Surveying students' recreational use of English with computers

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Abstract
Students' recreational use of computers may provide important opportunities for them to learn English incidentally. This paper investigates student's exposure to English while using computers recreationally in two ways. Firstly, a questionnaire was distributed to 80 students at a Thai university to elicit how students use computers. Secondly, the English encountered by four students while using computers for one hour was recorded. The findings show that English is quite important when students use computers recreationally. The English encountered by students consisted primarily of nouns, each encountered only once. Suggestions for how to help students to deal with such exposure to a wide range of vocabulary items are given.

Computers in daily life

It is generally accepted that computers play a key role in daily life. People all over the world use them for many purposes such as education, business, and hobbies. For education, teachers can use computers to teach through Computer Assisted Language Learning (CALL). Alternatively, computers can help learners create, analyze, and produce information and ideas easily and efficiently. They can assist people in business to search for the latest information and to hold on-line conferences; moreover, they can help office workers work more efficiently. For leisure, people often use computers for chatting with people around the world, shopping on-line, playing games, and watching movies on CD-ROM. This shows that, because they serve our needs in many ways, computers seem to be very important in contemporary life.

Computers for recreation

Using computers outside the classroom may be for recreational purposes. Computers for recreation allow students to search for information they are interested in and to spend their time creatively and enjoyably. There are many ways to access computers for recreational purposes.

First, there is the Internet, which provides opportunities for such recreational activities as chatting on-line, playing computer games or interactive games, downloading games and music, shopping on-line, reading the news, gambling, and creating personal websites (McKenzie, 2002). Students can access a variety of recreational digital resources through searching on-line networks.

Second, there is stand-alone computing. When we use a computer without using an Internet connection, we can use it in many ways, such as for watching movies, playing games, and listening to music by using CD-ROM. Users may write personal diaries, letters or journals through computers.

Third, computer-mediated communication (CMC) can be used for recreation. CMC now plays an important role in this era of e-mail, synchronous computer conferencing, the World Wide Web, and globalization in general (Warschauer & Healey, 1998). It can be used to support interaction anytime and anywhere. Besides, it allows users in remote locations to interact via computer at their own convenience. We may say that CMC is reactive (two-way) communication in which users respond to the other side.

In sum, on-line networks can promote students' independent learning and relaxation; stand-alone computing assists users to do activities they are interested in; and CMC allows users to develop interactive communication skills for such activities as sharing ideas and discussing issues with others.

English in communicating by computer

The English language is widely used in communicating by computer; indeed, it could be said that exposure to English comes with computers. Thus, computer users have a chance to absorb English easily. People can learn English from recreational computer use because it is the most commonly used language on the Internet. Statistics show that English is the main information language (70%) on the Internet (Grey, 1999).

Students can get the benefits of exposure to English while using computers for recreational purposes. The literature mentions that the use of English on computer:

- provides authentic communication with native speakers of the target language;
- enhances students' communicative abilities both by individualizing practice and by tapping into a global community of other learners (Nunan, 1988);
- is effective for empowering second-language learners (Warschauer, Turbee & Roberts, 1996).

Incidental learning

While many computer users may have low levels of English, the very process of using computers may enhance their language proficiency. Such learning is incidental in the sense that it is not intended or planned (Marsick & Watkins, 1986, cited in Mealman, 1993). Incidental learning includes:

- learning without assistance or support (Tudor, 2001);
- learning from mistakes;
- learning by exploring the environment;
- uncontrolled learning and undirected language use (Johnson, 1982, cited in Tudor, 2001);
- learning without an intent to learn (Hulstijn, 2001);
- learning by doing (Tudor, 2001);
- learning through networks.

These approaches involve learning naturally; learning will take place incidentally when students are doing something fun. It is hoped that recreational computer use is one enjoyable situation in which incidental learning can occur.

Unfortunately, Thai society has not recognized the importance of incidental learning. Since such learning takes place outside classrooms, it can occur in both informal and non-formal educational settings. It can give learners opportunities to search for information in order to support their own interest; for example, searching for

information from using the Internet, listening to Internet radio, chatting with people all over the world. Non-formal education is less accepted than formal education, but learners in the former have the opportunity to learn on their own incidentally, especially if they are aware of how they learn (Department of Non-formal Education, 2004).

The benefits of incidental learning include promoting students' learning of how to learn, increasing self-knowledge and self-awareness, coming to value life-long learning, exposure to language, improving competence, and changing attitudes and self-confidence (Brown, 2001). Thus, students can unintentionally enhance their learning of English.

Motivation

Motivation is one of the most important factors in language learning (Bowen & Marks, 1994; Lightbown & Spada, 1993; Willis, 1996). Learning English through computers is one language learning activity that helps students' enjoyment and also supports learning experiences. Many students seem to prefer doing computer activities (chatting on the Net, playing games, searching for information, watching movies, etc.) to more conventional ones. Computers provide activities that suit students' needs and can also help motivate their learning. In addition, there are many ways in which computer use can motivate learning, such as the sense of promoting success and achievement in second language learning (Dornyei, 1994; Hulstijn, 2001) and through on-line group discussions (Cahoon, 1995).

From my experience, many students dislike learning English because some Thai teachers emphasize grammatical corrections, which can cause students to lack confidence. However, computer activities can encourage students' intrinsic motivation; that is, students may be motivated by their innate drives to explore something based on their own needs (Brown, 2001).

In conclusion, even if students are not motivated to learn English, they still use computers because many computer activities may motivate them. Then, they encounter English, and, from such encounters, incidental learning is likely to occur. Therefore, motivation can assist students to learn incidentally by learning from their environment (e.g. from computers).

From this brief review of the literature, we can conclude that students' use of computers for recreational purposes may be important for language learning. Thus, it would be very interesting to find out how they use computers recreationally. This study is a survey designed to find out what aspects of English students encounter when using computers for recreational purposes, and it aims to answer the following question: *What English do students encounter when using computers for recreational purposes?*

Research methodology

This section provides an overview of how the research was conducted by describing the subjects, instruments, procedures and data analysis.

Subjects
There were two groups of subjects in this study: those who completed a questionnaire and those who filled in a record sheet.

The first group consisted of first-year students from the Faculties of Mechanical and Electrical Engineering at King Mongkut's University of Technology Thonburi (KMUTT). There were eighty students, both male and female, who took the course LNG101 Fundamental English I. They were asked to answer the questionnaire. The reason for choosing these students was that the researcher needed an overview of students' computer use outside the classroom. The second group were first-year students from the Faculty of Computer Engineering at KMUTT. Four female students were chosen randomly from a group of 35 who were enrolled in LNG 102 Fundamental English II. These four students were named, respectively, Subjects A, B, C, and D. They had adequate computer skills.

Although both groups of subjects were different in terms of field of study and their compulsory courses, practical concerns (timetabling, etc.) made it necessary to use two separate groups.

Instruments
There were two instruments in this study: a questionnaire and a record sheet.

Questionnaire
The aim of this instrument was to survey how students use computers recreationally outside the classroom. There were eight closed-ended questions. Each item used a five-point Likert scale, with frequencies ranging from very often (5) to never (1). The survey covered the following:
- how students spent their free time, e.g. using computers, watching movies, listening to songs;
- at what time they used computers;
- what language they used while accessing computers;
- where they used computers;
- which kind of programs (such as *Microsoft Word* and *Excel*) and websites (including bulletin boards) they used;
- what problems they encountered working on computer and how they solved them.

This questionnaire was in Thai. The researcher decided to use Thai because it could help the subjects answer the questions easily, and the research did not focus much on how good they were at English.

Record sheet
The aim of this instrument (see Appendix) was to collect data covering what English words were encountered while subjects worked through programs or websites that they used outside the classroom. The instrument consisted of a table in which the subjects wrote the programs or websites they used and the English words that they encountered when they used a computer for one hour.

Procedures
Questionnaire
- Stage 1: The subjects were chosen (N=80).

- Stage 2: The questionnaire was distributed to the subjects, who were asked to answer the questions inside the classroom. Although the time to work on the questionnaire was not limited, most subjects finished it in 10 to 15 minutes.
- Stage 3: The data were collected and interpreted.

Record Sheet
- Stage 1: The subjects were chosen (N=4).
- Stage 2: The record sheet was given to the subjects, who were asked to record, while working on computers for one hour outside the classroom, the programs, websites and English words they encountered.
- Stage 3: The data were collected and interpreted.

Data Analysis

All data obtained from each research instrument were analyzed and interpreted to answer the research question, as follows.

Data from questionnaire

The data from all rating statements of the questionnaire were calculated for arithmetic means ($\overline{X}$). The criteria of interpretation are as follows:

1.00-1.80	=	Never
1.81-2.60	=	Rarely
2.61-3.40	=	Sometimes
3.41-4.20	=	Often
4.21-5.00	=	Very often

The data from the questionnaire were categorized into four parts: when the subjects used computers, where they used them, what language they used, and the programs they used while accessing computers.

Data from record sheet

The data from this instrument were analyzed as follows:
- Word occurrence: Each occurrence of a word was counted in order to find the number of words encountered and the number of occurrences of each word. Where words occurred together, they were counted as a single phrase. These occurrences were calculated as frequencies and percentages.
- Parts of speech: The words occurring were categorized according to part of speech (e.g. nouns, noun phrases, verbs, verb phrases, adjectives) and calculated as frequencies and percentages.
- Corpus frequency: This was based on frequency indicated in the *Collins Cobuild English Dictionary*, which has five frequency bands. The most frequent words have five black diamonds, the next most frequent words have four black diamonds, and so on; words occurring less frequently but still deserving an entry in this dictionary have no black diamonds. The words in these five frequency bands were calculated as frequencies and percentages; for phrases, the frequency of the keyword in the phrase was counted as the frequency for the whole phrase.

From these data, there were three kinds of frequency that needed to be analyzed: words occurring in the record sheet, parts of speech, and corpus frequency.

Data presentation and interpretation

The main purpose of this section is to describe the results of the study gathered from the questionnaire and the record sheet.

Data from questionnaire

To answer the research question, first, we need to identify three main themes of data in the questionnaire: general use of computers (i.e. when and where subjects use computers), language used when accessing computers, and programs used.

The data in Table 1 show that, when the subjects are free, they most often listen to songs ($\overline{X}$ = 3.96) and they sometimes use computers ($\overline{X}$ = 3.22). In terms of time, the subjects most often use computers at weekends ($\overline{X}$ = 3.78); in terms of place, they most often use them at their residence ($\overline{X}$ = 3.64); and they most often use them alone ($\overline{X}$ = 4.08) rather than with others.

Table 1: General use of computers

Questions	$\overline{X}$	**Interpretation**
What do you do in your spare time?		
- use computers	3.22	Sometimes
- watch movies	3.06	Sometimes
- listen to songs	3.96	Often
- read books	3.02	Sometimes
Which time do you use computers?		
- day time	2.55	Rarely
- night time	3.42	Often
- after class	3.26	Sometimes
- weekend	3.78	Often
Where can you use computers?		
- in your institution	3.16	Sometimes
- at your residence	3.64	Often
- in an internet café	2.62	Sometimes
Who do you use computers with?		
- Alone	4.08	Often
- Friends	3.26	Sometimes
- Family	2.29	Sometimes

Table 2 shows the language students used while accessing computers as well as the problems they encountered and how they solved them. The table shows that the subjects most often used Thai ($\overline{X}$ = 4.06) but English also seemed to be important ($\overline{X}$ = 3.00). Furthermore, the most frequent problem they encountered was that they did not understand English ($\overline{X}$ =3.51). However, they did not attempt to solve these language problems; rather, they simply continued with whatever program they were using ($\overline{X}$ =3.67).

Table 2: Language when using computers

Questions	$\overline{X}$	Interpretation
What language do you use?		
- Thai	4.06	Often
- English	3.00	Sometimes
What problems do you encounter while using computers?		
- I do not have much ability in computers.	3.06	Sometimes
- I do not understand English language.	3.51	Often
If you use a computer and face a problem with English, how can you solve it?		
- I find out in electronic dictionary on computer.	3.01	Sometimes
- I ask a friend.	2.87	Sometimes
- I continue using the program.	3.67	Often

Table 3 shows that, of all the computer programs and services accessed during the research, the subjects most commonly used the World Wide Web and *Microsoft Word*; in contrast, they never went shopping or made use of e-commerce.

Table 3: Programs and services accessed while using computers

Programs and services accessed	$\overline{X}$	Interpretation
World Wide Web	3.93	Often
Microsoft Word	3.55	Often
Computer games, such as on CD ROM	3.38	Sometimes
E-mail	3.27	Sometimes
Internet games	3.22	Sometimes
Real player	3.11	Sometimes
Electronic bulletin boards	2.95	Sometimes
Internet Radio	2.69	Sometimes
Short messages such as *ICQ, MSN, Yahoo Messenger*	2.67	Sometimes
Usenet Newsgroup	2.33	Rarely
Programs with spreadsheets, databases etc.	2.25	Rarely
Shopping/e-commerce	1.45	Never

Data from record sheet

This section will show what kind of English students encounter when using computers for one hour. The analysis of words encountered is divided into three main sections: words occurring in the record sheet, part of speech frequency, and corpus frequency.

Table 4 shows the findings for word occurrence. It can be seen that most of the words students encountered only occurred once (88.11%) (e.g. about com, account, action, hot track); on the other hand, three words, Sign in, search, and news, occurred, respectively, 8, 6, and 5 times.

Table 4: Word occurrences

Number of times word encountered	Number of words (328)	Percentage	Examples of words/phrases
8	1	0.30	Sign in
6	1	0.30	Search
5	1	0.30	News
4	4	1.22	Article, chat, the web, My KMUTT
3	6	1.83	Compose, inbox, folder, top ten, video, On line
2	26	7.93	Bulletin board, English, media, mail, Cool link, Quick link
1	289	88.11	About com, account, action, hot track, information, click here

Table 5 shows that the data for part of speech were classified into five categories (nouns, noun phrases, verbs and verb phrases, adjectives, and others). It is clear that nouns, representing two thirds (67.07%) of the total, were by far the most frequent part of speech students reported encountering.

Table 5: Part of speech frequency

Part of speech	Number of occurrences (N=328)	Percentage
Nouns	220	67.07
Verbs, Verb phrases	49	14.94
Others	30	9.15
Adjectives	16	4.88
Noun phrases	13	3.96

Table 6 presents the findings on corpus frequency. These are based on the *Collins Cobuild English Dictionary*, in which the words in the top two bands (Bands 4 and 5) account for approximately 75% of all English usage (page xiii). We may say that the words in the top two bands in this research occurred frequently (totalling 54.27%), but not as frequently as we might expect.

Table 6: Corpus frequency

Corpus frequency band	Number of occurrences (328)	Percentage
5	96	29.27
4	82	25.00
3	60	18.29
2	32	9.76
1	27	8.23
0	31	9.45

Discussion and implications

This discussion is divided into two main topics, word occurrence frequency and nouns.

Word occurrence frequency

In this study, the vast majority of the words encountered occurred only once. This suggests that students continually encounter different words when using computers; in other words, there appears to be no common core of words while using computers. In an interesting contrast to this finding, Nation (2001) found that 80% of the running words in text are high frequency words; however, it should be stressed that these words occur throughout texts, which is distinct from the words reported through computer use in this study. Therefore, it seems likely that the language encountered when using computers contrasts with the language in other kinds of language use in terms of the very high proportion of words occurring only once when using computers.

Furthermore, it can be said that the words learners reported encountering while using computers were isolated phrases or individual words rather than syntactically complete sentences. Thus, isolated phrases or individual words may be important for learners.

Unfamiliar words may have been a problem for these learners even though the data showed that most of them ignored unfamiliar words and continued using their computers. One way to solve this problem might be to heed Laufer & Hulstijn (2001), who found that greater involvement with unfamiliar words led to better retention. Involvement was defined as a combination of three factors: need (i.e. the need to understand the word for comprehension); search (trying to figure out the word); and evaluation (comparing one word with other words, and using it in communication). In order to promote greater involvement with unfamiliar words and to help students deal with such words, the researcher needs to know how students can understand a lot of new words by looking at relevant strategies.

Since most words the students reported occurred only once, the researchers recommend training learners in strategies for dealing with new words. There are many strategies to help learners deal with new words, three of which will now be discussed. The first one is guessing the meanings of unknown words; for example, Nation (2001) mentioned that incidental learning via guessing unknown words from context was the most important of all sources of vocabulary learning. A second possible strategy is using dictionaries, which, according to Nation (1989), can also aid learning. It is assumed that learners may be uncomfortable referring to traditional dictionaries while using computers; however, new technology offers ways of overcoming the problem. Current computer programs can provide dictionaries online, which means that learners reading a text on the screen can click on an unknown word and a definition appears. To support this idea, Knight (1994) confirmed that learners with access to computerized dictionaries demonstrated more vocabulary knowledge after reading than those who did not. A third strategy, suggested by Gairns & Redman (1986), is asking for help. It seems probable that the strategies mentioned above, among others, may assist learners in dealing with new words encountered while using computers.

Nouns

The findings indicate that these students encountered nouns rather than other parts of speech. It can be said that nouns seem to be the easiest parts of speech to remember, since they represent the names of specific persons, places or things. In one study, nouns were better learned than verbs or adjectives (Phillip, 1981, cited in Schmitt & McCarthy, 1997). This suggests that nouns may be more easily remembered than verbs, adverbs or adjectives; nevertheless, the high frequency of nouns encountered means that students will need to understand and remember a large number of them. This means that, in helping learners to understand new words, the focus may need to be on nouns rather than on other parts of speech.

Conclusion

This research study has attempted to find out what aspects of English students encounter when using computers. The findings highlight the importance both of isolated phrases or individual words encountered only once and of nouns. Since some of the new words may not be familiar to students, this study provides some strategies to deal with them. It is hoped that this study has helped teachers of English gain some useful ideas about how to deal with the language that students encounter while using computers outside class.

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Appendix: Example of a completed record sheet

Instruction: While using computers for one hour, please write words, phrases in space given.

Program used	Words encounters while using computer
www.kmutt.ac.th	Sign in, search, news, article, chat, the web, My KMUTT, compose, inbox, folder top ten, online, home, limit, review,
www.yahoo.com	trash, Bulletin board, contact Dutch, emotion, English version, media, subject, unread, vote book, list, mail, mark,
www.hotmail.com	automatically, draft, Cool links, quest, Quick link, about com, account, action, add, games, general, get, government,
www.sanook.com	group health culture customer, daily, diet, help, hot track, information, jobs, live long market, military, money, to lunch,
www.Google.com	town, view, woman, your music, smstoday, appear, back, benefit business, can, click here, complete, on the phone, page,

www.min4.com	forward, plans, play now, release, create direct events, family, films food, full, cancel, categories, cheese, classical, result,
www.coolvoice.com	Sell, short, show, society, sound, special, staff, stars, start, state, story, talk, talking, taste, taxes, addition, guides, holiday,
www.eotoday.com	Hotmail, interview, invite, items, kids, message, mission, movies, titles, travel, type, address, albums, arrives, artist,
ww.songtoday.com	Attachment, block, camera, camp, cartridges, comment community, network, option, personalized, plus, profession,
www.bangpost.com	Project, records regional, directory, E-learning, feedback, fitness, document done, education, extra, fashion, favorite,
www.thaitumbon.com	Feature, file, finance, fit, flight, freshy, resources, restaurant, right, save, screen saver, secure, seed, sex, shop,
www.m-web.co.th	Solution, song, sport, status, stores, summer, Thai song, gift, guide, hide, highlight, index, instant, mobile, boards, autos,
Windows messenger	download, organized, profile, register, credit, delivered, ring tone, junk mail, authentic, recreation, digital, rentals, scan,
Windows	Messenger, Web, wireless, briefcase, delete, reset, M-web, netfix, notepad, offline, password, DVD, e-card, Spam, etc.

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