Plain English for a Dutch Audience: Comprehension and Preference

MARINEL GERRITSEN, HUBERT KORZILIUS, FRANK VAN MEURS, AND MARJOLEIN OORSPRONG

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 (Boitarsky 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 Alphabetical, whose object was to explain “hard usual words” in terms of “plaine English words.” In the lengthy subtitile to his book, he explained that he wrote it particularly for “Ladies, Gentlemens, or any other otherskillful 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, gobbledegook, or jargon, 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

Manuscript received 12 April 2006; revised 14 February 2007; accepted 15 February 2007.

Volume 54, Number 3. August 2007 • Technical Communication 319
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 coun-
tries 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, de-
spite 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 rec-
commended 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 Cam-
paign, 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, establishes 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 recom-
manded 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 stu-
dents obtained considerably lower scores: an average of 17
correct matches, with the Asian students averaging 10 cor-
rect 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 pro-
duced 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 comprehensi-
ble 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 Latin-
ate 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 voca-
ulary 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 re-
pondents 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 compre-
end 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 lim-
ited 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 com-
prehension 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 En-
glia taught at secondary schools in the Netherlands (van
der Haagen 1998, 2). As the Dutch are familiar with British
spelling, 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, terminol-
yogy, 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 diffi-
cult for native speakers of English by The a to z of alter-
native words (Plain English Campaign n.d.) also consid-
ered 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 discour-
gaged 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—be-
cause 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 expla-
nation 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 applica-
tions 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 ac-
cept this legal notice if they wish to make use of the
services and products on offer on the RealNetworks Inter-
net 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 diffi-
cult 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 comprehensi-
bility 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-
DISCLAIMER OF WARRANTY
The services, information or data (collectively, "Information") made available at the Real Web site are
provided "AS IS", without warranties of any kind. Real expressly disclaims any representations and
warranties, including without limitation, the implied warranties of merchantability and fitness for a
particular purpose. Real shall have absolutely no liability in connection with the services including,
without limitation, any liability for damage to your computer hardware, data, information, Materials
and business resulting from the Information or the lack of Information available on the Real Web site.
Real shall have no liability for:

1. Any loss or injury caused, in whole or in part, by its actions, omissions, or negligence, or for
contingencies beyond its control, in procuring, compiling, or delivering the Information;
2. Any errors, omissions, or inaccuracies in the Information regardless of how caused, or delays
or interruptions in delivery of the Information; or
3. Any decision made or action taken or not taken in reliance upon the Information furnished
hereunder.

Real makes no warranty, representation or guaranty as to the content, sequence, accuracy, timeliness
or completeness of the Information or that the Information may be relied upon for any reason. Real
makes no warranty, representation or guaranty that the Information will be uninterrupted or error free
or that any defects can be corrected. For purposes of this section, "Real" shall include RealNetworks,
Inc., and its divisions, subsidiaries, successors, parent companies, and their employees, partners,
principals, agents and representatives, and any third-party providers or sources of Information or
data.

LIMITATION OF LIABILITY
Under no circumstances shall Real be liable for any losses or damages whatsoever, whether in
contract, tort or otherwise, from the use of, or reliance on, the Information, or from the use of the
Internet generally.

For purposes of this section, "Real" shall include RealNetworks, Inc. and its divisions, subsidiaries,
successors, parent companies, and their employees, partners, principals, agents and representatives,
and any third-party providers or sources of Information or data.

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

maximum grade of 7 out of 10. Their average age was 17.6
years.
We selected these subjects both because they be-
longed 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 recom-
mends 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 diffi-
cult (category 2):

authorize, conditions, determine, furnish, implied, in
connection with, manner, modify, permit, procuring,
promptly, provide, regulations, request, restricted, sub-
ject 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, con-
tingencies, designated, divisions, endorsements, entities,
infringed, infringement, liability, merchantability, negli-
genious, omission, 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
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 Sij 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/lycosct/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

<table>
<thead>
<tr>
<th>Latinate word discouraged by PEC</th>
<th>Germanic alternative recommended by PEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furnish</td>
<td>Give</td>
</tr>
<tr>
<td>Manner</td>
<td>Way</td>
</tr>
<tr>
<td>Permit</td>
<td>Let</td>
</tr>
<tr>
<td>Subject to</td>
<td>Under</td>
</tr>
<tr>
<td>Sufficient</td>
<td>Enough</td>
</tr>
</tbody>
</table>

Institute 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 10 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

<table>
<thead>
<tr>
<th>Latinate word discouraged by PEC</th>
<th>Latinate alternative recommended by PEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional</td>
<td>Extra</td>
</tr>
<tr>
<td>Constitute</td>
<td>Form</td>
</tr>
<tr>
<td>Diminishes</td>
<td>Reduces</td>
</tr>
<tr>
<td>Restrict</td>
<td>Limit</td>
</tr>
<tr>
<td>Transfer</td>
<td>Move</td>
</tr>
</tbody>
</table>
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 subjects 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-lei. 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-lei. 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-lei.

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

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

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

<table>
<thead>
<tr>
<th>Word pairs</th>
<th>Assessment of comprehension</th>
<th>Correct/incorrect paraphrases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t-value df p</td>
<td>$\chi^2$ (df = 1) p</td>
</tr>
<tr>
<td>Furnish-give</td>
<td>14.21 69.92 a &lt;.001</td>
<td>32.50 &lt;.001</td>
</tr>
<tr>
<td>Manner-way</td>
<td>5.57 71.28 a &lt;.001</td>
<td>12.26 &lt;.001</td>
</tr>
<tr>
<td>Permit-let</td>
<td>1.36 128 n.s.</td>
<td>3.07 n.s.</td>
</tr>
<tr>
<td>Subject to-under</td>
<td>6.98 95.40 a &lt;.001</td>
<td>41.71 &lt;.001</td>
</tr>
<tr>
<td>Sufficient-enough</td>
<td>5.47 71.18 a &lt;.001</td>
<td>40.70 &lt;.001</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>110.04 &lt;.001</td>
</tr>
</tbody>
</table>

* 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 deduced 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 *additieel* (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 ambiguous: 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

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

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
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, Kozlizius, van Meurs, and Gisbers (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)

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

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.

REFERENCES


Gerritsen, Marinel, and Catherine Nickerson. 2004. Fact or fallacy? English as a lingua franca in the European business


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.

MARIJN GERRITSEN holds the Christine Mohrmann Chair in Business Communication Studies and the Centre for Language Studies at the Radboud University, Nijmegen. Her business communication research is primarily focused on the differences between cultures in communication, the impact that these differences have on intercultural communication, and the use of English as a lingua franca and as an international language in Europe. Contact: M.Gerritsen@let.ru.nl.
HUBERT KORZILIUS is associate professor in Research Methodology at the Nijmegen School of Management of the Radboud University, Nijmegen. He has published on diverse subjects in the fields of methodology, multilingual and intercultural communication, and document design research. Contact: H.Korzilius@fm.ru.nl.

FRANK VAN MEURS is a lecturer in English in the Department of Business Communication Studies and the Centre for Language Studies at the Radboud University, Nijmegen. He has published on product recall notices and on English in Dutch TV commercials and Dutch job advertisements. Contact: F.v.Meurs@let.ru.nl.

MARJOLEIN OORSPRONG studied international business and languages at the HAN University and obtained an MA in international business communication at the Radboud University, Nijmegen. She wrote her MA thesis on the appreciation of Plain English by a Dutch audience. She currently works as a policy, research, and liaison officer for commerce at UNI-Europa, the European Federation of Trade Unions in the Services Sector and European branch of Union Network International. Contact: marjoleinoorsprong@hotmail.com.