SUMMARY

◆ **Investigates words considered to be difficult and easier to understand by Dutch students**
◆ **Finds better comprehension of words recommended by the Plain English Campaign**
◆ **Concludes that the Campaign is providing the right guidelines for this group of respondents**

Plain English for a Dutch Audience:
Comprehension and Preference

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INTERNATIONAL ENGLISH AND THE PLAIN ENGLISH MOVEMENT

Crystal (2003, 67–69) showed that the spread and hence the use of English all over the world has increased tremendously over the past 500 years, especially so in the last 50 years. He estimates the number of native speakers of English at 400 million, the number of second-language speakers at 430 million, and the number of speakers with an average competence in English at 750 million. Adding up all these speakers of English, we reach a grand total of approximately 1.5 billion or about a quarter of the world's population who can speak English. This number is higher than that of any other language. Chinese, by comparison, has approximately one billion speakers. Most importantly, the people who use English as an international language far outnumber those for whom English is their first or second language.

In contemporary communication in English, we must bear in mind that receivers of messages may be neither first nor second language speakers but users of English as an international language (Boiarsky 1995; Thrush 1993; Weiss 1992). This makes special demands on the English used, for what is comprehensible to a native speaker of English need not be so to a non-native speaker of English. In a variety of fields, therefore, simplified versions of English with set expressions and codes have developed (Crystal 2003, 106–112): airspeak, for communication between pilots and traffic control; seaspeak, for communication at sea; emergency speak, for communication between the United Kingdom and the European continent; and Simplified Technical English (STE) for technical communication. The European Association of Aerospace Industries (AECMA) has developed Simplified English for aircraft maintenance.

It is by no means common knowledge, however, that non-native speakers of English may require a different kind of English than native speakers do. Thrush (2001) reported that major companies like IBM and Nokia have their manuals written by native speakers of English but neglect to have the documents' user-friendliness tested by non-native speakers of English, even if these make up part of the target group.

With respect to the comprehensibility of English texts, the plain English movement (PEM) is important. PEM consists of people and organizations that advocate the use of transparent and clear English. The first person to do so was the British schoolteacher Robert Cawdrey in 1604, when he published the Table Alphabeticall, whose object was to explain "hard usual words" in terms of "plaine English words." In the lengthy subtitle to his book, he explained that he wrote it particularly for "Ladies, Gentlewomen, or any other vnskilfull persons" (quoted in McArthur 1991, 13). In the 1970s, PEM was moving into a position of increasing prominence in the United States, mainly pressured by consumer movements demanding both better products and services, and a transparent linguistic usage to go with those products and services (Eagleson 1991; Campbell 1999).

In 1979, the Plain English Campaign (PEC) was launched in the UK to counteract the use of unclear language, also called *waffle, twaddle, drivel, gobbledygook,* or *legalese,* and to champion the use of plain English. This is defined as "something that the intended audience can read, understand and act on the first time they read it. Plain English takes into account design and layout as well as language" (Plain English Campaign 2007). The rules for the use of Plain English are based on the following principles (Plain English Campaign n.d.):

◆ *Keep your sentences short*
◆ *Prefer active verbs*
◆ *Use "you" and "we"*
◆ *Choose words appropriate for the reader*
◆ *Don't be afraid to give instructions*
◆ *Avoid nominalizations*
◆ *Use positive language*
◆ *Use lists where appropriate*

They also publish a list of difficult words, offering easy alternatives, *The a to z of alternative words* (Plain English Campaign n.d.). The PEC is British, but similar initiatives

have been taken elsewhere in the world, especially in countries whose first language is English, such as the United States (U.S. Securities and Exchange Commission [SEC]) and Australia (Plain English Foundation). In countries where English is a major second language, such as India and South Africa, the PEC also propagates the use of plain English without, however, forcing their norms on these countries: "We'd never try to force our language culture on another culture. What sounds long-winded and flowery to us may be perfectly understandable to them [i.e., speakers of English in India]" (Maher and Wild 1999, 10).

PEM targets native speakers of English and second-language speakers of English, but does not really address those who use English as an international language, despite the fact that this is the biggest body of speakers of English. PEM probably assumes that Plain English would also be more comprehensible than non-plain English to these international audiences. The only researcher within the field of rhetoric and technical/scientific communication so far to question this view is Thrush (2001).

Thrush (2001) investigated those words that are recommended by the PEM as replacements for more difficult words. Basing her research on the guidelines for the use of plain English words of the *Plain English handbook* (U.S. Securities and Exchange Commission 1998), the National Literacy Secretariat of Canada, and the Plain English Campaign, she concluded that, virtually without exception, they recommend to:

◆ Replace one-word verbs by phrasal verbs, that is, verbs with an adverb or preposition: *comprises* by is *made up*, *establish* by *set up*, *complete* by *fill in*
◆ Replace Latinate words by Germanic ones: *accomplish* by *do*, *locality* by *place*

Thrush felt that the versions that the PEM discourages people from using would in fact be easier to understand for non-native speakers of English than the alternatives recommended by these movements. She, therefore, carried out two experiments with students whose native language was not English but whose TOEFL scores were high enough to grant them admission to graduate programs in the United States. These students' native language was either an Asian or a European language.

To verify whether phrasal verbs were indeed more comprehensible than one-word Latinate verbs, the students were given a list of 27 Latinate verbs and a list of 27 phrasal verbs, and were asked to match Latinate and phrasal verbs. A pilot test had demonstrated that native speakers of English averaged 26.5 correct matches, but the foreign students obtained considerably lower scores: an average of 17 correct matches, with the Asian students averaging 10 correct matches and the European students 20. Based on these results, Thrush concluded (2001, 294) that "phrasal verbs,

were, indeed, a problem for even advanced learners of English as a Second Language."

However, we doubt whether this experiment justifies this conclusion. It is clear that non-native speakers produced fewer correct matches than the native speakers, but is this result due to their not understanding the one-word Latinate verbs, to their not understanding the phrasal verbs, or to neither? Thrush's experiment does not allow us to decide this matter or, therefore, to state that the phrasal versions recommended by the PEM are less comprehensible to non-native speakers of English than the one-word verbs they discourage people from using.

To investigate whether non-native speakers of English also more readily understand Germanic words than Latinate words, Thrush (2001) performed a second experiment involving 44 French and 44 German students. She took several passages from an academic English language-learning textbook and selected some words from each passage. The students were asked to select a word from the list that fit the blank in the text. The list included both the Latinate and the Germanic versions of the words that were to be supplied. Both the German and the French students chose more Latinate versions (discouraged by the PEM) than Germanic versions (recommended by the PEM).

According to Thrush, their preference for Latinate vocabulary items is due to the fact that the passages came from an academic genre, because Latinate vocabulary is used in the texts of this genre that the students had read in English. The French students, moreover, opted for Latinate words significantly more often than the German students. Thrush saw this finding as an indication that native language influences vocabulary preference: the more words resemble your native language, the more you tend to prefer them.

Finally, Thrush performed an experiment with a between-subjects design to test subjects' comprehension of 10 Germanic-Latinate English word pairs. Half the respondents were to read a text using Germanic terms, and the other half were to read a version of the same text using Latinate synonyms. Both groups proved able to comprehend either version equally well. This part of her study led Thrush to conclude that, for the French and the Germans, there was no difference in text comprehension between the Germanic versions recommended by the PEM and the Latinate versions discouraged by the PEM. Thrush then added that these results were inconclusive as her study involved a limited number of respondents and a very limited number of word pairs: "This area requires further testing" (Thrush 2001, 295). In the study reported here, this is exactly what we have done.

PLAIN ENGLISH WORDS FOR THE DUTCH?

Inspired by Thrush's (2001) results, we carried out a comprehension study in the Netherlands of words discouraged

by the PEM and those recommended by the movement's institutions. In our study, we restricted ourselves to the guidelines of one of these institutions, namely the PEC. Our main reason for doing so was that the PEC is a British organization and that British English is the variety of English taught at secondary schools in the Netherlands (van der Haagen 1998, 2). As the Dutch are familiar with British spellings, terminology, and linguistic usage, it seemed to us it would make sense to select PEM guidelines that are predominantly based on British English. Blicq (2003, 3) used a similar line of reasoning in his English guidelines for international audiences: take the English spelling, terminology, and linguistic usage that matches the language variety that is common in a particular country, for example, British English in a number of European countries.

The research questions we wished to address in our research were the following:

1. Are those words that are considered to be difficult for native speakers of English by *The a to z of alternative words* (Plain English Campaign n.d.) also considered to be difficult by native speakers of Dutch?

2. Do native speakers of Dutch comprehend words discouraged by the PEC in *The a to z of alternative words* less well than words recommended by the PEC?

3. Do native speakers of Dutch prefer words discouraged by the PEC in *The a to z of alternative words* or words recommended by the PEC?

Research questions 2 and 3 were our main research questions, but we wanted to get an answer to research question 1 too. If, after all, the words discouraged by PEC were not considered difficult by speakers of Dutch—because they resemble words in Dutch, for instance—there would be no need for us to examine the second research question. We examined this first question by way of a small-scale preliminary study and the two main research questions by means of an experiment. Below, we will first describe the design and the results of the preliminary study before moving on to the design and the results of the experiment we performed to answer the two main research questions.

PRELIMINARY STUDY: WHICH ENGLISH WORDS ARE CONSIDERED DIFFICULT?
Materials
We undertook to answer the first question in a small-scale study, in which Dutch subjects were to point out those words they did not understand in an English-language text. For us to be able to do so, we looked for a text that met the following three conditions:
◆ It was written in English.
◆ It was available to Dutch people only in English.
◆ It was available to all Dutch people rather than to just a particular target group.

The first condition does not require any further explanation and was easy to meet. English has permeated every nook and cranny of Dutch life (Gerritsen and Nickerson 2004); some linguists even feel that English is well on its way to acquiring second language status in the Netherlands (Berns 1995; Graddol 1999).

The second condition was defined to enhance the ecological validity of our research. If a Dutch translation of an English text is available, the Dutch will, in all likelihood, not read the English text. Our stipulation of this second condition prevented us, for example, from using directions or instructions, since these are virtually always translated into Dutch.

The third condition was formulated because we wished to gain an understanding of any possible difficulties with English that might be occurring in the day-to-day lives of the Dutch. Thus, we chose not to use annual reports of Dutch organizations, for example, as these aim mainly at shareholders.

Eventually, we settled on the privacy statutes and user or licensing conditions of Internet and software companies that must be accepted before software or Internet applications can be installed. Though these documents are also frequently translated into Dutch, many are available exclusively in English, especially on the Internet. We selected the "Legal notice, disclaimer, and terms of use" of RealNetworks (http://www.realnetworks.com/company/legal.html?src=homeintl_nl, see Figure 1). Users must accept this legal notice if they wish to make use of the services and products on offer on the RealNetworks Internet page.

Using *The a to z of alternative words* of the PEC, we verified whether this text did indeed use words that could be replaced by simpler words in line with PEC guidelines. The text appeared to contain 25 such words (see the lists in the Results section), more than sufficient for us to check whether words that the PEC considers to be difficult for native speakers of English are also considered to be difficult by native speakers of Dutch.

The respondents were to mark the words in the text that they considered difficult. To prevent the results from being affected by anything unrelated to the comprehensibility of the words, we adjusted the text:
◆ Selected font was 14-point Times New Roman.
◆ Color was set to black and white.
◆ Upper-case text was replaced by lowercase text.
◆ Line spacing was set at 1.5.

Respondents and procedure
The respondents were 6 sixth-year students attending the highest level of Dutch secondary education, the six-year "university preparatory" (VWO) program, who in their teacher's opinion, had a fair knowledge of English (mini-

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Figure 1.   Selection from the Real Networks "Legal notice, disclaimer, and terms of use."

mum grade of 7 out of 10). Their average age was 17.6 years.

We selected these subjects both because they belonged to the target readership of the text and because they had been taught English at the highest level attainable in secondary education in the Netherlands. If they had any problems with certain English words, so, in all probability, would other Dutch people.

On average, the respondents needed 20 minutes to read the text and mark the words. One of the respondents did not mark a single word as, according to him, the context had allowed him to establish the meanings of the words.

Results
Out of the 25 words in the text for which the PEC recommends alternatives, seven had been marked by at least one student (category 1):

compiled, constitutes, hereunder, on behalf of, pursuant to, substantially, sufficient

Not all students, for that matter, considered all of these words difficult to the same degree. Constitutes was

considered difficult by virtually all, but compiled and sufficient by only one student. The remaining 18 words in the text to which the *The a to z of alternative words* of the PEC suggests alternatives were not considered difficult (category 2):

authorize, conditions, determine, furnish, implied, in connection with, manner, modify, permit, procuring, promptly, provide, regulations, request, restricted, subject to, transmit, with respect to

There were 29 words, finally, that did not occur in *The a to z of alternative words* of the PEC but that were considered to be difficult by at least one student (category 3):

accuracy, affiliated, alleged, applicable, consent, contingencies, designated, divisions, endorsements, entities, infringed, infringement, liability, merchantability, negligence, omissions, pass-off, penalty, perjury, playback, referrals, sequence, set forth, subsidiaries, successors, timeliness, tort, usage, warranty

Although none of these words are in *The a to z of alternative words*, there are nine whose level of difficulty

has been recognized by the PEC in *The a to z guide to legal phrases* (Plain English Campaign 2006), a list of legal terms for which the PEC has no alternatives but does provide a definition in clear language (category 4):

> *consent, endorsement, liability, merchantability, negligence, penalty, perjury, tort, warranty*

Conclusion: PEC guidelines for use of words are only partially suited to the Dutch

The Dutch students did not fully comprehend the legal notice of RealNetworks. Thirty-six words were marked as not understood by one or several students. Seventeen of these words (47%) are recognized by the PEC as difficult words: for 7 of them, there is an alternative in *The a to z of alternative words*, and for 9 of them, there is a definition in *The a to z guide to legal phrases*. Thus, the PEC presents solutions for fewer than half the problems experienced by Dutch students but not for the remainder. Moreover, the text contained 18 words that are hard to understand according to *The a to z of alternative words* but that were not perceived as such by the Dutch students (category 2 above).

The question that this preliminary study set out to answer was whether those words that are considered to be difficult for native speakers of English by *The a to z of alternative words* of the PEC are also considered to be difficult by native speakers of Dutch (research question 1). The results of this study are not unequivocal. Our respondents considered words easy to understand that the PEC feels are difficult to understand (category 2) and considered words difficult to understand that are not designated as such by the PEC (category 3).

However, these results are subject to a number of limitations. Firstly, this was a preliminary study involving only six respondents. Secondly, we only looked at one social/educational group: sixth-year Dutch secondary-school students at university preparatory (VWO) level. They have attained the highest level in English in secondary education in the Netherlands. This fact, of course, means that Dutch people with less education are likely to consider more words difficult (such as those in category 2). The results of this preliminary study do indicate, however, that if an organization writes in English for a Dutch audience and used the PEC exclusively to guide its word choice, it will probably still be using words that are considered hard to understand by them.

Finally, we did not test the respondents' true comprehension of the words but asked them for their own assessment. Had we tested their comprehension, the results might have been different. However, the results reported in the next section do provide some answers relating to some of the words mentioned above.

MAIN STUDY: COMPREHENSION OF AND PREFERENCE FOR WORDS EITHER DISCOURAGED OR RECOMMENDED BY THE PEC

In our experiment, we tried to ascertain whether the PEC suggestions for word substitution led to improved text comprehension in Dutch subjects. Inspired by Thrush (2001), we suspected that the Dutch—just as the French and the Germans—might consider the Latinate words discouraged by the PEC easier to understand than the Germanic words recommended by the PEC. After all, like German and English, Dutch is a West Germanic language that has borrowed a considerable number of words from Latin (van der Sijs 1996, 131–229). Therefore, we focused on English words of Latinate origin, distinguishing two categories:

1. Latinate words with a Germanic alternative recommended by the PEC

2. Latinate words with another Latinate alternative recommended by the PEC

If the Latinate English words indeed were thought easier to comprehend than Germanic English words due to their origin in Latin, we expected that:

A. The Latinate words discouraged by the PEC would be considered easier to comprehend by Dutch respondents than the Germanic ones recommended by the PEC.

B. The Latinate words discouraged by the PEC would be considered just as easy to comprehend by Dutch respondents as their Latinate alternatives recommended by the PEC.

Test items

The non-plain English words used in our experiment were taken from the legal notice of RealNetworks used in our preliminary study. Based on *The a to z of alternative words*, we established whether a word was non-plain English and obtained the alternative recommended by the PEC from this same list. To establish whether a word had a Latinate or a Germanic origin, we consulted *An etymological dictionary of the English language* by Skeat (1986) and *Collins English dictionary* millennium edition by Sinclair (1998). Table 1 presents the words we used to test expectation A. In the preliminary study, four of the Latinate words had not been marked by the students as being considered difficult (see category 2). One word—*sufficient*— was considered difficult to comprehend by one student (see category 1).

Table 2 presents the words we used to test expectation B. In the preliminary study, *Constitute* was marked by four students as being difficult to comprehend; *restrict* was discouraged by the PEC but was not considered difficult by the students. The remaining three words were not found in the legal notice of RealNetworks but in a similar text: Lycos terms and conditions (http://www.lycos.com/lycosinc/legal.html. The legal notice turned out to contain few Lati-

TABLE 1: WORDS USED TO TEST EXPECTATION A THAT LATINATE NON-PLAIN ENGLISH WORDS WOULD BE BETTER UNDERSTOOD THAN GERMANIC PLAIN-ENGLISH ALTERNATIVES

Latinate word discouraged by PEC	Germanic alternative recommended by PEC
Furnish	Give
Manner	Way
Permit	Let
Subject to	Under
Sufficient	Enough

nate non-plain English words for which the PEC recommended another Latinate plain English word.

As a starting-point for producing the test items, we took those sentences that contained the non-plain English words. These sentences were then rewritten to conform to PEC guidelines, so that the non-plain English word would be the only probable factor to determine the degree of difficulty of the sentence.

In all, we used 20 sentences (see Appendix A): 10 containing a Latinate non-plain English word and 10 containing their plain English alternatives, five of which were of Germanic origin (see Table 1), and five of which were Latin-derived (see Table 2).

Respondents

A total of 130 fifth-year Dutch students from four different schools took part in the experiment. All students had reached the end of their fifth year in the Dutch six-year university preparatory secondary school program (VWO), so their attainment level was virtually that of the sixth-year student level, the highest school level attainable in the Netherlands. Their average age was 16.7 years (SD .67). They had been taught English and French for approximately five years (English: M = 5.46, SD = .97; French: M = 5.05, SD = .48). Thus, all respondents had had roughly the same amount of formal training in English and in a Romance language, and could therefore be expected to understand Latinate English words fairly well. All respondents were Dutch and spoke Dutch as their native language. Out of these 130 respondents, 114 (88%) said they had downloaded English texts similar to the legal notice at one time or another.

Instruments

Ten sentences were submitted to the respondents; five of these contained a non-plain English word and five contained a plain English word. These words were printed in bold in the sentences (see Appendix A).

First, we measured the students' own assessment of their word comprehension. On a five-point Likert scale (1 = fully comprehended, 5 = not comprehended at all), the students were to indicate their comprehension of a word. Then we measured their real comprehension of the words. The sentences with the same words were once again submitted to the students, who were then asked to provide a paraphrase of the word in bold. Finally, they were given the same 10 sentences containing both the non-plain English and the plain English word versions and were asked to express their preference for either version.

To determine whether the students' own assessment of their comprehension of the individual words in a particular set of word types (for example, the five plain Germanic words) could be combined into one variable, Cronbach's alpha was calculated. If Cronbach's alpha is higher than .70, combining scores on individual items into one composite variable is allowed (see Aron, Aron, and Coups 2005). We determined Cronbach's alpha for the students' assessment of their comprehension of the set of the five non-plain Latinate words with Germanic alternatives, the five Plain Germanic words, the five non-plain Latinate words with plain Latinate alternatives, and the five plain Latinate words. In all of these cases, Cronbach's alpha was too low to combine the scores on the individual words (.64, .45, .69, and .38, respectively). Hence, we will discuss the results for each of the five words in a set separately.

TABLE 2: WORDS USED TO TEST EXPECTATION B THAT THERE WOULD BE NO DIFFERENCE IN COMPREHENSIBILITY BETWEEN LATINATE NON-PLAIN ENGLISH WORDS AND LATINATE PLAIN-ENGLISH ALTERNATIVES

Latinate word discouraged by PEC	Latinate alternative recommended by PEC
Additional	Extra
Constitute	Form
Diminishes	Reduces
Restrict	Limit
Transfer	Move

Design

To measure assessed and real comprehension, we used a between-subjects design: half the respondents were given the plain English version of a word and the other half was given the non-plain English version. To avoid potentially detrimental order effects, the sentences were mixed in several questionnaires in accordance with a Latin square design. With 65 subjects per version, power was .81, with a medium effect size (d = .50) and a = .05. Thus, with this number of subjects, we are able to detect an overlap of about 67% in the scores on the dependent variables between the plain and non-plain versions (see Aron, Aron, and Coups 2005, 192; Cohen 1992). The medium effect size "approximates the average size of observed effects in various fields" (Cohen 1992, 156). To measure the students' preference for a version, we used a within-subjects design: the respondents had to choose which word—plain English or non-plain English—they preferred.

Procedure

The experiments were performed during class at school. Completion of the experiment took an average of 10 minutes. The students had not been informed about the aim of the research. As a token of appreciation, they were given candy. A team of three English language experts assessed whether the students' word paraphrases indicated that they had grasped the meaning of the word.

Statistical analysis

We processed the data using SPSS 13. To compare word pair scores for estimated comprehensibility on the plain versions and the non-plain ones, *t* tests were performed for independent groups, since *t* tests determine whether there are statistically significant differences in scores on scales (in this case, scales measuring how comprehensible words were judged to be). Chi-square tests were done to check whether the paraphrases (correct or incorrect) of the various words differed between versions; Chi-square tests determine whether there are statistically significant differences in the frequency with which items fall into discrete, non-scale categories (in this case "correct" *versus* "incorrect"). Preferences for plain or non-plain were determined by frequencies and percentages.

Results

For the Latinate non-plain English words and the Germanic plain English words, Table 3 presents

◆ The students' own assessment of their word comprehension
◆ Determination of whether the meaning of the word was correctly or incorrectly paraphrased
◆ The version the students preferred
Table 4 presents the results of the *t* tests that were

performed to check whether differences in the students' own assessments of their comprehension between the non-plain English words and their plain English alternatives were significant. It also presents the results of the Chi-square tests that were done to check whether there were significant differences in terms of the correctness of the paraphrases between the non-plain English words and their plain alternatives.

Table 3 shows that the students' own assessment of their comprehension of the Germanic plain English words always outstripped their own assessment of their comprehension of Latinate non-plain English words. Table 4 shows that the differences are significant for all words except for the word pair *permit-let*. The meanings of the Germanic plain English words were actually always given more accurate paraphrases than those of their Latinate non-plain English alternatives: 92% correct *versus* 56% correct. The results of the Chi-square tests in Table 4 show that the differences in correct paraphrases for the total and for all pairs are significant, except for the word pair *permit-let*. Finally, the students preferred the Germanic plain English versions to the Latinate non-plain English ones, except, again, in the case of the word pair *permit-let*.

Tables 5 and 6 are organized in the same way as Tables 3 and 4, but in this case, for Latinate non-plain English words and their Latinate plain English alternatives.

Table 5 shows that our respondents always thought they comprehended the Latinate plain English versions better than their Latinate non-plain English versions. For two out of five pairs, the difference is not statistically significant (Table 6): *constitute-form* and *transfer-move*. The actual paraphrases of the Latinate plain English words are actually always better than those of the Latinate non-plain English words: 73% correct *versus* 37% correct. Finally, the students virtually always preferred the Latinate plain English version to the Latinate non-Plain English version, except in the case of the word pair *transfer-move*.

Conclusion: For the Dutch, PEC guidelines make the right recommendations for use of words

The question our experiment was designed to answer was whether PEC suggestions for word substitution would lead to improved text comprehension for Dutch subjects. The results of our experiment indicate that overall, this hypothesis is indeed true for the words that we investigated. Both the students' own assessment of their comprehension and their actual paraphrases show a high degree of uniformity: both show that the plain English versions are generally better understood than the non-plain English versions (research question 2). In addition, the students virtually always prefer the plain versions (research question 3).

Expectation A, based on Thrush (2001), that Latinate non-plain English words would be better understood than

TABLE 3: STUDENTS' ASSESSMENT OF THEIR, CORRECTNESS OF THEIR PARAPHRASES, AND THEIR PREFERENCE FOR LATINATE NON-PLAIN ENGLISH WORDS OR GERMANIC PLAIN ENGLISH ALTERNATIVES

Non-Plain Latinate n = 65	Assessment of comprehension M (SD)	Correct	Incorrect	Plain Germanic n = 65	Assessment of comprehension M (SD)	Correct	Incorrect	Preference for Plain version N = 130
Furnish	3.35 (1.28)	35	30	Give	1.05 (0.28)	63	2	108
		54%				97%		83%
Manner	1.95 (1.26)	39	19	Way	1.06 (0.30)	60	5	80
		67%				92%		65%
Permit	1.48 (0.73)	57	7	Let	1.31 (0.68)	63	2	24
		88%				97%		18%
Subject to	2.42 (1.17)	11	53	Under	1.28 (0.60)	48	17	92
		17%				74%		71%
Sufficient	1.80 (1.07)	34	31	Enough	1.05 (0.28)	65	0	67
		52%				100%		51%
Total		176	140			299	26	
		56%				92%		

their Germanic plain English alternatives was not corroborated at all. Both the students' own assessment of their comprehension and their actual paraphrases show that the Germanic plain English alternatives are understood significantly more often than the Latinate non-plain English versions. There was only one word pair that did not show a significant difference: *permit-let*. These findings do not match Thrush's (2001) results. She found no difference in comprehension between the Germanic plain English and the Latinate non-plain English words in speakers of German and French.

Expectation B that there would be no difference in comprehension between the Latinate non-plain English words and the Latinate plain English words was corroborated for the pairs *constitute-form* and *transfer-move* in the student's assessment of their comprehension, and for the pair *transfer-move* in their actual paraphrases. For all other word pairs, the Latinate plain English version was properly understood significantly more often in the students' assessment and better paraphrased more often in actual fact.

Thrush's (2001) idea that Latinate English words would be easier to comprehend than Germanic plain English words for people with a language background involving many Latinate loan words proves not to hold true for our Dutch respondents. If we take into account the frequency of the plain English words and the non-plain English words, our research results are actually not very surprising. The plain English words generally have a much greater frequency than the non-plain English ones, as shown in Table 7, which represents the frequency of all words used in the experiment according to Hofland and Johansson (1989). It is only natural that, in foreign language acquisition, frequently occurring words are learned sooner than less frequently occurring words.

The frequency of plain English words compared with non-plain English words, however, cannot fully explain our experimental findings. For two out of the 10 pairs of words in our experiment, the less frequent non-plain English variant was understood equally well as the more

TABLE 4: SUMMARY OF STATISTICAL TESTS OF DATA IN TABLE 3

	Assessment of comprehension			Correct/incorrect paraphrases	
Word pairs	**t-value**	**df**	**p**	**χ^2 (df = 1)**	**p**
Furnish-give	14.21	69.92 a	<.001	32.50	<.001
Manner-way	5.57	71.28 a	<.001	12.26	<.001
Permit-let	1.36	128	n.s.	3.07	n.s.
Subject to-under	6.98	95.40 a	<.001	41.71	<.001
Sufficient-enough	5.47	71.18 a	<.001	40.70	<.001
Total				110.04	<.001

◆ a: Equal variances could not be assumed (tested with Levene's test) and therefore adjusted degrees of freedom were used.
n.s. = not significant.

frequent plain English word: *permit-let* (see Tables 3, 4 and 7) and *transfer-move* (Tables 5, 6, and 7). That *permit* did not pose a greater comprehension problem than *let* may be because the meaning of the word can be quite easily deducted from the sentence in which it occurs ("You may not **let**/**permit** multiple users use the software over a network") and because *permit* resembles the Dutch word *permitteren*, which has the same meaning.

A possible explanation for the lack of difference in comprehension between *transfer* and *move* may be that the word *transfer* is commonly used in Dutch in connection with the popular game of football (soccer). The common use of *transfer* in this context may also explain why the majority of our respondents preferred it to *move*, but we cannot explain why the majority of respondents expressed a preference for *permit* rather than *let*. For another word pair, *additional-extra*, there was hardly any difference in frequency between the plain English and non-plain English variant, while there was a difference in comprehension and preference, the plain English word scoring better on both counts (see Tables 5, 6, and 7). The explanation here may be that the Dutch word *extra* is more frequent than the Dutch word *additioneel* (additional).

DISCUSSION AND IMPLICATIONS
Our preliminary study shows that PEC guidelines are only partially applicable to native speakers of Dutch. Some words (n = 18) were held to be difficult by the PEC but not considered difficult by the students; other words (n = 20) not listed by the PEC as difficult were considered difficult by our students. Only 17 of 38 words that were considered

to be difficult by the students were actually also regarded as such by the PEC. Anyone producing a text that follows PEC English usage guidelines for Dutch readers, then, is still likely to use words that will not be understood.

A problematic aspect in our preliminary study is that we investigated neither whether the students actually did not comprehend those words they considered to be difficult to understand nor whether they really grasped those words they considered easy to understand. They may have underestimated or overestimated their own knowledge. In the second study—the experiment—we examined both the students' own assessment of their comprehension and their actual comprehension. The results of these two ways of assessing comprehension were unambiguous: when the students' own assessment of their comprehension was high, the number of correct paraphrases was also high; when there were significant differences in the students' own assessment of their comprehension, there were also significant differences between the non-plain English versions and the Plain english versions, with the exception of a single word pair.

The experiment involved seven words that also occurred in the text used in the preliminary study. *Furnish*, *manner*, *permit*, *subject to* (Table 3) and *restrict* (Table 5) had not been considered difficult to understand by any students; *sufficient* (Table 3) had been considered difficult by one student; and *constitute* (Table 5) had been considered difficult by four students. By verifying how often the students in the experiment came up with the correct meanings of these words, we can also get an idea of the validity of the results of the preliminary study.

TABLE 5: STUDENTS' ASSESSMENT OF THEIR COMPREHENSION, CORRECTNESS OF PARAPHRASES, AND PREFERENCE FOR LATINATE NON-PLAIN ENGLISH WORDS OR LATINATE PLAIN ENGLISH ALTERNATIVES

Non-Plain Latinate n = 65	Assessment of comprehension M (SD)	Correct	Incorrect	Plain Latinate n = 65	Assessment of comprehension M (SD)	Correct	Incorrect	Preference for Plain version N = 130
Additional	2.55 (1.23)	26	39	Extra	1.03 (0.17)	62	3	100
		40%				95%		77%
Diminishes	2.68 (1.46)	21	44	Reduces	1.66 (0.89)	40	24	111
		32%				62%		87%
Constitute	2.86 (1.18)	4	61	Form	2.66 (1.23)	29	36	69
		6%				45%		57%
Restrict	2.03 (1.21)	15	50	Limit	1.26 (0.59)	44	18	74
		23%				71%		58%
Transfer	1.31 (0.72)	53	12	Move	1.20 (0.62)	58	7	31
		81%				89%		24%
Total		119	206			233	88	
		37%				73%		

In the experiment, the percentages of correct paraphrases for words that had not been considered difficult in the preliminary study (see Tables 3 and 5) were *furnish* (54%), *manner* (67%), *permit* (88%), *subject to* (17%), and *restrict* (23%). This finding leads us to conclude first that there were wide-ranging differences in the students' comprehension of these words, ranging from 17% to 88% correct comprehension. Secondly, it shows that not all words that had been considered easy to understand in the preliminary study were actually understood by all Dutch students in this group. Thus, students involved in the preliminary study may have overestimated their own knowledge.

In the experiment, the percentages of correct answers for the two words that had been considered difficult in the preliminary study were 52% for *sufficient* (Table 3) and 6% for *constitute* (Table 5). The result for *sufficient* is surprising because two words that had not been considered difficult in the preliminary study obtained lower percentages of correct answers in the experiment: *subject to* (17%) and

restrict (23%). The result for *constitute* seems to indicate that the students' were actually quite capable of assessing their non-comprehension of a word: there is no other word in the entire experiment with a lower percentage of correct answers. The difference in the results for *constitute* and *sufficient* in the experiment may possibly be explained by the fact that *constitute* had been considered difficult by four students and *sufficient* only by one.

Besides the 10 word pairs in Tables 1 and 2, the first two parts of the experiment also included another two words that had been considered difficult more frequently in the preliminary study but that were not listed in *The a to z of alternative words*: *contingencies* (3x) and *omissions* (15x). For *contingencies*, the percentage of correct paraphrases was .76%, and for *omissions*, it was 3%. When we compare these percentages with those in Tables 3 and 5, there prove to be no other words whose meaning was so often misrepresented.

Comparing the results of the preliminary study and the

TABLE 6: SUMMARY OF STATISTICAL TESTS OF DATA IN TABLE 5

Word pairs	Assessment of comprehension			Correct/incorrect paraphrases	
	t-value	df	p	χ^2 (df = 1)	p
Additional-extra	9.92	66.58 a	<.001	45.58	<.001
Diminish-reduce	4.79	105.75 a	<.001	11.79	<.001
Constitute-form	0.95	128	n.s.	25.38	<.001
Restrict-limit	4.60	93.06 a	<.001	29.26	<.001
Transfer-move	0.910	128	n.s.	1.54	n.s.
Total				84.26	<.001

◆ *a: Equal variances could not be assumed (tested with Levene's test) and therefore adjusted degrees of freedom were used. n.s. = not significant.*

experiment, therefore, we infer that the results of the preliminary study give a pretty good indication of which words are difficult for the Dutch to understand and that there is the likelihood that those words that had not been indicated as difficult in the preliminary study will still be difficult for some Dutch people in this group.

Our first research question, therefore, can be answered in the affirmative: those words that—according to the PEC—are considered difficult for native speakers of English are also considered difficult for native speakers of Dutch. However, for the Dutch, the number of words that are considered difficult exceeds those registered by the PEC. We therefore recommend an inventory of words that, even though they may not be considered difficult for English native speakers, are difficult for native speakers of Dutch, and a list of alternatives for these words.

The findings of the present study obviously apply only to native speakers of Dutch. Native speakers of other languages may have no difficulty understanding the words discouraged by the PEC or may find other words difficult. For all the mother tongues of non-native English audiences targeted by English communication, separate studies must be conducted to determine which English words are difficult to understand and to compile inventories of easy-to-understand alternatives.

Another issue that should be studied is whether our findings also apply to communication media other than print—for example radio, television, and the Internet—since these differ in the extent to which text is supported by visual information and in the extent to which the audience can process the text at their own speed and can process part of the text more than once. These differences may affect the impact of word choice on the comprehensibility of the text.

A final important issue that we would like to mention here is that as far as we know, there is no research comparable to the present study that shows which English words are considered difficult by native speakers of English. It would be interesting, as a point of comparison, to find out how native speakers of English at approximately the same stage of educational development as the Dutch participants would fare in a similar study.

Our experiment shows that the PEC offers the right plain English alternatives for speakers of Dutch. For the words we investigated, comprehension in speakers of Dutch was improved by following the PEC's word substitution suggestions. Thrush's (2001) hypothesis that Latinate English words would be easier to understand than Germanic words was not corroborated by our experiments among Dutch students. Although our experiment shows that the PEC offered the right plain English alternatives for speakers of Dutch, we must bear in mind that we carried out our research among a section of the population with the highest attainment levels in secondary education: fifth- and sixth-year students in university preparatory education. Speakers of Dutch with less advanced English proficiency levels will probably have difficulty with a greater number of words. Gerritsen, Korzilius, van Meurs, and Gijsbers (2000) found that Dutch people with low educational qualifications had a considerably poorer grasp of English used in commercials than Dutch people with high educational qualifications.

TABLE 7: FREQUENCY OF INVESTIGATED NON-PLAIN ENGLISH WORDS AND THEIR PLAIN ENGLISH ALTERNATIVES IN A ONE-MILLION WORD CORPUS (BASED ON HOFLAND AND JOHANSSON 1989)

Non-Plain English	Frequency	Plain English	Frequency
Furnish	18	Give	1470
Manner	124	Way	1045
Permit	57	Let	332
Subject to	36	Under	620
Sufficient	98	Enough	139
Additional	69	Extra	68
Diminish	18	Reduce	161
Constitute	36	Form	160
Restrict	32	Limit	43
Transfer	47	Move	294

Although the results of our preliminary study and our experiment show that recommendations for transparent usage of English such as the PEC's also make for better comprehension in the Dutch, surely this cannot be the last word on guidelines for international English. For international English, there are recommendations on matters like spelling, punctuation, and linguistic usage (Blicq 2003; Weiss 2005), but we have seen that use of words also plays an important part and that words not identified by institutions like the PEC as being difficult for native speakers of English are still difficult for non-native speakers. We recommend an inventory of these words and a list of alternatives.

In compiling these inventories of difficult words and alternatives, it is important to verify whether the alternatives are indeed considered easier to understand by means of experiments among native speakers of various languages. We expect that for the various languages, separate inventories must be made, since words that are difficult for native speakers of one language may not necessarily be difficult for native speakers of other languages.

In the introduction to this article, we pointed out that there are fewer speakers of English as a first or second language than speakers of English as an international language. For this last group, communication in what is, to them, a foreign language is often so much harder than it is for those to whom English is their native or second language. It is our duty to explore the problems that they meet and to provide tools to convey transparent and clear messages in English to this target group too. This article has experimentally investigated the usefulness of one such tool, the use of plain English vocabulary, for one group of speakers of English as an international language. Further exploration of plain English vocabulary and other tools, differentiated for various groups of non-native speakers of English, is necessary for technical communication specialists who want to write clear English for an international audience. T**C**

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APPENDIX A: THE SENTENCES USED IN THE EXPERIMENT

**Germanic encouraged by PEC/
Latinate discouraged by PEC**

1. You may not *let/permit* multiple users use the software over a network.

2. All computer software is *licensed under/subject to* the terms of the license agreement.

3. We are not responsible for any decision that you made based on the information that we *give/furnish*.

4. Please include *enough/sufficient* information for us to be able to quickly locate the work.

5. The law does not allow use of the work(s) in this *way/manner*.

**Latinate discouraged by PEC/
Latinate encouraged by PEC**

6. You may *transfer/move* your software to a different computer.

7. You may make as many *additional/extra* copies of the software as you need.

8. The information that we give will not *constitute/form* advice.

9. You may not e-mail any programs that will *diminish/reduce* the quality of the software.

10. We will *restrict/limit* access to the file.

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