004). Participants felt that in most of these roles they had been highly effective. Their accounts of their own preparatory period showed they were very fixated on the end goal of IELTS, and teachers report that such students are often unwilling to deviate from what they see as direct exam practice. The understanding of life after IELTS only came later:

’Cause for the language school student thinking, ‘Oh, I got 6, in the university, I can relax!’ That is the point they think are wrong, totally wrong. It’s not true. They have to work harder, harder, harder than language school. (Scott, 4)

The appropriateness of IELTS as the major criterion for enrolment has been a matter of discussion among second language teachers and researchers (e.g. Moore & Morton, 2005; Read & Hirsh, 2004), but less so, perhaps, for others in authority. In relation to reading and other skills, this research supports the value of encouraging students to undertake more focused preparation for the demands of university study. Participants showed a clear predilection for learning from experience, and a prior course more closely aligned to university demands, including the possibility of failure, would provide them with important

experiences from which to learn. The point would not be to try to increase their general proficiency to the point where university texts became easy to them, but to undertake a collaborative process of discovering how best to use existing proficiency in the most efficient manner, how to adopt learning practices that allow more access to course and supplementary materials.

In terms of reading, I would suggest that this should include exposure to long texts at a level that approaches those used in first-year university courses, including book-length texts; use of tasks which lead them towards finding relevant content for themselves, and synthesising this with material from other sources to produce spoken and written texts; the location of library and other resources, and evaluation of their suitability; and the requirement to retain content well beyond a brief unit for exam writing. These components could be integrated into a unit of work of value to the students, which engaged them intellectually, for example, a study of New Zealand society that would provide them with a little more access to the worlds their teachers and fellow students draw on in talk, another barrier some of the participants experienced to easy entry into their new communities of learning.

My final recommendation would be, therefore, for the universities themselves. Around 50% of participants in this study failed a first year paper. Although this was often a spur to new understandings of study requirements, there was a major cost in both monetary and affective terms. Perhaps it is time for universities to re-think their entry criteria and to include an element of specific preparation for those whose prior education has been in very different academic cultures. This would add an extra upfront fee, but that would likely be balanced out by the removal of the current unpredicted cost of failure.

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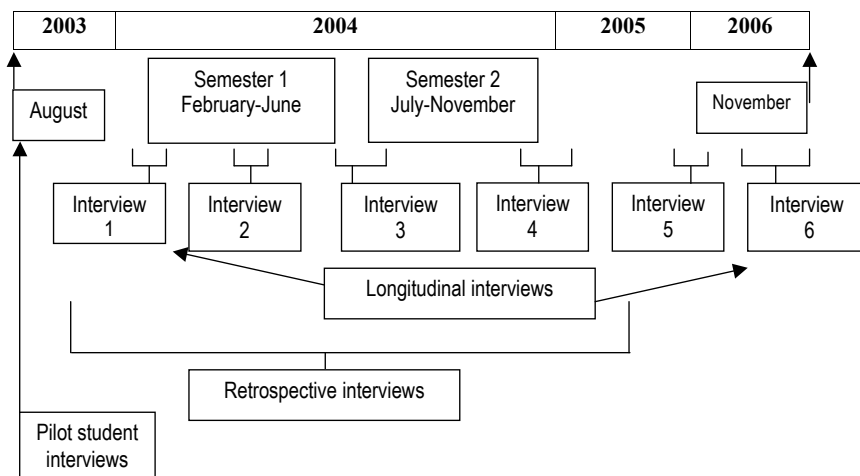
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Appendix One: Key to participant coding and interview time line

Participant coding

All names used are pseudonyms. Given names pseudonyms are used for participants in the longitudinal study, and the numbers after the name indicate which interview the quotation comes from (see Figure 1 below). Initials are used for participants in the retrospective study.

Figure 1 Time line of data collection



REVIEWS

Alderson, J.C. (Ed.). (2009). *The politics of language education: Individuals and institutions*. Bristol: Multilingual Matters. 236pp. ISBN 978 1 84769 142 2.

Reviewed by ROGER BARNARD, University of Waikato

This is an important new book presenting nine case studies on the micropolitical agendas of individuals and institutions involved in ELT projects in various parts of the world. It opens windows on some nefarious activities usually hidden from public eyes, but which may be well understood by those who work in the academic and professional worlds of (English) language education.

After a seven-page overview of the topic of micro-politics and a summary of the nine case studies, Alderson's first chapter sets the scene with a 37-page review of key concepts which provide a rationale for the book. He begins this with a dozen vignettes of misconduct by individuals or organisations involved in different sorts of ELT projects in various parts of the world, claiming that such "tales from the field" are simply not reported in publications about such projects (a matter which he discusses from his personal experience at more length in the final chapter in the book). He argues that there is a need for honest and open descriptions of the real process and outcomes of language education in specific cases, so that an appropriate and adequate theory of the politics of language education can eventually be developed. In this respect, he is following up the point made by Fishman (1994, p. 91) that language planning needs to be informed by ethnographic studies, and later by Kaplan and Baldauf (1997) and Baldauf (2006), although, interestingly, he does not refer to any of the standard works in the area of language policy and planning by these and other authorities. His review of background sources, however, is otherwise broadly based, taking into consideration key works in psychology, general education, organisational culture, etc.

This is followed by an explanation of the key distinction between macro- and micro-politics. Alderson quotes Blase (1991, p.1) that "micropolitics is about power and how people use it to influence others and to protect themselves." The rest of the chapter is taken up with consideration, from various theoretical positions, of how individuals interact with others and with organisations, concluding with a consideration of the nature of politics in commercial and quasi-commercial organisation, and in some educational contexts in particular. Table 1 sets out the broad details of each of the nine studies.

Perhaps not surprisingly, given the discourse community in which Alderson is engaged, most of the chapters discuss projects concerning testing and evaluation. Nevertheless, the issues raised are of broader concern, as may be seen from some of the implications I have drawn from the chapters. It is impossible in a short review to cover all nine cases, so I have decided to focus on Chapter 6, partly because testing and evaluation are outside my specific research interests, but more particularly

because the fate of foreign and English language teaching in British universities resonates with the current state of affairs in New Zealand's tertiary institutions.

Table 1: The nine studies

Ch.	Setting	Period	Focus of project	Implications
2.	a) Nepal b) West Africa	a) 1980s b) 1960s	a) survey of national ELT b) examination reform	Language is always a political issue, and professionals need to compromise sentimental with instrumental.
3.	Low income Asian country	1990s	INSET examinations textbooks	Delivery of ELT aid projects needs to focus on process, especially against a background of saving face.
4.	China	1990s	a) from teachers to trainers b) from trainers to managers	Intended plans and reforms will be implemented unpredictably to suit local political agendas.
5.	Ireland	a) 1990s b) 2000-2008	a) ESL to refugee immigrants b) ESL in Irish state schools	Governments need to develop policies that reflect real multicultural complexity.
6.	Two English universities	2000s	a) foreign language teaching b) teaching / testing of EAP	ELT and FLT have become commercialised and de-professionalised.
7.	NATO members (esp. Poland)	2002-2006	language coordination	Micropolitics can become the determining factor in international educational policymaking.
8.	Various	2000s	language test development	Local contexts should have a significant influence on all aspects of a test developer's work.
9.	a) Slovenia b) Hungary	a) 1990s b) 1990s	a) examination reform b) examination reform	Major (test) reforms must take political and personality factors into account.
10.	Europe	1996-2006	testing and accreditation	Unclear directives and top-down approaches have so far been unsuccessful, and have been severely criticised by professionals.

Glen Fulcher states that the aims of his chapter are firstly to describe the general picture of language education in UK with particular reference to modern foreign languages (MFL) and TESOL/EAP, and then to report on questionnaires sent in 2007 to 104 TESOL/EAP providers in UK universities, with a separate set of questions

sent to three of the larger organisations soliciting universities to outsource their TESOL/EAP provision and to academic registrars of universities which had outsourced, or were about to. Both sets of questions are appended to the chapter. In his overview, he points out that there is a clear trend for MFL departments to cease language teaching and focus on literary or cultural studies, and an even more pronounced tendency for TESOL/EAP to be viewed more as a commercial than an academic activity. He illustrates these issues with reference to two case studies of (anonymous) universities; in the first of these, the costs of MFL have increased while central funding has been reduced, and EAP activities have cross-subsidised MFL departments. Neither the teachers of MFL nor of TESOL/EAP have academic status. He summarises by saying that the desire of universities for more and more international students means “not the organised mobility of mutual exchanges, but the spontaneous mobility of fee-paying individuals” (p.131). In his second example, EAP and applied linguistics were treated by the MFL professor newly-appointed to the School of Languages “purely as a commercial enterprise designed to generate funds for its School and the university” (p.132).

It was against this background that the survey of EAP providers was made, and Fulcher presents the findings in terms of organisation and activity, academic activity and entrepreneurship, staffing and provision, testing and outsourcing. In summary he states (p. 138-9) that TESOL/EAP teaching is becoming increasingly marginalised and commercialised, that staff are given few or no opportunities for scholarship or research, and programmes are subject to outsourcing to commercial providers. To explore the latter issue in more depth, a set of questions was sent to three of the main commercial organisations bidding for TESOL/EAP contracts. Two responses were received, both declining to address any of the questions. A similar fate awaited the survey of registrars at (an unstated number of) universities. In the light of this negativity (perhaps not surprising, given the somewhat aggressive tone of his questions), one might query the usefulness of including a discussion of the single substantive response that was received.

The chapter ends with a number of conclusions, all of which toll a sad bell for TESOL/EAP provision in UK universities. Senior management at universities may become convinced that TESOL/EAP provision is merely a sub-degree pre-university activity, and “administrators are easily tempted to de-professionalise the discipline in the search for new sources of income” (p.142). Many language centres cease to engage with scholarship and research, and the most successful TESOL/EAP units are those located within independent academic departments offering programmes at all levels. Fulcher ends by saying that TESOL/EAP units need to evaluate how their activities, academic programmes, and staffing policies rate in terms of the issues raised in this chapter.

Fulcher’s chapter, like several others, serves to remind readers that micropolitics is not a phenomenon that occurs merely at an individual level, or even as an internecine

struggle for power within an office or a department. Rather, the perversion of ostensibly educational projects to serve self-interest can operate at the highest levels of any institutions – as the subtitle of the book clearly suggests – and universities can be tempted into degeneracy of this nature. We may not, of course, need to be told this in New Zealand, but the case studies discussed here can alert us to signs of its potential occurrence, and to take appropriate steps to avoid the negative consequences of power play. I hope that a wider readership of this ground-breaking new book will stimulate more, many more, critical case studies of the politics (or *realpolitik*) of language education.

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Edge, J., & Garton, S. (2009). *From experience to knowledge in ELT*. Oxford: Oxford University Press. ISBN 978-19-4422710. 204 pp.
Reviewed by CLARE CONWAY, AUT University, Auckland

This book, from the *Oxford handbooks for language teachers* series, started out as a revision and update of Edge's 1995 *Essentials of English language teaching*, but ended up *From experience to knowledge in ELT*. The essentials are still covered. Part One of the book (*Familiarization*) introduces and explores the main elements of the ELT classroom: learners and teachers, the process of language learning and teaching, the English language, the classroom environment, and types of teaching materials and equipment available. Part Two (*Action*) focuses more on teaching methodology and teaching procedures, and includes chapters on classroom management, language and communication, language skills, testing and professional development. Two broad approaches to language teaching are usefully introduced in Part One: *from communication to language*, and *from language to communication*. These provide a framework for the authors to present approaches in more depth in Part Two, where they introduce task-based learning and presentation-practice-production, and provide detailed examples of these approaches.

There are many new concepts for language teachers to explore, and Edge and Garton cover the field well. For example, the 18 pages of Chapter 6 (*Classroom Management*) introduce needs analysis, lesson planning, aims and objectives, sample ice-breakers and teaching materials, interaction patterns, teacher graded language and instructions, teacher talk time, use of L1 in the L2 classroom, and classroom behaviour. It can be a challenge to present such a range of concepts coherently, but the authors do this effectively. Concepts are clarified through reference to extracts from teaching materials in published course books. These are mainly UK-based, with only one extract relating to an Australasian context. Some materials are recycled in different chapters to illustrate different points. This creates a sense of familiarity, reduces the effort required to understand completely new materials and adds to the overall cohesion of the book.

Sample classroom dialogues between teacher and students are used in a number of chapters to effectively introduce concepts, and in some cases these dialogues are also recycled. For example, in Chapter 1, dialogues are used to show how a teacher informs learners, provides modelling, gives feedback, and encourages students. In Chapter 6, the reader is asked to determine which of these dialogues are at a lower language level. A summary at the end of each chapter recaps its main ideas. A key to questions and activities is included in the book, as well as a list of sources and further reading. The index has a number of terms in bold, indicating they are explained in the book's glossary and also included in the glossary for the *Cambridge teacher knowledge test*.

The target readership for this book is pre-service teachers or teachers of English who lack formal training. The authors have kept in mind teachers from an EAL background, and have written the book in simple, clear language. They have also used an inclusive style of writing (e.g. “We’re going to start with”) which speaks directly to the reader. Readers can imagine themselves sitting down and conversing with two friendly, knowledgeable teachers who are able to clearly explain concepts, pose questions, elicit experiences and build on the knowledge of the less experienced teacher. The questions and activities section at the end of each chapter prompt readers to link the general ideas to their own experience, both as learners and teachers.

While the essentials are covered, one area that is omitted is any explicit mention of intercultural language teaching in ELT. There is a short paragraph about learners’ different cultural backgrounds and attitudes, and a brief description of differing concepts of politeness. However, there is no further exploration of how awareness of other cultures and intercultural competence might be developed in the language classroom. The authors in their discussion of published materials, note that “course books are not infallible: mistakes creep in to any text; point this out to students in a positive way” (p. 56). They probably hope that reviewers will be similarly gentle in pointing out mistakes. There are some minor proofreading oversights; however the wrong answer on p. 184 to an activity on p. 28 could be confusing to the novice teacher. All in all, this is a useful book for language teacher educators involved in providing introductory courses in language teaching, and particularly for teachers from an EAL background.

Nation, I.S.P. & Macalister, J. (2010). *Language curriculum design*. New York, Routledge. ISBN 978-0-415-80606-0. 224 pp.

Reviewed by ROSEMARY WETTE, University of Auckland

This welcome recent addition to the language teacher education literature on practical aspects of curriculum design for L2 courses has been developed from Paul Nation's course materials at Victoria University (Nation, 1996). Its main target readership is therefore graduate students; however, it also provides a wealth of information for experienced practitioners preparing to take on course design responsibilities and for those fortunate enough to teach in institutions that allow for some autonomy in course design and implementation. The book combines general description with knowledge gained from theory and research (although many of the books and articles cited date back twenty years and beyond, perhaps indicative of the relatively sparse attention given to this area of applied linguistics in recent years). Although the authors acknowledge that course design is a recursive process (reproducing the spiral diagram from Graves, 2000 in support) that can begin at any point and involve working with more than one stage at any point in time, the basic outline of the book is chronological: from environment analysis to course assessment and evaluation.

As in Paul Nation's 1996 text, the curriculum design process is conceptualised as a "Mercedes symbol" comprising three outer circles (environment analysis, needs analysis and principles) that are usually attended to before the designer moves to the inner sphere, which is also made up of three components: content and sequencing; format and presentation; and monitoring and assessment. Following an introductory chapter, Chapters 2-4 examine the three outer circles. As with the other chapters, *Environment* and *Needs analysis* (Chapters 2 and 3) present information clearly under five to seven subheadings and make use of tables and diagrams to summarize key points. Case study scenarios (the 1991 Nation and Crabbe study appears in several chapters) and other types of examples give readers opportunities to try out their own decision-making skills. Suggested options and solutions from the authors would be a welcome addition here.

Surprisingly, Chapter 4 begins with a section on the designer methods that the authors acknowledge "very few teachers or researchers now follow" (p.37) – or probably ever did, in the case of ESL teachers in New Zealand. This being so, information about core principles of communicative language teaching – the dominant paradigm of the last thirty years – might have been more appropriate. This chapter sets out twenty principles of curriculum and methodology that the authors believe should underpin any type of course, organised into the same three main sections (content and sequencing, format and presentation, and monitoring and assessment). The fifth chapter moves on to describe various units of progression or pivots in a course: vocabulary, grammar, topics, genres, skills and sub-skills, among others. Language competencies or outcomes are an unexpected omission. Chapter 6 outlines the four main strands that Nation has presented elsewhere (2007) as the

essential underpinnings of any ESOL course: meaning-focused input, meaning-focused output, language-focused learning and fluency development. As in all other chapters, tables clearly recap the main points of information.

Chapter 7 moves on to consider various types of formative and summative assessment and also, in one short section, “observation of learning” by the teacher. If one sees the L2 curriculum as a co-construction between teachers and learners (within contextual constraints) in which teachers seek out feedback from learners about how the curriculum is being received in order to guide adaptations and additions to planned content, this is a particularly important component of the course design process. It has been described as a way of making learning visible, and one of the most powerful influences on learner achievement (Hattie, 2009). It would therefore have been good to have had additional information about teachers’ monitoring of the curriculum, and about how teachers can respond to what is observed.

The next chapter discusses steps in the process of course evaluation, purposes and types of evaluations, and evaluation instruments. Chapter 9 steps back to look at *waterfall* and *layers of necessity* approaches to course design, among others, and this is followed by a chapter drawing on Breen (1987) and Breen & Littlejohn (2000) to describe negotiated syllabuses. The final part of the book consists of three chapters on curriculum-related topics (*Adapting and adopting a course book*, *Introducing curriculum change* and *Planning an in-service course*) before the final chapter provides a review of the contents of the whole book. There is one appendix: A verb-form frequency count, based on George (1963).

As a text for students and teachers trying to come to grips with the multi-faceted nature of curriculum design, this book provides a straightforward and user-friendly introduction in which a wealth of practical information on curriculum, methodology (and vocabulary teaching!) is clearly and concisely presented. The book delivers on its promise to provide practical “how-to” information grounded in theory and research, accompanied by examples and case scenarios. What the book does not manage to convey is a sense of the dynamic, complex and often irregular nature of curriculum making, and the need for teachers to constantly attend and respond to how the curriculum is being received by learners. As a concise and informative guide to the basics of language course design, however, it is to be warmly recommended.

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Phillipson, R. (2009). *Linguistic imperialism continued*. London: Routledge. ISBN 978 0 415 87201 0. 289 pp.

Reviewed by ROGER BARNARD, University of Waikato

Are those involved in English language teaching (poorly-paid) agents of linguistic imperialism? According to this new book by the originator of the term, we are. The publisher's blurb states that this book "brings together writings by Robert Phillipson since the publication of *Linguistic imperialism*" in 1992, which implies that it is a compendium of *all* that he has written since that date. Of course this is not the case, as Phillipson has been a prolific author of many books, chapters and articles on this topic as well as on broader issues in language policy and planning.

The book begins by quoting in full the entry for *linguistic imperialism* in an encyclopedia (Brown, 2006). Eight chapters and six book reviews (all published in the past ten years) then follow. The only exception is the first chapter, which explains the choice of the contents of the book in terms of the present-day relevance of the arguments presented in 1992, and the controversies they caused. In particular, Phillipson discusses Pennycook's (2001) *Critical applied linguistics*, pointing out the ways in which that book misinterprets his 1992 approach. In subsequent chapters he takes issue with other authors who he believes have also misrepresented his views.

Chapter 2 is a reprint of a work first published in Ricento (2002), which was essentially a critical review of three books on English as a world language (Crystal, 1997; Fishman et al, 1996; Graddol, 1997). This review enabled Phillipson to critique their "de-ideologized" attitudes by emphasizing that it is impossible to be ideologically neutral of the role of English in the new world order. He does this by citing evidence from scholars in peripheral countries which directly experience "the global dominance of neo-colonial relations policed by a handful of Western nations" (Ngügi, 1993). In contrast, the third chapter on *Language policy and linguistic imperialism* focuses on the impact that Americanization (especially since the G.W. Bush administration) has had on language policies in the European Union, and the resistance to this rapid development from politicians and scholars across Europe. Here, Phillipson repeats his 1992 point that linguistic imperialism dovetails with other forms of imperialism (cultural, educational, scientific) and argues that it is now necessary for critical sociolinguists to tease out and theorize "how globalization dovetails with Americanization and Englishization" (p. 57).

In Chapter 4, Phillipson takes issue with the frequent assumption, most notably in Spolsky's (2004) *Language policy*, that his 1992 book subscribes to a conspiracy theory. Spolsky argues that the global dominance of English is merely a by-product of "the changing nature of the world ... because the remaining superpower used it unselfconsciously" (Spolsky, 2004, p. 88). To neglect the evidence contrary to this view, Phillipson claims, is itself a conspiracy of silence. He goes on to state that:

The reluctance to countenance the interlocking of multiple agendas and the English teaching business (buttressed by the myth of these activities being apolitical) with geopolitical goals is symptomatic of a positivistic disconnection between identifiable activities and the wider picture of strategic political, and economic interests (p.76).

It is worth quoting this extract at length because it encapsulates Phillipson's thesis, one which he develops throughout the chapter with quotations from American policy-makers from George Kennan in 1948 to Condoleezza Rice in 2001.

Chapter 5 reverts to a consideration of the linguistic situation in Europe, and Phillipson asks whether English is no longer a foreign language in the constantly enlarging Union. By this, he means that the increasing dominance of English across the continent for political, economic and academic purposes poses a "threat to the language and cultures of EU member states" (p.96). Such widespread use of English has led to the notion of *English as a lingua franca* (ELF) across Europe, as elsewhere. He concludes the chapter with a strong critique of the neutrality of ELF assumed by proponents such as Seidlhofer (2004) – a point to which he returns in the next chapter but one.

In the sixth chapter, Phillipson traces the development of global English to the point where English has become "the dominant language of intranational communication in an increasing number of countries worldwide" (p. 106). He numbers amongst its "cheerleaders" Churchill, Roosevelt, the administration of G.W. Bush, organisations such as the Centre for Applied Linguistics in Washington, DC, the British Council, and individual followers (academics, teachers, parents, etc) who opt for a neutral stance because this will best suit their personal interests. Although he insists that he is not a conspiracy theorist, one of the definitions of 'conspiracy' in my *Shorter Oxford English dictionary* is "an agreement between two or more to do something criminal, illegal or reprehensible." The weight of the evidence Phillipson presents suggests that there are indeed agreements between various parties, such as the British and American governments – and between examination boards, publishers and language schools – to promote the dominance of English to reinforce and extend their political and financial agendas. Perhaps it depends on whether or not one regards this as "reprehensible".

Chapter 7, entitled *Lingua franca or lingua frankensteinia: English in European integration and globalization*, begins with a brief exploration of the history and different uses of the first of these terms, along with others such as *lingua emotia*, *lingua cultura* and *lingua divina*. This is followed by what Phillipson sees as the frankensteinian consequences of the dominance of English linguistic and cultural norms across the continent, despite the multilingual and multicultural ideals of the *partnership for European renewal* proposed by EU Commissioners in 2008. To illustrate his point, attention is focussed on the promotion of *English studies* in an

increasing number of European universities. The many issues in this chapter are (to my mind, at least) somewhat unsatisfactorily drawn together in two tabulations of the two projects of lingua franca and lingua frankensteinia. The chapter is followed by seven comments published in the journal in which the original article was published, *World Englishes*, and a summary response by Phillipson. Frankly, I do not think that much is added to our understanding of the issues by these addenda, and they are part of what I consider to be the weakest chapter in the book.

The final chapter, *English in higher education – panacea or pandemic*, addresses the increasing use of English as the medium of education in universities, which some – and he points the finger again at Graddol and Crystal – see as a panacea to guarantee economic success in the globalised market, and for “the English language teaching business (which) has become one of the major growth industries around the world in the past thirty years” (Crystal, 2004, p. 37). Phillipson first looks at the situation in peripheral countries and then at the European context. Everywhere, with the possible exception of Scandinavian countries, he sees the overwhelming dominance of English has led the “deplorable neglect” (p. 207) of indigenous languages in academic discourse as well as a pandemic threat to academic freedom. This chapter was actually prepared as a keynote lecture for a conference in Hong Kong in 2008, and is reproduced here (as is the case with all the previous chapters) without further editing. This is a pity, as it would have been useful for Phillipson to have developed his arguments, and marshalled his evidence about this vitally important issue more fully. No doubt he will do so in the future.

However, it is the case that in most of these articles reported in this book, Phillipson does not develop a strong and coherent line of reasoned argumentation. Rather, he too often makes a telling point, provides evidence to support this point of view, and then moves away without evaluating whether those he disagrees with might have a valid argument, or critiquing his own position. Phillipson acknowledges (p. 22) that there is “a small measure” of duplication in an anthology such as this, which he hopes that will prove only a mild inconvenience. There are indeed quite a number of repeated issues, arguments, and quotations; any inconvenience can be considerably reduced if these articles and book reviews (which space has not permitted me to discuss) are read on separate occasions. My recommendation is that the readers of this book will do just that in order to savour the sharp insights put forward to support the author’s views on linguistic imperialism, and to reflect on the specific cases he discusses. One does not need to agree with Phillipson’s views, but they been of considerable influence and importance over the past two decades, as they undoubtedly will continue to be in the future: perhaps the book should have been called *Linguistic imperialism continues!*

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Tan, P., & Rubdy, R. (Eds.). (2008). *Language as commodity: Global structures, local marketplaces*. London: Continuum. ISBN 978-1-8470-6423-3. 228 pp.

Reviewed by DAVID COOKE, Honorary Research Associate, Unitec Institute of Technology

Our guide in Guilin took a while to get the travel information. When he came back, he said matter-of-factly that he'd had to go through six varieties of Chinese before being able to communicate properly. This kind of language diversity hints at the complex settings around the world that prompt the vivid and varied analyses of language policy that run through Tan and Rubdy's book. *Language as commodity* explores the concept of exchanging language for goods, labour and economic gain across Singapore, Malaysia, India, China, Africa and the Philippines, and driving language policy for that particular purpose. Quoting Rassool et al (2007, p.148), Tan and Rubdy concentrate on settings where languages "constitute a saleable commodity with regard to business and marketing, whilst for the clients they represent an investment in cultural capital which can then be exchanged within the global labour market (p.3)." Given this focus, the book is almost a companion volume to Lin and Martin's (2005) book *Decolonisation, globalisation*, which explores post-colonial and globalising influences on language planning and policy.

An early segment on Singapore sets the scene in quite stark terms, with Lionel Wee outlining the "instrumental" case that language serves largely economic interests. Singapore has made a deliberate policy choice to promote English for international purposes and Mandarin for access into China. Wee's analysis reverberates through the book, with different writers in effect positioning themselves in relation to it. In the process, we learn an intriguing amount about language policy and practice, national and official languages, and the histories that have contributed to them. This rich discussion takes place in the context of the current globalising climate that shapes language decisions and impacts upon users' own notions of the languages they adopt or wish to adopt.

The main counterpart to instrumentalism in the book is language as a marker of identity. This line of thought prompts Chng Huang Hoon, one of the book's contributors, to promote the case for Singlish, and for others to favour some forms of Chinese, Tamil, and Malay in Singapore. Singlish, states Hoon (p.59), can co-exist with Standard (Singaporean) English and act as a tool for communication as well as an identity marker.

Successive chapters emphasise the massive impact of globalisation on language choice through government policy. In Africa, for instance, Nkonko Kamwangamalu insists that, despite official policies to the contrary, English continues to displace local languages as the language of international opportunity. His detailed and dispiriting thesis brings to mind Mazrui's (2003) critique of World Bank policies

achieving just such an outcome throughout Africa. Interpretations of globalisation, however, are not uniform in *Language as commodity*. Bruthiaux's opening chapter argues that globalisation is a liberating force in language decisions, in the course of which he critiques applied linguists for failing to analyse the economics of globalisation, and for taking a negative attitude to it. And, somewhat curiously, Rubdy seems to argue both sides of the coin in one chapter. In a very erudite discussion, she first gives a forthright denunciation of the undermining effects of globalisation on language policy in India, then presents a totally contradictory position that draws on Thomas Friedman (*The world is flat*) to argue "a more nuanced case" (p.122) in support of the benefits of globalisation. Some chapters strongly criticise the effects of neoliberalism. Tupas, for instance, argues bluntly that language policy in the Philippines is simply at the mercy of neoliberal ideas of serving the market, specifically through "the further commodification of English" in the "fierce, but unequal competition for the world's resources" (p.89).

So there is challenging debate around significant issues throughout the book, though of somewhat uneven quality. David Block's chapter contesting the metaphor of LOSS (the loss of community languages) seems to rest on shaky foundations. Building on three case-studies of young London-based migrants, Block claims that language maintenance is not the issue that liberals would suggest with their "overly emotive and romantic tendencies" (p.199). But in each case, the informants cited have very weak links to the language in question, such as only "a rudimentary knowledge of Punjabi and Urdu" (p.196), alongside a strong desire to assimilate to their peer-group language and culture.

Hence, even though some few arguments seem debatable, every chapter challenges and informs our thinking and understanding of language planning and policy, language commodification, globalisation and neoliberalism and, inevitably, the imposition of English around the world.

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Tarone, E., & Swierzbis, B. (2009). *Exploring learner language*. Oxford: Oxford University Press. ISBN 978-0-19-442291-8 (pbk. + DVD) 185 pp.

Reviewed by JONATHON RYAN, University of Waikato.

Exploring learner language is a book and DVD set designed for teacher trainees at Masters and Diploma level, and would be suitable for in-house teacher development or for self-study. It is a practical introduction to learner language, involving a “hands on” approach to developing analytical skills. The core of the book comprises analytical tasks based on video recordings and supporting transcripts of learner speech. The data were collected from six L2 English learners and two L1 speakers, each engaged in six elicitation tasks. These are an interview, question task, retelling, narrative, jigsaw task, and comparison task. The six L2 speakers of English comprise two native speakers of Mexican Spanish, two Central African speakers of French, and two Chinese speakers.

Following the introduction, there are chapters on profiling second language learners, SLA research, errors and interlanguage, developmental sequences, learning in interaction, reference, complexity in language, and learner language in the classroom. The structure of individual chapters varies according to its specific focus, but each generally begins with an introduction to a pedagogically relevant aspect of learner language or language learning, followed by a brief overview of the main theoretical approaches to the topic and relevant practical issues. The reader is then directed to the DVD and excerpts from the transcripts, and prompted to analyse relevant aspects of the language. At the back of the book is an extensive ‘answer discussion section’ addressing each of the questions. This is followed by full transcripts of the DVD. Additional useful resources include a glossary, a sample research consent form, and photocopiable resources for three of the elicitation tasks.

The authors’ main purpose is outlined by Tarone (2009), who persuasively presents the case for extending teacher training beyond basic pedagogical skills and declarative knowledge to include the development of an understanding of learner language and analytical skills. The book aims to provide teachers with skills to focus on the specific needs of their learners, or as Tarone notes, “to get language teachers to teach learners – not books, or curricula, or tests, or parents” (2009, p. 7). This is probably the goal of many training programmes, but Tarone and Swierzbis recognize that trainees will typically be under-prepared if their courses focus solely on theory, lesson planning and lesson delivery. The missing element, Tarone argues, is guidance and hands-on practice in analyzing the language that learners produce. In approach, then, this book is a significant pedagogical advance in the education of language teachers. Furthermore, it executes this approach very well in its presentation of ideas, design of tasks, and user-friendly layout.

The introductions to key issues in applied linguistics are clear and concise, with their relevance to teaching made explicit through the guided analytical exercises. These exercises are the key strength of the book, and demonstrate the depth of insight that is possible from focusing on the language that learners produce. There is ample discussion of answers, although perhaps this would have been strengthened by showing that multiple interpretations of language data are possible. A second major strength of the book is its presentation of data. Unlike the generally limited samples published elsewhere, here videos are accompanied by transcriptions, and rich contextual details are presented of the language task and the learners. By using the same six L2 speakers across six tasks, there is a continuity which presents opportunities for analysing multiple aspects of each speaker's interlanguage. The data allows for alternative explorations beyond those suggested by the book. In addition, the production standards of the DVD are high, and the menu is easy to navigate. Throughout the book, the layout is clear and the space generous, with questions, extracts, discussion, and DVD sections all clearly cross-referenced. Helpfully, the transcripts are also reproduced as PDF files on the DVD to facilitate printing.

Although there are a number of other high-quality works dealing with learner language, *Exploring learner language* appears to fill a particular niche in being a workbook for teachers. Ellis and Barkhuizen (2005), for example, provide an excellent introduction for those engaged in, or about to engage in, research, but not the kind of text that is of practical use to working teachers. Of the other texts that specifically target practising teachers, *Focus on the language learner* (Tarone & Yule, 1989) presents a useful discussion of issues in learner language, and provides extensive appendices with elicitation tasks. However, such books are discussions rather than workbooks and, in my experience, few practising teachers refer to them outside of formal training programmes. What distinguishes this book is that it presents the immediate opportunity to develop analytical skills specifically relevant to teaching.

In short, *Exploring learner language* fills an important gap in existing teacher development materials by providing trainees with guided tasks exploring how features of learner language relate to insights from SLA research. The analytical skills likely to be developed through this process are essential aspects of professional practice, yet without the hands-on approach of this book, they might otherwise be only gradually acquired.

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Reviewed by DARREN CONWAY, Languages International, Auckland

When I moved from teacher to the position of manager and became Director of Studies (DOS), I received two forms of training from my predecessor. The first was shadowing her on the job for a couple of months. The second was her copy of Ron White et al's *Management in English language teaching* (1991) on extended loan. Both were invaluable and the "loan" has now lasted over 12 years. I don't remember exactly what I learned from the book, but it has always been reassuring as a solid, sensible and practical tome that I still occasionally dip into. But a generation later, this update was probably in order.

What drove the update? First, no doubt, was the opportunity to pool the experience of the International Diploma in Language Teaching Management (IDLTM), which White set up and on which he teaches. White's collaborators on this book are his fellow academics, and they draw usefully on the range of contexts in which they and their students have worked (for example, not-for-profit chains in the UK, colleges of further education in Australia, tiny family businesses in Greece) to provide, as might be expected, a solid practical guide to the fundamental management knowledge and skills required for this wide range of contexts. These include an understanding of organizational culture, strategic planning and implementation, marketing, budgeting, HR management and so on. This book ticks all the main boxes of what a language teaching organization (LTO) manager should know and be able to do.

In some areas it offers significant insights. For example, the decision to devote separate chapters to "*strategic* financial management" (Chapter 6) and "*operational* financial management" (Chapter 7), is inspired. Strategic management is about long-term resource allocation, the balance between investment and return, and how the organization can achieve financial goals, including survival. Staff pay, for example, is a strategic issue since who we can recruit and how we retain and motivate them determines what we can do. Operational management is the nuts and bolts of knowing how much we are spending and earning day to day, and how we can control and influence these. While they are typically conflated (as one chapter in Impey & Underhill, 1994, for example) both types of financial management are critical, and hence it is useful to highlight them individually. That said, the effect is somewhat undermined by the claim that higher management will be focused on the strategic, while DOSes are more concerned with the operational, since DOSes who better understand the strategic will take greater ownership of the operational.

To judge by the introduction, the second impetus for this new handbook came from increased complexity in the ELT industry and the accompanying (or encompassing?)

paradigm shift, “reconfiguring, in both private and public sectors... the traditional teacher-student relationship into a service provider-consumer relationship”. This is an intriguing potential point of departure for the book, even if the perspective is not really new: it reflects developments in the wider education community beyond ELT (e.g. Thrupp & Willmott, 2003), and in any case part of the value of White et al (1991) was precisely that it *did*, even 20 years ago, take a fairly commercial, service-oriented approach to ELT management. Unfortunately, in this current book White and his collaborators have squandered the opportunity to really take service and (by implication) the customer as their point of departure. Chapter One on *Managing in the LTO* is rather traditionally about “the manager”, albeit contextualized in a range of different types of LTO. The approach to the topic is essentially top-down. We have to wait 28 pages until the second chapter (*Organizational behavior and management*) for the implications of service orientation to be really explored in the form of “inverted hierarchy”, placing customers/students at the top and the directors at the bottom, or even more interestingly in the “fronted organigram” – the sideways-on model that places teachers ‘up front’ in the organization.

So, rather than adopt a more logically consistent and potentially engaging service-first organizational principle, the book plods through a fairly traditional scheme, and it tends to do so rather drily. While some effort has been made to intersperse tasks for the reader/user, it would have benefited from even more, and more interesting ones: readers are invited to draw a traditional organigram for their organisation, for example, but not to consider the implications of an inverted or fronted one for their organization. And the authors have been done no favours by the publishers, with a fairly dense and uninviting layout.

While a “service-first” organisational scheme for the book may have been more logical, I don’t believe that necessarily implies an uncritical acceptance of values that prioritise client over student, service-provider over professional, manager over educator, and service over education. These and other debates are skimmed over or avoided in this book, which is perhaps understandable in a practically-oriented text aimed at diploma students who are probably more interested in “how to” rather than “why?” or “how else?”. Theoretical background is provided in most chapters, but it is typically one-sided and uncritical, leaving the book straddling academic and practical without the stimulation of the former or the instant gratification of the latter. This lack of theoretical balance can lead to skimpy coverage of some significant issues: for example, the book lists the pitfalls of performance pay (p. 64), but not the serious problems of the traditional qualifications- and experience-based pay schemes. This short-circuits Senge’s notion of the “learning organisation” which is advocated elsewhere in this book, and which suggests a more critical view of available options.

All in all, then, this volume is a welcome and interesting development from its 1991 predecessor, with a lot of practical operational detail. But the opportunity for a great leap forward has been missed. The book is solid but not critical enough, and lacks the

problematizing of issues that might result in greater internalization and ownership of the content by the reader. So, buy it, use it, but hold out also for the deeper effort.

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GUIDELINES FOR CONTRIBUTORS

NZSAL is a refereed journal that is published twice a year. It welcomes manuscripts from those actively involved in Applied Linguistics/Applied Language Studies including second and foreign language educators, researchers, teacher educators, language planners, policy makers and other language practitioners. The journal is a forum for reporting and critical discussion of language research and practice across a wide range of languages and international contexts, but particularly favours articles which have some New Zealand connection. A broad range of research types is represented (qualitative and quantitative, established and innovative), including cross-disciplinary approaches.

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1.1 Articles should be double-spaced in A4 format. Pages should be numbered consecutively. Submission of a manuscript implies that it has not been published previously and that it is not under consideration for publication elsewhere.

1.2 Articles should normally be between 3000 and 5000 words in length.

1.3 Each article should include, on a separate page, an abstract of between 150 and 200 words, which is capable of standing alone as a descriptor of the article. Include the title on the abstract page.

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- the title of the article
- author's name, and in the case of more than one author, an indication of which author will receive the correspondence
the affiliation of all authors
- full postal address and telephone, e-mail and fax numbers of all authors
- a brief autobiographical sketch of the authors(s) (50-80 words)

1.5 Copies should be submitted as an attachment to one of the co-editors, Dr Gillian Skyrme or Dr Anne Feryok:

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2.2 All Figures and Tables should be provided in camera-ready form, suitable for reproduction (which may include reduction) and should require no change. Figures (e.g. charts and diagrams) and Tables should be numbered consecutively in the order to which they are referred. They should not be included within the text, but submitted each on a separate page. All Figures and Tables should have a number and a caption.

2.3 Do not use Footnotes. Endnotes should be avoided, but if essential, they should be numbered in the text by means of a superscript and grouped together at the end of the article before the References under the heading Notes.

2.4 References within the text should contain the name of the author, the year of publication, and, if necessary, the relevant page number(s), as in these examples:

It is stated by McCloud and Henry (1993, p. 238) that “students never ...”
This, however, has not been the case (Baker & Thomas, 2001; Frank, 1996; Smithers, 1985).

Where the work of the authors of the article is cited, to avoid identification during the review process the reference within the text should be ‘(Author, [date])’, but there should be no entry in the Reference List.

2.5 The list of References at the end of the article should be arranged alphabetically by authors’ names. References should be given in the following form:

References

Books

Lillis, T. M. (2001). *Student writing: Access, regulation, desire*. London: Routledge.

Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge: Cambridge University Press.

Article in book

Clark, R. (1992). Principles and practice of CLA in the classroom. In N. Fairclough (Ed.), *Critical language awareness* (pp. 117-140). Harlow: Longman.

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Lea, M. R., & Street, B. V. (1998). Student writing in higher education: An academic literacies approach. *Studies in Higher Education*, 23(2), 157-172.

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Conference presentation

King, J., & M. Maclagan. 2001, August. *Maori pronunciation over time*. Paper presented at the 14th Annual New Zealand Linguistics Society Conference, Christchurch, New Zealand

Internet sources

Sanders, R. (2006). The imponderable bloom: Reconsidering the role of technology in education. *Innovate Journal of Online Education*, 2(6). Retrieved from <http://www.innovateonline.info/index.php?view=article&id=232>

For other sources use APA (American Psychological Association) conventions.

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NZSAL invites short reports on any aspect of theory and practice in Applied Linguistics. Manuscripts could also present preliminary research findings or focus on some aspect of a larger study. Submissions to this section should be no longer than 2000 words, and should follow the submission guidelines for full-length articles (no abstract is required, however).

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