

**SECOND-LANGUAGE READING BEHAVIOR
AMONG TAIWANESE UNIVERSITY STUDENTS:
A MENTALISTIC INVESTIGATION OF STRATEGIES**

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ABSTRACT

This study was originally intended to describe reading behavior among undergraduate social science students at a university in Taiwan, as revealed through concurrent introspection, and to compare it with that of their counterparts in Hong Kong as reported in Hull (2000). However, during pilot-testing in Taiwan of the text used in the Hong Kong study (a short academic article), it became obvious that a much shorter and linguistically simpler text would have to be substituted to yield data rich enough for a viable analysis (a magazine article was chosen). Thus, since a direct comparison between the two contexts was no longer possible, the findings in the current study are descriptive. The data revealed a wide range of reading strategies reported among the Taiwanese university students. Their reports tended to focus on meaning and personal reactions to the text rather than on language; there was also evidence of considerable individual variation. The concluding discussion includes a focus on factors, such as degree of exposure to English, which might have led to the apparently large gap in the L2 reading proficiency levels of university students in these two Chinese-speaking East Asian contexts.

Key Words: adult foreign language reading, reading at tertiary level, reading strategies, second-language reading proficiency

INTRODUCTION

Reading in English is a major challenge for a vast number of non-native-speaker students, particularly undergraduates, worldwide. Many courses, whether conducted in English or not, have long lists of

'required' reading; often, such reading lists comprise academic articles that are written in English and are difficult even for many native-speaker students. It is therefore of considerable interest to those working in the field of applied linguistics to ascertain what problems are encountered in second-language (L2) reading among undergraduates and how these problems are addressed.

Over the past three decades, there has been a considerable amount of research into L2 reading, both in environments where English is widely regarded as a Second Language (ESL) (e.g., Hedge, 1991; Hosenfeld, 1977; Kletzien, 1991; Li & Munby, 1996) and where English is regarded as a Foreign Language (EFL) (e.g., Crawford Camiciottoli, 2003; Sarig, 1987), including Taiwan (e.g., Chen & Graves, 1995; Huang, Cheng, & Chern, 2006). There are studies of some variables in L2 reading (the term used here to include both ESL and EFL reading), such as rhetorical structure of texts (e.g., Carrell, 1984; Mahoney, Hull, & Shillaw, 1997), text content (e.g., Pritchard, 1990) and L2 proficiency level (e.g., Williams & Moran, 1989) as well as of the role of extensive reading (e.g., Day & Bamford, 1998, 2002). There have also been studies focusing on particular L2 contexts (e.g., Hull, 2000, in Hong Kong; Singhasiri, 2001, in Thailand), though the current researchers can find little evidence of work comparing L2 contexts. In other words, though the pressure on university students to read in English is ubiquitous, little is known about whether, and, if so, in what ways, L2 reading is harder for students in some contexts than others.

The current researchers were therefore interested in investigating some of the differences between students' reports of their reading behavior in two contexts. They planned to compare the first writer's findings in a Hong Kong study (Hull, 2000) with those of a new study in Taiwan, reported here, using subjects who appeared to be similar in certain key respects (see subject profile under Method below). However, as will become clear, these apparent similarities may have been superficial.

Chinese is the predominant language in both Hong Kong, where the prevailing dialect is Cantonese, and Taiwan, where Mandarin and Taiwanese are both prevalent; however, probably for historical reasons, the role of English differs in the two environments. Hong Kong was a British colony until 1997, and thus English was long widely used in the civil service and the judicial system; moreover, all but one of the city's universities are officially English-medium. In addition, the city has long

had a wide variety of English-language media (e.g., newspapers, radio stations and television channels), allowing Hong Kongers widespread exposure to the language. Indeed, the ratio of English-language to Chinese-language media is disproportionately high when compared to the relative numbers of speakers of the two languages.

Luke & Richards (1982) argue that English is neither a second nor a foreign language in Hong Kong; rather, they see it as an *auxiliary* language; by this, they mean that Hong Kong is characterized by a “societal bilingualism” in which two essentially monolingual communities co-exist but are socially disjunctive and that English is used in interaction between them. (While Mandarin Chinese has gained in importance since the reversion to Chinese sovereignty in 1997, the data for the Hong Kong study were collected shortly prior to that historic event.)

In contrast, in relatively recent years, as English has become the language of global communication, it has been perceived to be important in Taiwan, particularly at tertiary level. According to the Ministry of Education (personal communication with one of the researchers, 2007), all the island’s universities that are approved by the government to offer degrees are Chinese-medium. Moreover, while there are some English-medium departments within universities, many departments that specialize in English-medium courses conduct their business in Chinese. For instance, the Department of Foreign Language and Literature, National Sun Yat-sen University (NSYSU), where the Taiwanese data for this study were collected, is administered entirely in Chinese, though some of its courses are conducted in English. Thus, English is regarded as a foreign language in Taiwan. The discussion at the end of this paper will consider the role of language in the environment.

PLANNING THE RESEARCH

In order to compare L2 reading behavior in Taiwan with that reported in the Hong Kong study, the researchers planned to replicate Hull (2000). The latter study focused on students’ written introspective reports of their reading strategies, a strategy being defined as “a mentally driven action or series of actions, serial or in parallel, taken consciously or unconsciously, to facilitate text comprehension and/or learning and which may contain an affective or evaluative element” (Hull, 2000, p. 131). In order to focus attention on the most salient strategies, the Hong

Kong subjects were asked to report their reading behavior at *breakpoints* (Hedge, 1991), defined as points “when the interaction between reader and text is interrupted” (Hull, 2000, p. 129).

Pilot-testing comprised a three-stage sequence of activities designed to train the research subjects to introspect while reading (for details, see Procedures: Pilot Study below). The study itself utilized a worksheet (see Appendix A) requiring the subjects to write introspectively about their reading strategies as they read a short academic article. This worksheet represents a modification of an idea by the first researcher’s PhD advisor (Florence Davies, personal communication, 1994). Davies’s idea, which involves the use of the written mode in the collection of introspective data, represents a distinct break with what appears to have become a convention by default. To the researchers’ knowledge, there are only two introspective studies of L2 reading strategies that use the written mode (Hull, 2000; Li & Munby, 1996) while the vast majority of such studies use the oral mode. While there appear to be no obvious disadvantages to the use of the written mode, some advantages can be identified. For subjects, having to write while reading appears intuitively to maintain the silence and privacy of authentic reading whereas having to speak might jeopardize this by seeming more intrusive; for researchers, use of the written mode is more time efficient as it obviates the need for transcribing tape-recorded data.

The short academic article used with the worksheet in the Hong Kong study, on the topic of the degree of autonomy achieved by university students in the city, was Farmer (1994). However, the second researcher and the research assistant, who were considerably more familiar with the Taiwanese educational context than the first researcher, felt that this text would prove to be too difficult, in terms of both its length and linguistic complexity, for the proposed subjects (see biodata under Method below). While the first researcher was very inclined to heed this advice, dispensing with the text altogether would destroy one of the intended purposes of the study, that of comparing university students’ L2 reading behavior in Hong Kong and Taiwan.

Consequently, it was decided to run two texts at the pilot-testing stage, the first would be a new text and the second would be the text used in the Hong Kong study. The new text would also be an academic article on the subject of L2 learner autonomy and self-access language centers, and its function would be to schematize students to the topic, in the hope that they would then be better equipped to read the Farmer

(1994) text. The text selected was Cotterall (1996) (217 lines long, about seven pages when retyped, double-spaced, on A4-size paper). While the Farmer text was of similar length (227 lines long, about seven pages when retyped with 1.5 spacing on A4-size paper), it had an additional six-page appendix. Another difference was that the Cotterall text contained long lists of points, allowing a lot of white space on the page, whereas the Farmer text appeared relatively dense.

METHOD

This section describes the subjects, the procedures for the pilot and main studies, and the data analysis. Because the pilot-testing stage played a crucial role in refocusing this study, it is described in detail.

Subjects

A group of fifty undergraduate students were selected for the research, of whom, as will be seen, only twenty-one ultimately took part in the main study and three acted as pilot subjects (for biodata sheet utilized, see Appendix B). The group consisted mostly of second-year students (sophomores) of the BA English degree being offered by the Department of Foreign Language and Literature at NSYSU in Kaohsiung, Taiwan. The rationale for selecting this group of students was that they were the closest available subjects at this university to the subjects in the original Hong Kong study (see Table 1).

Though the Hong Kong students were in their first year of a relatively specialized course, BA TESL (Teaching English as a Second Language), both they and the Taiwanese students were likely to have a higher proficiency level in English than the average undergraduate student. The Hong Kong students were studying at City University, an English-medium university, and they were required to have a higher level of English than students studying for any other undergraduate degree. Likewise, the Taiwanese students, though studying at a Chinese-medium institution, needed a relatively high level of English as their degree (BA English) is supposedly taught in English.

In this group of twenty-one Taiwanese subjects, there were seventeen females and four males. Nineteen of the subjects were second-year undergraduates while one (S12) was a fourth-year undergraduate and one (S19) was a first-year masters student. The age

range was 19-29, with an average age of 20.1 years. The 29-year-old outlier was S19, an atypical subject in several respects; not only was he considerably older than the other subjects, he was also the only first-language (L1) speaker of Korean and the only subject who had taken a masters degree (in Korea). He had a TOEFL score of 557 and a TOEIC score of 780 (both dating from 1998). Only two other subjects reported scores on this standardized US exam of English proficiency: S2 reported a TOEFL score of 553 (1999) and S11 reported 603 (though she could not remember the date she had taken the test).

While nine subjects reported Taiwanese as their mother tongue, six reported Mandarin, four reported both Taiwanese and Mandarin, one (as already mentioned) reported Korean (S19), and one subject (S11) reported “English? kindda anyway.” She had spent several years in an English-medium international school in Indonesia and strongly identified as a speaker of the language. In addition, as the above quotation illustrates, she made a habit of displaying her knowledge of highly informal English; nevertheless, her TOEFL score, though high (603), is well below that normally considered typical of native speakers.

Table 1. Subjects’ Biodata Compared: Taiwan and Hong Kong

Factors	Taiwan	Hong Kong (Hull 2000)
Degree	BA English (2 nd year)	BA TESL (1 st year)
Degree medium	English	English
University medium	Chinese	English
Subjects’ L1	Chinese (Mandarin and/or Taiwanese) (N=19); Korean (N=1); English (N=1)	Chinese (Cantonese) (N=38)
Subjects’ L2 proficiency	TOEFL scores for three subjects: 553 (1999), 557 (1998) & 603 (date unknown)	TOEFL 520-540 (estimated scores for all subjects at the time of data collection)
Subjects’ age range	19-20, 29 (N=21)	19-23, 38 (N=38)

Procedures: Pilot Study

Arrangements were made for a half-hour session during normal class time to introduce the project to the subjects. Three of them (N=3)

volunteered to be pilot subjects outside class time. Pilot-testing took place during two two-hour sessions the following week.

During the first session, the pilot subjects completed a one-page biodata sheet (see Appendix B). They were then given a brief introduction to the research project. The first researcher explained in English that the project was investigating breakpoints (excluded from this study for reasons of space) and strategies in reading and that, since the data collected would be introspective in nature, they would be given the chance to practice introspecting while reading. The second researcher and research assistant then inquired in Mandarin if the pilot students had all understood what was required, and about five minutes was spent on clarification in L1.

At this point, the pilot subjects were given the three-phase set of activities, mentioned above, which was designed to train students in introspecting. This set was identical to the one used in the Hong Kong study (Hull, 2000). The first two activities in the set were taken from Hosenfeld, Arnold, Kirchofer, Laciura and Wilson (1981). Initially, this involved the subjects doing two simple mental arithmetic tasks and comparing the mental processes they adopted to obtain the answers. Next, the subjects read an eight-line text with five *nonsense words* (i.e., “words” that do not exist in English) and, in each case, they had to replace it with a suitable English word; again, on completion of the task, they compared their mental behavior. The third activity was a twenty-two-item cloze task devised from an extract from Scollon & Wong Scollon (1995, pp. 122-3); the subjects worked together while trying both to guess a suitable word for each cloze item and to justify their word choice. They were allowed to use L1 Chinese and/or L2 English. This was followed by a short discussion in English and Chinese among the pilot subjects and the researchers and research assistant, focusing on ways of completing some of the cloze items.

The second session was divided into two parts, one for each text (Cotterall, 1996; Farmer, 1994). Each text was distributed with a three-phase worksheet; the phases involved pre-reading, while-reading and post-reading tasks, but only the data from the while-reading phase were used in this study (see Appendix A). This phase required the subjects to read the text and concurrently write introspectively, in Chinese and/or English, on up to eight breakpoints and any associated reading strategies.

While the subjects coped well with the training materials, they

struggled with both the reading texts, and the data yielded were very sparse. This is in stark contrast to the Hong Kong subjects, who reported finding the Farmer (1994) text both readable and interesting and whose data were rich (see Discussion below). For introspection from reading to yield rich data, texts need to be neither frustratingly difficult for the readers nor boringly easy (e.g., Kletzien, 1991). We therefore decided to conduct another pilot-testing session with a simpler text as we felt that it would not be fair to impose two overly difficult texts on the larger group of research subjects and that, in any case, we would not obtain useful data from their use. However, this decision to heed the result of the pilot-testing and the intuition of the second researcher and the research assistant meant that the current project could no longer serve as a detailed comparison with the Hong Kong study.

Having acknowledged this limitation, it was decided that the genre of academic articles (even short ones) was too difficult for the subjects and a short magazine article might be more suitable. The article selected (99 lines of A4-size paper when retyped, double-spaced) discussed reasons why people laugh (Spencer, 1974/1988) (see Appendix C). The same three pilot subjects (N=3) repeated the introspective reading task with the new text. The data generated were far richer than those of the first trial; in a follow-up discussion, the subjects also said they enjoyed reading the magazine article. Consequently, we decided to use this as the sole text for the main study.

Procedures: Main Study

The introspective training sequence and data-gathering took place in two ninety-minute sessions on consecutive Thursday afternoons in the fourth and fifth weeks of the second semester in the academic year. Given that there were fifty students on the register for this class, three of whom had to be excluded from the main study since they had served as pilot subjects, we hoped for up to forty-seven subjects. In reality, thirty-three subjects attended the training session whilst only twenty-three came to the data-gathering session. One of these did not write his/her name on the worksheet and another did not complete our biodata sheet; consequently, we were unable to use these two subjects' data. Thus, there were twenty-one subjects (N=21). One reason for the shortfall may be that, despite the fact that the research was conducted during class time, the teacher had earlier strongly expressed his view that no one should ever feel forced to be a research subject. Many students

may have taken this as an unexpected opportunity to have a free afternoon.

Both the training and data-gathering sessions were conducted in an almost identical manner to the one described above (see Procedures: Pilot study), though only one text was used for written introspection (Spencer, 1974/1988). For the cloze task in the first session, the subjects worked in pairs (or, in one case, a group of three). During the second session, we asked the subjects to take at least half an hour on the reading task; this was partly because we wanted to avoid disruption to other subjects still working and thus probably needing a quiet environment to read and introspect effectively. After half an hour, the subjects were allowed to leave the room whenever they wished; a few subjects took up to twenty minutes longer (i.e., a total of fifty minutes) to complete the task.

Data Analysis

As already explained, the original idea of directly comparing the results of the Hong Kong study (Hull 2000) and those of the current study had to be abandoned. Nonetheless, there still seemed every reason to utilize, as the basis for the Taiwanese analysis, the categories developed for reading strategies developed by Hull. The development of these categories into a scheme was considerably aided by work done on the classification of reading strategies by Davies (1995) and was central to Hull's work. The scheme had seemed robust enough to work across two data sets emanating from the same Hong Kong subjects reading two texts (one of which was the Farmer text mentioned above) and introspecting in different modes (i.e., written and spoken). This categorization scheme consists of three levels: category, subcategory and descriptor. (For an overview of the scheme, along with strategy descriptors and corresponding examples of each one, see Appendix D; for a description of the development of the scheme as well as a rationale for it, see Hull, 2000, pp. 172-216.)

The two main categories are Sensory strategies, which are observable, physical (though probably mentally-driven) actions reported, and Reflective strategies, which are unobservable, mental actions reported. Both categories have subcategories, which manifest as a range of strategies. In the case of Sensory strategies, there are four subcategories: skipping, ongoing reading, rereading and annotating the text while reading. They are likely to involve more than one

simultaneous process; for instance, annotating the text while reading is likely to combine mental and physical behavior, the former determining the content of the latter. Reflective strategies, on the other hand, have three subcategories: two of these are text-centered in terms of either meaning or language while the third is extra-text-centered in that it accounts for readers' prior knowledge of, or personal reactions to, various aspects of the text. These subcategories are deemed *centered* in order to allow for the inclusion of additional parallel mental processes, which may or may not be reported (see Discussion: Limitations).

While most strategies reported are likely to be *single*, on occasions, reported behaviors represent fusions of two or three strategies, and these were deemed to be *compound* strategies; such fusions might either combine strategies within one of the two main categories or across these categories. However, extra-text-centered Reflective strategies, since they invariably include reference to the text, are considered to be fused with at least one of the text-centered strategies (see examples in Appendix D).

The third, and lowest, level in the categorization scheme is that of strategy descriptor; essentially, a descriptor is the wording adopted for each of the strategies (e.g., reflecting on key points in text, making an inference from prior knowledge that conflicts with text evidence). Where several strategies represent similar behaviors and are thus described with similar wording, they are considered to be part of a descriptor group (e.g., making inferences).

Before analysis began, any data yielded in Chinese were translated into English; in the event, only one subject (S7) wrote entirely in Chinese while the remaining twenty subjects wrote entirely in English. The data were then analyzed for strategies. The first researcher explained the categories he had previously developed (Hull, 2000); both researchers and the research assistant then analyzed some of the data to see if the categories were sustainable and to check for any immediate points of disagreement. The existing categories seemed to serve as a solid foundation for analysis, though the Taiwanese data yielded a few new strategies and did not reveal all those reported in Hong Kong. This is not surprising, particularly since, as mentioned above, the Hong Kong and Taiwanese subjects read texts of different genres.

A routine was adopted whereby the researchers and research assistant analyzed the data separately and subsequently met to compare analyses. As this process progressed, fewer and fewer items of disagreement were found, and all items were resolved without difficulty.

RESULTS

The data are presented as follows: Table 2 gives an overview of the findings of all the categories and subcategories of reading strategies; Tables 3-6 provide details of each group of strategy descriptors; and Table 7 displays strategy use by individual subjects.

Table 2. Frequencies of Strategies by Category and Subcategory

Category	Subcategory	Single	Compound	Total (%)
Sensory	SR	27	0	27 (12.16)
	OR	16	0	16 (7.21)
	RR	16	1	17 (7.66)
	AR	2	0	2 (0.90)
	<i>Total</i>	61	1	62 (27.93)
Reflective	TMC	67	44	111 (50.00)
	TLC	3	6	9 (4.05)
	ETC	N/A	40	40 (18.02)
	<i>Total</i>	70	90	160 (72.07)
Total (%)		131 (59.09)	91 (41.99)	222 (100.00)

Key to Codes for Strategy Subcategories

SR = Skipping reading TMC = Text-meaning-centered
 OR = Ongoing reading TLC = Text-language-centered
 RR = Rereading ETC = Extra-text-centered
 AR = Annotating text

Note. Out of a possible total of 168 breakpoints (21 subjects, 8 items on the worksheet), 30 (17.86%) were left blank, thus yielding no strategies; however, some breakpoints yielded more than one strategy. In addition, 11 of the subjects' entries were deemed unclassifiable (7 of them attributable to S17).

Overview of Strategies Reported

Table 2 shows that the subjects reported Reflective strategies (72.07% of all strategies reported) considerably more often than Sensory strategies (27.93%). Most of the compound strategies reported were Reflective extra-text-/text-meaning-centered, and there was only one compound strategy in the Sensory category; overall, more single strategies were reported (59.09%) than compound ones (41.99%).

Looking at the categories separately, it seems clear from the subjects' reports that they were focusing primarily on meaning (50.00%), with a lesser but still substantial use of extra-textual factors, such as prior knowledge of the topic or personal reaction to text content or organization (18.02%). Strikingly, the subjects' focus on language seemed very low (4.05%). As far as Sensory strategies are concerned, the most interesting point to note is that there were considerably more reports of skipping (12.16%) than rereading (7.66%). (Examples from the data of all the strategies reported can be found in Appendix D.)

Elaboration and interpretation of these findings now follow. Illustrated extracts from the data have not been edited for language accuracy; the line numbers given after each extract refer to the Spencer text (see Appendix C).

Sensory Strategies

Table 3 shows frequencies for Sensory strategies, along with part of text wherever it was reported; these strategies are discussed by subcategory, with interpretation of part of text at the end of this subsection.

By far the most frequently reported strategy was skipping (43.55% of this category), and the most commonly reported part of text skipped was a word or words (totaling 10 reports); usually, these were unknown lexical items, for instance:

“skip the word ‘butt’” (S2, line 93)

Reported with similar frequency to each other were ongoing reading (25.81%) and rereading (27.42%). The former probably reflects particularly unreliable reporting (see Discussion: Limitations) since it is unlikely that subjects would report something that is so routine as resuming reading after a breakpoint (it must actually have occurred for all subjects after each breakpoint except the final one) and thus lacks salience to them. Indeed, nearly half of all the occurrences of ongoing reading (7/16) were reported by the same subject (S4, see Table 7 below), who simply wrote, at the end of seven out of eight of her breakpoint entries, that she continued reading. Thus, the figure for ongoing reading might, to some extent, distort the findings for this category. Nonetheless, the category does contain an interesting example, in which the subject explains that, by continuing to read, he was able to clarify the meaning of a phrase in the text:

“‘mastery over anxiety’ I tried to figure out the abstract meaning of the phrase, but found soon that the following sentences are explaining about this. So I kept reading.” (S19, line 22)

Rereading was reported less often than might be expected, and subjects who reported this strategy most often reread from one to three sentences (10 reports). Also shown in the table are two reports of subjects annotating small parts of the text (a word and a phrase); in one of these cases, the subject explained that she marked a phrase for subsequent rereading:

“... ‘triggered by cues’ ... mark it, and reread later.” (S1, line 35)

The fairly low figure for rereading may be further evidence that the text was not very demanding for these subjects, that they considered the topic to be light or that it was of little consequence how well they understood it. In other words, both difficulty level and reading purpose may have affected their reading behavior.

The rightmost column in Table 3 shows total frequencies for parts of text reported with Sensory strategies. Bearing in mind that almost half (46.77%) of instances provided no data on part of text (this information was not elicited in the worksheet), a tentative interpretation of these figures is that they indicate the salience to these readers of the sentence (22.58%) and the word (17.74%) as units of text. However, it is likely that, in other circumstances (different readers and/or different genres), the paragraph would also be a salient text feature.

Table 3. Frequencies of Sensory Strategies with Part of Text

Part of Text	Skipping	Ongoing	Rereading	Annotating	Total (%)
Word(s)	10	0	0	1	11 (17.74)
Phrase	2	0	2	1	5 (8.06)
Clause	1	0	1	0	2 (3.23)
Sentence(s)	2	2	10	0	14 (22.58)
Paragraph	0	0	1	0	1 (1.61)
Unclassified	12	14	3	0	29 (46.77)
Total (%)	27 (43.55)	16 (25.81)	17 (27.42)	2 (3.23)	62 (100.00)

Note. Unclassified refers to cases where part of text was not given.

Reflective Strategies

Table 4 shows that there was evidence of five Reflective text-meaning-centered strategies when this subcategory is confined to single strategies (compound strategies are shown in Tables 5 and 6 below). By far the most common one reported was reflecting on meaning in text (52.24%); if a similar but more specific strategy is added, reflecting on key points in text, the total for this descriptor group (reflecting) is just over three fifths of this category (61.19%). These two strategies are illustrated, respectively, from the data.

“Guessing the meaning of the vocabulary.” (S5, line 60)

“The first paragraph tells us about the motivation of the author.” (S3, line 5)

There is also substantial evidence of inferencing (this descriptor group totals 38.81% of this category), and the subjects often reported that their inferences were supported by text meaning (22.39%). In the following example, the subject refers to guessing from context, which, in this case, is likely to have included “physical sensations involved” (from lines 51 and 52 of the text).

“1. respiratory convulsions. 2. it’s should be something in our body. 3. guess by context.” (S1, line 52)

However, some inferences were related to an unspecified aspect of text meaning (14.93%) and one (1.49%) conflicted with text meaning. In this case, illustrated below, the subject did not realize that the author was referring only to children who lacked intimate, loving relationships rather than to children in general.

“I don’t know why studies revealed that laugh to the children is not natural. Last [Previous] paragraph said babies laugh at eight days of age.” (S20, line 16)

Reflective strategies that were text-language-centered are not tabulated as there were only three reports of them as single strategies (see Table 2 above and Appendix D). These involved such bottom-up concerns as punctuation, word length and sentence complexity. The following extract exemplifies a focus on word length.

“1. schizophrenic. 2. it’s a long word. it shouldn’t influence my reading.” (S1, line 17)

(For consideration of the lack of language-centered strategies reported in this study, see Discussion, below.)

Table 4. Frequencies of Reflective Text-Meaning-Centered Strategies

Strategy Descriptor	Total (%)
<u>Reflecting</u>	
Reflecting on meaning in text	35 (52.24)
Reflecting on key points in text	6 (8.96)
<i>Total</i>	<i>41 (61.19)</i>
<u>Inferencing</u>	
Making an inference about text meaning	10 (14.93)
Making an inference about text meaning that is supported by text evidence	15 (22.39)
Making an inference about text meaning that conflicts with text evidence	1 (1.49)
<i>Total</i>	<i>26 (38.81)</i>
Total (%)	67 (100.00)

Note. For ease of reference, Tables 4-6 present Reflective strategies in descriptor groups (e.g., reflecting, inferencing).

Compound Strategies

As already reported (see Table 2 above), all but one of the compound strategies consisted of combinations of Reflective strategies. Of these, by far the most common combination reported was Reflective extra-text- / text-meaning-centered; these are shown in Table 5 (for all remaining compound strategies, see Table 6 below).

Table 5 shows Reflective strategies that were both extra-text-centered and text-meaning-centered. By far the most commonly reported was reflecting on the relationship between the reader’s personal experience or knowledge and text meaning (36.84% of this category). In the first of the following two data extracts, the subject seems to be referring to the author’s comment that “women sometimes

make poor joke tellers [and,] consciously or subconsciously, they express their resentment by ‘forgetting’ the story” (lines 71-72). In the second extract, the subject mentions the author’s reference to a father throwing his child into the air.

“I stop to think if I do the same thing as other women.” (S10, line 72)

“Tossing an infant in the air — I used to do that to my sister when she was a baby. It was rather dangerous, but she loved it. She laughed too.” (S11, line 23)

In a way, the relatively high frequency of this strategy may merely reflect one of the researchers’ criteria for text selection, namely that the topic (what makes people laugh) is one to which everyone can relate. While this finding is neither surprising nor is it claimed to represent a reliable measurement of actual behavior, it nevertheless suggests the tentative interpretation that, at least to some extent, introspective reports can reflect readers’ actual behaviors (see Discussion: Limitations).

All the other strategies in this top-down category have low frequencies (ranging from 13.16% down to 2.63%). The most frequent of these was expressing a positive evaluation of ideas in the text; for instance:

“I think what the author says is really good, so I reread it.” (S9, line 96)

Nevertheless, when considered together, strategies expressing some kind of affective response to the text (mostly positive or neutral, with only three that could be considered negative) account for just over two fifths of this category of strategies (42.11%).

In contrast, the group of strategies comprising various inferences shows a low frequency, accounting for only a small proportion of the total for this category (13.16%). Subjects made inferences based on their prior knowledge of both text meaning and text organization. The first extract below, in which the subject comments on the author’s suggestion that most people smile in humorous situations, exemplifies the former; the latter is illustrated in the second extract, where the subject refers to the final paragraph of the text.

“It may not be my action. Think — well, it’s common to most people.” (S12, line 40)

“The topic sentence in the last paragraph is not very much related to the last two paragraph. Stop to wonder why the writer put down a topic sentence like this.” (S4, line 96)

Table 5. Frequencies of Reflective Extra-Text- / Text-Meaning-Centered Strategies

Strategy Descriptor	Total (%)
<u>Reflecting</u>	
Reflecting on relationship between reader’s personal experience or knowledge and text meaning	14 (36.84)
Reflecting on information in text and raising questions about it	3 (7.89)
<i>Total</i>	<i>17 (44.74)</i>
<u>Expressing a reaction to the text</u>	
Expressing interest in ideas in text	1 (2.63)
Expressing positive evaluation of ideas in text	5 (13.16)
Expressing negative evaluation of ideas in text	1 (2.63)
Expressing agreement with ideas in text	3 (7.89)
Expressing disagreement with ideas in text	2 (5.26)
Expressing a neutral reaction to ideas in text	4 (10.53)
<i>Total</i>	<i>16 (42.11)</i>
<u>Inferencing</u>	
Making an inference from prior knowledge of text meaning that is both supported by, and conflicts with, the text	1 (2.63)
Making an inference from prior knowledge of text meaning that conflicts with text evidence	1 (2.63)
Making an inference from prior knowledge of text organization	2 (5.26)
Making an inference from prior knowledge of text organization that conflicts with text evidence	1 (2.63)
<i>Total</i>	<i>5 (13.16)</i>
Total (%)	38 (100.00)

Table 6 shows that by far the majority of compound strategies represent a combination of extra-text-/text-meaning-centeredness (84.44%) (for details of this subcategory, see Table 5 above). Table 6 also presents details of the remaining seven instances of compound strategies, four of which combined Reflective strategies that were text-meaning- / text-language-centered while the other three comprised a variety of fusions.

Table 6. Frequencies of Compound Strategies

Strategy Descriptor	Total (%)
<u>Extra-text- / text-meaning-centered</u> (double) (For details, see Table 5 above.)	38 (84.44)
<u>Text-meaning- / text-language-centered</u> (double)	
Reflecting on emphasized meaning of italicized word	2 (4.44)
Reflecting on meaning and phonology of word in text	1 (2.22)
Reflecting on paragraphing	1 (2.22)
<u>Extra-text- / text-meaning- / text-language-centered</u> (triple)	
Expressing negative reaction to word use for meaning in text	1 (2.22)
<u>Extra-text- / text-language-centered</u> (double)	
Expressing negative reaction to word use in text	1 (2.22)
<u>Text-meaning-centered / rereading</u> (double)	
Reflecting on meaning in text / rereading part of text	1 (2.22)
Total (%)	45 (100.00)

Of the four strategies that combined a focus on text meaning and language, one was recorded twice while the others were each recorded once. Two subjects noted the author's italicization of the word 'is', whose purpose, both believed, was emphasis; in other words, these subjects' attention was drawn both to the author's intended meaning and to the typographical means with which she sought to convey that meaning. Here is an example of this strategy:

“Why the author put an italic word? What [s]he wants to emphasize?” (S12, line 62) (text-meaning- / text-language-centered)

There is one instance of a subject focusing on both the meaning and the phonological quality of a word.

“The word ‘ogle’: to stare at — unique diction.” (S11, line 6)
(text-meaning- / text-language-centered)

The final strategy in this group represents a subject’s musings on the relationship between paragraphing and meaning; she feels that the author should have joined two paragraphs into one larger, penultimate one.

“To combine two paragraphs. think — they should be a complete part.” (S12, line 92) (text-meaning- / text-language-centered)

In addition, Table 6 shows that 44 out of a total of 45 compound strategies comprise a fusion of two single strategies (i.e., double strategies); the exception is a fusion of three single strategies (i.e., a triple strategy). The extract below illustrates how the subject who reported this triple strategy combined an extra-textual element (expressing a negative evaluation of the text) with a dual text element (word meaning and author’s choice of language).

“‘just as’ I don’t like the term ‘as’ because it has so many meaning. I stoped here to make sure with the meaning of ‘as’ and within a second, I found it means ‘when’.” (S19, line 5) (extra-text- / text-meaning- / text-language-centered)

The following extract illustrates how the same subject (S19) again reacted negatively to part of the text, in this case the author’s choice of a phrase; however, on this occasion, he reacted so negatively that, instead of trying to decode the meaning of the phrase, he skipped it.

“‘schizophrenic psychosis’. I just ignored these because I do not like this kind of terms.” (S19, line 17) (extra-text- / text-language-centered + skipping)

In the extract above, the compound strategy, as shown, was followed by a Sensory strategy, skipping (indicated by the + sign). In contrast, another of the compound strategies was distinctive in that it represented a fusion between a Reflective and a Sensory strategy (indicated by the /

sign). The extract below shows how the subject's rereading of part of the text was simultaneous with her processing of its meaning.

“In the beginning, I don't really understand the meaning. But after reading it for 3 times and thinking for a few seconds, I think I know what the sentence means.” (S9, line 15) (text-meaning-centered / rereading)

It is highly probable that this particular kind of fused reading behavior is far more frequent than indicated by this single reporting of it since, intuitively, it seems reasonable to suppose that a key purpose of rereading, especially multiple rereading (as reported in the above extract) would be to try to decode text meaning (see Discussion: Limitations).

One possible interpretation of this low figure for reports of fused strategies is that the text may simply not have triggered complex reactions. An alternative interpretation is that these subjects may not have been familiar with the process of introspecting while reading and so, in many instances, incomplete information (e.g., single as opposed to compound strategies) may have been reported (see Discussion: Limitations).

As will now be shown in the following presentation of findings on individual variation, there appears to be some evidence that subjects with higher language proficiency reported more complex behavior.

Individual Variation

Table 7 shows reported use of strategies at the level of subcategory and includes (in brackets) those that occurred as part of a compound strategy. Several points warrant attention. First, four subjects (S3, S11, S14 & S15) confined their reporting to Reflective strategies; indeed, one of these subjects (S15) reported using only one subcategory, text-meaning-centered. S11 reported one compound strategy but this comprised a fusion of two Reflective strategies. This finding is hardly likely to mean that these subjects failed to use any Sensory strategies; rather, it may be that they simply did not notice using them or that, at a conscious or unconscious level, they felt that these observable strategies were not worth reporting. (Implications of this finding are considered in the Discussion below.) In a similar way, two subjects (S5 & S21) reported almost exclusive use of Reflective text-meaning-centered and Sensory skipping reading strategies (S21 also reported one instance of

annotating the text); these subjects appear to be very meaning-focused, skipping parts of the text that they judged to be of little importance to its overall understanding.

Table 7. Frequencies of strategies by subcategory and by individual subjects

S	SR	OR	RR	AR	TMC	TLC	ETC	Total
1	1	1	1	1	3	1		8
2	2		2		3 (3)		(3)	13
3					6 (2)		(2)	10
4		7			(5)		(5)	17
5	5				3			8
6	3	1	2		5			11
7	2		1		3 (1)	1	(1)	9
8	1		2		3 (3)	(1)	(2)	12
9	2		2 (1)		3 (2)		(1)	11
10			2		3 (3)		(3)	11
11					(8)	(1)	(7)	16
12	1	1			(4)	(2)	(2)	10
13		1	1		(4)	1	(4)	11
14					4 (3)		(3)	10
15					9			9
16	3	2	1		6 (2)		(2)	16
17								0
18	2		1		2			5
19	1	2			3 (2)	(2)	(3)	13
20	1	1	1		6 (2)		(2)	13
21	3			1	5			9
Sub	N/A	N/A	16 (1)	N/A	67 (44)	3 (6)	(40)	N/A
Total	27	16	17	2	111	9	40	222

Key to codes

SR = Skipping reading
 OR = Ongoing reading
 RR = Rereading
 AR = Annotating text

TMC = Text-meaning-centered
 TLC = Text-language-centered
 ETC = Extra-text-centered

Note. Brackets () are used to indicate subcategories reported as part of compound strategies.

In contrast, there were a few subjects who reported a wide range of strategies; for instance, while one subject (S1) reported utilizing strategies in six different subcategories (out of seven possible subcategories), a further six subjects (S7, S8, S9, S16, S19 & S20) reported using strategies in five different subcategories. Again, interpreting these data requires great caution. While these subjects may have been using a greater variety of strategies than their peers, there is the evident possibility that some, or even all, of them were simply better than the remainder of their peers at reporting their reading behavior (see Discussion: Limitations).

As mentioned above, there were three subjects who were atypical of this group: S11 tentatively claimed that English was her first language; S19's first language was Korean; S12 was a fourth-year student (the others were in their second year). Looking at the data for these subjects in Table 7, there are some distinctive features. In the case of S11, there was a marked preponderance of extra-textual strategies in which she reacted in various ways to the text, and S12 also reported using extra-text-centered strategies involving reaction to the text relatively often. Interestingly, S19 also used a disproportionate number of extra-text-centered strategies; furthermore, he was, indeed, the only subject who reported using them in combinations other than focusing on text meaning; beyond that, he was the only subject to report using a triple compound strategy (see Table 6 above). Viewed from another perspective, five of the seven compound strategies in the data other than the frequently utilized extra-text- / text-meaning-centered compound strategy were reported by these three outlying subjects (i.e., 71.43% of these relatively complex strategies were reported by only 14.29% of the subjects). This may, wholly or in part, reflect a truly higher level of sophistication in these subjects' reading of the text, though, again, it may be that these subjects were merely better at introspecting.

DISCUSSION

This discussion will begin by focusing on some key findings in this study and will then broaden to consider issues that may explain the differences in reading proficiency between apparently fairly similar subjects in Taiwan and in Hong Kong. It will end with some limitations to the study and suggestions for future research.

The Study

Reading a short magazine article on a topic likely to be of broad interest (why people laugh), the introspective reports of the subjects in Taiwan suggest that they focused on the meaning of the text at a global level as well as, to a certain extent, at a local level. In other words, it seems that, by skipping lexical items that they found difficult, they were willing to tolerate some local ambiguity. This pattern of strategy use reflects reading behavior more likely to occur in reading extensively for pleasure (e.g., Day & Bamford, 1998) than in reading academic articles for credit-bearing courses. Specifically, strategies such as rereading and annotating the text while reading are likely to occur more frequently where evidence of comprehension, perhaps in exams, is required. Indeed, from the first researcher's observation, highlighting academic articles, often with several colors, appears to be ubiquitous student behavior; from this, it seems that reading for academic purposes may engender a more intensive reading style. Clearly, this study did not simulate a situation where the subjects would have been likely to replicate such reading behavior. Thus, intuitively, it seems likely, perhaps particularly among proficient readers, that reading behavior will manifest considerable variation with reading purpose and text genre.

The lack of language-centered strategies is probably, among other things, a reflection of the manner in which these subjects approached this particular text. The topic was light and they probably assumed (correctly) that they would not be tested on its content; thus, their approach to this genre (a magazine article) may have been more extensive than intensive. The low frequency of reports of a focus on language may suggest that the text finally selected for these subjects was linguistically fairly easy for them; this is not to say, however, that reading for pleasure necessarily involves less complex or less varied behavior than reading for academic purposes. In this study, about one fifth of the strategies reported involved a reader contribution to the process (Reflective extra-text-centered strategies). The subjects interacted with the text both by reflecting on the relationship between text content and their own personal experience of it and by expressing various affective or evaluative comments on its content; they also made inferences about the text content based on their prior knowledge. Such reading behaviors are, perhaps, less likely where, for instance, the reading purpose is to learn content for an academic course or assignment. Even with such technical moves as skipping parts of the text, it seems that reports might be very different in different

circumstances. For instance, in this data set, there were no reports of skipping entire paragraphs, but this could well be a frequent behavioral feature of reading texts that are linguistically very challenging for the readers.

Apart from differences in reading behavior across varying texts, behavior can also vary considerably within a group of subjects reading the same text, as this study has shown. While acknowledging the limitations of introspective methodology (see Limitations below), there does appear to be some evidence here that the subjects with a higher level of English engaged in more complex behavior. This suggests that linguistic deficiency may, in some circumstances, act to narrow the range and complexity of strategies utilized.

The Taiwanese and Hong Kong Contexts

Moving beyond the findings, it seems worth considering factors that may have led to the unexpected change of plan for this study. It will be recalled that the original plan was to compare data from the subjects in Taiwan with those from a group of subjects in Hong Kong. These two groups initially appeared comparable; however, with hindsight, it was clear that there were vast differences between them. Some of these differences will now be explored.

First, the Hong Kong subjects may have had a higher level of English proficiency than the Taiwanese ones, though this is something we were unable to substantiate as no single standardized test scores (e.g., TOEFL, IELTS) were available for most of the subjects in either of the studies. However, three of the Taiwanese subjects did report TOEFL scores, and these appeared to be comparable to, or slightly higher than, an estimated range of such scores for the Hong Kong subjects.

It may also be that the Hong Kong students were more familiar with reading academic articles in English. From the first researcher's observation, Hong Kong students are given longer lists of English-language readings than their Taiwanese counterparts. In addition, he observed that the university library in Hong Kong was normally full of students whereas, in Taiwan, it was normally virtually empty. While these observations may reflect differences between the two educational cultures, they may also reflect differences that are individual to the two institutions involved, such as the relative inaccessibility of the university library to the subjects in Taiwan. Equally, the lapse of time between the collection of the Hong Kong data (1995) and the Taiwanese data (2002)

could be a factor. During this seven-year gap, student use of the internet grew astronomically. While there are plenty of serious academic electronic journals, the internet also contains a plethora of relatively superficial material, and many academics worldwide lament the apparent increase in students' use of such material in their assignments.

Anecdotal evidence suggests that another change affecting students' reading proficiency may have occurred during this period, and that is falling levels of English proficiency. While it is hard to quantify such a claim in the case of Taiwan since universities do not use standardized tests, there is demographic evidence in Hong Kong that, as the proportion of young people admitted to tertiary-level institutions has increased, so levels of English have fallen. Evidence for this can be found in the fact that universities found it necessary to establish compulsory pre-sessional courses in English for Academic Purposes (EAP) (e.g., City University of Hong Kong in 1994). In other words, when only a small percentage of people went to university, they tended to come from the minority of schools (often private schools) where English was either the medium of instruction or was prioritized in the curriculum. However, it is impossible to replicate this level of exposure to English for the majority, who are typically less privileged students from government schools. While English has never been as widely used in Taiwan as in Hong Kong, a similar demographic change may have precipitated a similar trend there, too.

Nonetheless, despite any demographic trends that Taiwan may share with Hong Kong in terms of sheer numbers of students attending university, students' exposure to English in the two places, as noted in the introduction, is likely to differ considerably. Indeed, within Taiwan, there may be a difference in the amount of such exposure in Taipei, in the north, and Kaohsiung, the city in the south of the island where this study was conducted. Students who come from Taipei to Kaohsiung to study often remark that the latter is a very 'provincial' city compared to the former.

It is possible that there is a crucial threshold of exposure to a target language above which a breakthrough in terms of facility with the language is likely to occur but below which the language remains much harder to activate. In other words, an EFL environment such as Taiwan might not offer sufficient quantity of exposure for students, over time, to gain such a facility whereas an ESL environment or even an environment such as that of Hong Kong, where, as already mentioned, English is,

arguably, an *auxiliary* language (Luke & Richards, 1982), may provide this. If there is something to such a hypothesis, it would need to allow for the possibility that language proficiency (as measured on a standardized test) may not be a reliable indicator of facility with that language. This might explain why seemingly comparable TOEFL scores between the subjects in Taiwan and Hong Kong did not appear to be a good predictor of reading proficiency in English.

The first researcher's experience in Taiwan of teaching in a conversation class with a group of second-year undergraduate students similar to the subjects in the current study was that they had considerably greater difficulty in utilizing their knowledge of English than their counterparts in Hong Kong. Moreover, it was his impression that they required a lot more practice in order to gain comparable fluency and confidence.

Apart from any differences in the two contexts under comparison, there may be some factors in the Hong Kong research design that were unfavorable to the subjects in Taiwan. It is almost certainly true that the Hong Kong subjects would have been more familiar with the topic of the Farmer (1994) text, which referred directly to a self-access language learning center at a university in Hong Kong. Furthermore, though there was a self-access center at the Hong Kong subjects' university, there was none at NSYSU; indeed, Confucianist traditions concerning teachers' and students' roles, arguably stronger in Taiwan, would probably make the concept of learner autonomy harder to conceptualize.

Limitations

Clearly, a major limitation to this study is that it did not achieve its aim of comparing data taken from two East Asian universities in Chinese-speaking environments. One of the reasons for such an aim is that there is a substantial literature of individual studies conducted in isolation but few, if any, studies that compare L2 readers in different contexts or even the same group of subjects reading different genres or reading for different purposes. Consequently, on the face of it, this study is merely one more in a long line of one-off studies, albeit conducted in a little-researched context; nonetheless, at a broad level, it was able to compare, admittedly in a rather speculative manner, differences in the Hong Kong and Taiwanese contexts, both within and beyond universities.

Another limitation, inevitably, is introspective methodology. As has

been suggested at several points in this paper, there can be no claim that reported reading behavior is tantamount to actual behavior. Even when a tendency is observed, such as readers with higher L2 proficiency reporting more complex behavior, it is unclear if this is because, among other things, their level of English allows them to report greater complexities and/or with greater accuracy, or if it actually allows them to utilize more complex strategies. Having acknowledged this limitation, it is worth adding that there is no easy alternative in gathering data on the largely silent and private activity of reading; even studies that collect empirical evidence in the form of eye movements (e.g., Rayner & Pollatsek, 1989) have to draw speculative conclusions on what drives those eye movements.

Further Research

From what has been said in this study, it is clear that this field is wide open to further research. Apart from the limited utility of adding to studies such as this, which provide some evidence of reading behavior among one group of readers with one text, the field awaits genuinely comparative studies. As has been alluded to, comparison can, but need not, involve two contexts; it could be based on one group of subjects reading different genres and/or reading for diverse purposes. As for research methodology, triangulation through various means, including eye movements and introspection (concurrent and/or retrospective), seems to be a sound way forward for a field that seeks to understand one small, but very complex, aspect of the workings of the *black box*.

CONCLUSION

This study only achieved one of its two original aims, that of describing the reading behavior, as revealed in the strategies reported introspectively by a group of social science undergraduates in Taiwan. Reading a short magazine article on a topic of everyday interest, these subjects focused on extracting meaning from the text and some, particularly those likely to have had relatively high proficiency in English, also reacted affectively and evaluatively to the text content. The second aim, that of comparing the findings with those of a study of reading behavior among similar students in Hong Kong, was not accomplished because pilot-testing in Taiwan revealed that the text used

Jonathan C. Hull & Yi-chun Sami Hou

in the Hong Kong study (a short academic article) would have been frustratingly difficult for the intended subjects. Thus, instead of comparing two data sets, this paper considered factors in the two contexts that may have led to such varying levels of reading proficiency in English. It was hypothesized that, at least for L2, language proficiency may not be a good predictor of reading proficiency. Other factors that may affect reading proficiency were discussed, including degree of exposure to the target language.

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Jonathan C. Hull & Yi-chun Sami Hou

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APPENDIX

Appendix A. Subjects' Worksheet for While-Reading Phase in Data Collection

Breakpoints are places where you stop reading for any reason (e.g., you don't understand something, you want to think or even rest). Readers use various strategies at breakpoints (e.g., rereading, reflecting, marking a word or idea, skipping).

Your task: As you read the text more carefully, try and do three things:

- note the line number of each of 8 breakpoints;
- write what you are thinking at each breakpoint;
- specify, if possible, what strategy or strategies you use following each breakpoint.

Breakpoint 1 (line ____): _____

Breakpoint 2 (line ____): _____

Breakpoint 3 (line ____): _____

Breakpoint 4 (line ____): _____

Breakpoint 5 (line ____): _____

Breakpoint 6 (line ____): _____

Breakpoint 7 (line ____): _____

Breakpoint 8 (line ____): _____

Appendix B. Biodata Sheet

Can you tell us a little about yourself?

In order to help us with our research, we'd like to know a little more about you and your education. Remember that all the information you give will be kept confidential and will be used for research purposes only.

About you

Chinese name: _____ English name (if any): _____

Student ID number: _____ Email address: _____

Age: _____ years Check (✓) one: male _____; female _____

Your first language (i.e., mother tongue); please check (✓) one or more:
Chinese (Taiwanese) _____; Chinese (Mandarin) _____;
other: please specify: _____

About your education

Your major; please check (✓) one: English major _____; other: please specify: _____

Your year of study:

_____ 1st year (freshman) _____ 2nd year (sophomore)
_____ 3rd year (junior) _____ 4th year (senior)

Have you ever taken the TOEFL test or other test of proficiency in English (e.g., IATEFL, GEPT)? If so, can you give your score and the date you took the test?

_____ TOEFL score _____ name of test
_____ date of TOEFL test _____ test score
_____ date of test

Thank you for giving us your time by completing this information.

Appendix C. Text: Why We Laugh (Spencer 1974/1988)

[Numbers in square brackets indicate line numbers in the version used by the subjects.]

Are you a quiet giggler? Or can you let loose hearty laughter? Your ability to laugh may mean more than you think.

[5] Picture this cartoon: A man is watering his lawn just as an attractive blond walks by. As he ogles her, he accidentally turns the hose on his dowdy wife, who is sitting on the porch.

Men usually think the cartoon is funny. Women do not. And there's a good reason for the difference in opinion.

[10] We start finding things laughable — or not laughable — early in

life. An infant first smiles at approximately eight days of age. Many psychologists feel this is his first sign of simple pleasure — food, warmth and comfort. At six months or less, the infant laughs to express complex pleasures — such as the sight of Mother’s smiling face.

In this book *Beyond Laughter*, psychiatrist Martin Grotjahn says that the earlier [15] an infant begins to smile and laugh, the more advanced is his development. Studies revealed that children who did not develop these responses (because they lacked an intimate, loving relationship) “developed a schizophrenic psychosis in later life, or simply gave up and died.”

Between the ages of six months and one year, the baby learns to laugh for [20] essentially the same reasons he will laugh throughout his life, says Dr. Jacob Levine, associate professor of psychology at Yale University. Dr. Levine says that people laugh to express mastery over an anxiety. Picture what happens when a father tosses his child into the air. The child will probably laugh — but not the first time. In spite of his enjoyment of “flying,” he is too anxious to laugh. How does he know Daddy will [25] catch him? Once the child realizes he will be caught, he is free to enjoy the game. But more importantly, says Dr. Levine, the child laughs because he has mastered an anxiety.

Adult laughter is more subtle, but we also laugh at what we used to fear. The feeling of achievement, or lack of it, remains a crucial factor. Giving a first dinner [30] party is an anxious event for a new bride. Will the food be good? Will guests get along? Will she be a good hostess? All goes well; the party is over. Now she laughs freely. Her pleasure from having proved her success is the foundation for her pleasure in recalling the evening’s activities. She couldn’t enjoy the second pleasure without the first, more important one — her mastery of anxiety.

[35] Laughter is a social response triggered by cues. Scientists have not determined a brain center for laughter, and they are perplexed by patients with certain types of brain damage who go into laughing fits for no apparent reason. The rest of us require company, and a reason to laugh.

When we find ourselves alone in a humorous situation, our usual response is to [40] smile. Isn’t it true that our highest compliment to a humorous book is to say that “it made me laugh out loud”? Of course, we do occasionally laugh alone; but when we do, we are, in a sense, socializing with ourselves. We laugh at a memory, or at a part of ourselves.

Practically every philosopher since Plato has written on how humor and laughter [45] are related, but Sigmund Freud was the first to evolve a conclusive theory. Freud recognized that we all repress certain basic but socially “unacceptable” drives, such as sex and aggression. Jokes, not accidentally, are often based on either sex or aggression, or both. We find these jokes funny because they provide a sudden release of our normally suppressed drives. We are free to enjoy the forbidden, and the energy we [50] normally use to inhibit these drives is discharged in laughter.

Another reason laughter is pleasurable is because of the physical sensations involved. Laughter is a series of minor facial and respiratory convulsions that stimulates our respiratory and circulatory systems. It activates the secretion of adrenalin and increases the blood flow to the head and brain. The total effect is one of [55] euphoria.

Of course, we don’t always need a joke to make us laugh. People who survive frightening situations, such as a fire or an emergency plane landing, frequently intersperse their story of the crisis with laughter. Part of the laughter expresses relief that everything is now all right. During a crisis, everyone mobilizes energy to deal [60] with the potential problem. If the danger is averted, we need to release that energy. Some people cry; others laugh.

Part of the integral pleasure of a joke *is* getting the point. But if the sexual or aggressive element of the joke is too thinly disguised, as in “sick” humor, the joke will leave us feeling guilty instead of amused. We may laugh — but in embarrassment. [65] According to Dr. Grotjahn, “The disguise must go far enough to avoid guilt,” but “not” so far that the thrill of aggression is lost.”

Which brings us to why women may not have found the joke about the man watering his wife very funny — because they get the point only too well. Many psychiatrists agree that the reason women aren’t amused by this kind of joke is that [70] most sex jokes (a hefty percentage of all jokes) employ women as their target. Women sometimes make poor joke tellers for the same reason; consciously or subconsciously, they express their resentment by “forgetting” the story.

When we are made the butt of a joke, either on a personal or impersonal level, we are emotionally involved in it. Consequently, we won’t be able to laugh (except as [75] a pretense). While we are feeling, we cannot laugh. The two do not mix. French essayist Henri Bergson called laughter a “momentary anesthesia of the heart.” We call it comic relief.

Knowing that laughter blunts emotion, we can better understand why we sometimes laugh when nothing is funny. We laugh during moments of anxiety [80] because we feel no mastery over the situation, claims Dr. Levine. He explains, "Very often compulsive laughter is a learned response. If we laugh, it expresses good feelings and the fact that we are able to cope. When we're in a situation in which we *can't* cope, we laugh to reassure ourselves that we *can!*"

How often have we laughed at a funeral or upon hearing bad news? We laugh to [85] deny an unendurable reality until we are strong enough to accept it. Laughter also breaks our tension. However, we may also be laughing to express relief that the tragedy didn't happen to us. We laugh before giving a big party, before delivering a speech, or while getting a traffic ticket, to say, "This isn't bothering me, See? I'm laughing."

[90] But if we sometimes laugh in sorrow, more often we laugh with joy. Laughter creates and strengthens out social bonds. And the ability to share a laugh has guided many marriages through hard periods of adjustment.

According to Dr. Levine, we can measure our adjustment to the world by our capacity to laugh. When we are secure about our abilities, we can poke fun at our [95] foibles. If we can laugh through our anxieties, we will not be overpowered by them.

The ability to laugh starts early, but it takes a lifetime to perfect. Says Dr. Grotjahn, "When social relationships are mastered, when the individual has mastered . . . a peaceful relationship with himself, then has . . . the sense of humor." And then he can throw back his head and laugh.

Appendix D. Categorization of L2 Reading Strategies with Examples

Table D1. Sensory Strategies

Strategy Descriptor	Example
Skipping part of text	“I don’t understand it [sentence], so I skip it to read the following context.” (S16, line 35)
Ongoing reading of part of text	“‘mastery over an anxiety’ I tried to figure out the abstract meaning of the phrase, but found soon that the following sentences are explaining about this. So I kept reading.” (S19, line 22)
Rereading part of text	“The meaning of perplexed. I reread the sentence again.” (S6, line 36)
Annotating part of text while reading	“Marking a word.” (S21, line 51)

Table D2. Reflective Text-Meaning-Centered Strategies

Strategy Descriptor	Example
<u>Reflecting on</u> meaning in text	“Guessing the meaning of the vocabulary” (S5, line 60)
key points in text	“The first paragraph tells us about the motivation of the author” (S3, line 5)
<u>Making an inference about text meaning</u> (non-specific)	“1. quiet giggler. 2. maybe it means ‘people who likes to laugh’. 3. Guess, than skip.” (S1, line 3)
that is supported by text evidence	“1. Respiratory convulsions. 2. it’s should be something in our body. 3. Guess by context.” (S1, line 52)
that conflicts with text evidence	“I don’t know why studies revealed that laugh to the children is not natural. Last [Previous] paragraph said babies laugh at eight days of age.” (S20, line 16)

Table D3. Reflective Text-Language-Centered Strategies

Strategy Descriptor	Example
<u>Reflecting on [aspect of language] in text</u>	
punctuation	“There is a parentheses. I reread after I finish the remark in the parentheses.” (S7, line 17)
word length	“1. schizophrenic. 2. it’s a long word. it shouldn’t influence my reading. 3. skip.” (S1, line 17)
sentence complexity	“Complex sentese. So I reread to clear it out.” (S13, line 36)

Table D4. Reflective Extra-Text- / Text-Meaning-Centered Strategies

Strategy Descriptor	Example
<u>Reflecting on</u>	
relationship between reader’s personal experience or knowledge and text meaning	“I stop to think if I do the same thing as other women.” (S10, line 72)
information in text and raising questions about it	“Do children die because they don’t laugh? What are his studies based on?” (S13, line 17)
<u>Expressing</u>	
interest in ideas in text	“Good, Freud again.” (S12, line 50)
positive evaluation of text	“Dr. Levine also says something worthy reviewing.” (S14, line 80)
negative evaluation of text	““Laughter is a series of minor facial and respiratory convulsions that stimulates our respiratory and circulatory systems.’ Holy cow, back to biology!” (S11, line 52)

Table D4. (continued)

Strategy Descriptor	Example
<u>Expressing (continued)</u>	
agreement with ideas in text	“reread. And later agree with what’s pointed out.” (S2, line 61)
disagreement with ideas in text	“disagree, doubt” (S4, line 88)
a neutral reaction to ideas in text	“‘schizophrenic psychosis’ — what in the world? Must be sad not to develop responses to pleasure, happiness and safety.” (S11, line 17)
<u>Making an inference from prior knowledge of</u>	
text meaning that is supported by the text	“It may not be my action. Think — Well, it’s common to most people.” (S12, line 40)
text meaning that conflicts with text evidence	“I don’t agree this two sentences because most of us have not often laughed at a funeral or upon hearing bad news.” (S20, line 85)
text organization (unspecified)	“This passage by Dr. Levine could be a conclusion of the above mentioned paragraph[s]; of course, not all the paragraph[s] but some of them.” (S3, line 80)
text organization that conflicts with text evidence	“the topic sentence in the last paragraph is not very much related to the last two paragraph[s]. stop to wonder why the writer put down a topic sentence like this.” (S4, line 96)