

MOTIVATIONAL ATTITUDES OF ELT STUDENTS TOWARDS USING COMPUTERS FOR WRITING AND COMMUNICATION

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Abstract

This article will provide an overview of whether students have positive motivational attitudes towards the use of computers for writing and communication. Firstly, it summarizes the basic theories of motivation and then explains the relationship between language and motivation, and the use of computers and motivation. Then, it aims to explore the aspects of computer use that students find motivating and investigates the differences among these aspects for students having different backgrounds in terms of computer skills.

45 first grade ELT students of Mehmet Akif Ersoy University participated in the study. The data was collected through a questionnaire adapted from Warschauer (1996). The obtained data were analyzed by descriptive statistics, t-tests, Manova and Anova on SPSS. The findings indicated that participants mainly made use of computers for communication, learning, achievement and empowerment. Plus, their personal aspects, except for computer knowledge, related to computers, did not significantly affect the participants' motivational attitudes towards the use of computers. There were not even significant differences between male and female participants in terms of being motivated to use computers and computer facilities for communication and writing. Finally, having or not having a computer at home was not a decisive factor influencing motivational attitudes of participants.

Introduction

While learning a language, the learner is inevitably exposed to affective factors which are essential to a certain extent in foreign/second language learning. Of these, the most debated one in the literature is motivation and its effects on the language learners. In its simple term, the study of motivation is concerned with the energy, direction and exploration of the language learner's behavior, namely, what drives the learner to behave in this way or another way during the language learning process (Deci & Ryan, 1985). However, motivation is such a complicated issue that it is almost impossible to define it by a single theory (Petrides, 2006). Therefore, a great number of theories of

motivation have emerged in various disciplines. The theories and their main assumptions related to language learning area are briefly summed up in the following paragraph.

1. Literature Review

1.1. Theories of motivation

According to *Behaviorist view*, motivation is an external stimuli and reinforcement. In this theory, the environment surrounding the students and the teacher as a role model are of prime importance. However, motivation is regarded as an internal factor by *cognitivists*. Therefore, those motivated intrinsically are driven to act without any external factors like earning more money, being respected and similar reasons. What they aim is to get satisfaction and pleasure out of the actions they do. Another theory is *achievement motivation theory* that focuses on the results of the performed actions; that is to say, whether one becomes successful as a result of his action or not. As a result of the action taken, the learner might have a sense of achievement or develop a fear of failure. From the perspectives of *Humanistic Approach*, the needs of the self are the basic pillars of motivation. This theory assumes that when the basic needs are not met, learners might not be motivated to meet higher level needs like self-esteem and self-actualization. Finally, *Social cognition theory* of motivation handles the issue of motivation from two angles: social and cognitive sides. This theory is about learner beliefs in their own competencies, their own goal setting, monitoring themselves and controlling their own learning through interaction with others. All the theories mentioned and their components together with supporters are summarized below in Table 1.

Table 1: Summary of theories of motivation (Hanson-Smith, 1997).

	<u>Theory Name</u>	<u>Theorist/Year</u>	<u>Components</u>
<u>A- Behavioral Theories</u> => extrinsic motivation => external stimuli and reinforcement	1- Classical conditioning 2- Operant conditioning 3- Observational/social learning	1- Pavlov 2- <u>Skinner</u> 3- Bandura	1- Stimulus, response, association 2- Stimulus, response, reward = <u>reinforcement</u> 3- Modeling (<u>imitation</u>)
<u>B- Cognitive Theories</u>	1- Expectancy-value	1- Vroom / 1964	1- <u>Expectancy</u> of success

=> intrinsic motivation => one's active search for meaning and satisfaction in life.	2- Attribution theory 3- <u>Cognitive dissonance</u>	2- Heider, 1958 / Weiner, 1974 3- Festinger / 1957	2- <u>Attribute success/failure</u> to factors 3- Act to <u>resolve conflict</u>
<u>C- Achievement Motivation Theories</u>	1- Need for achievement 2- Fear of failure 3- Goal theory: Mastery Performance, Social goals	1- Atkinson & Raynor / 1974 2- Locke & Latham / 1994	
<u>D- Humanistic Theories</u> => the need for personal growth. => emphasis on freedom, choice and self-determination.	1- Hierarchy of Needs 2- Hierarchy of Motivational Needs 3- Self-determination	1- Maslow / 1954 2- Alderfer, 1972 3- Deci & Ryan, 1985	1- Self-actualization, esteem, belongingness, safety, physiological. 2- Growth, relatedness, existence needs. 3- Intrinsic Vs. Extrinsic motivation
<u>E- Social Cognition</u>	1- Self-efficacy 2- Self-regulation	1-2 Bandura / 1986, 1997	1- Judging one's own ability 2- Establishing goals and attaining them

Since all the aforementioned theories deal with particular faculties of human beings, they fail to see the human being as a whole. Therefore, this study holds an eclectic and holistic view of motivation by referring to learners as human beings, who have embodied biological, cognitive and social structures in their nature from birth.

Focusing merely on one constituent may lead us to overlook the effects of other structures in motivating learners. These effects especially play an important role in language teaching since learners go through many diverse processes during language acquisition or learning. They interact with each other, use cognitive strategies to cope with the difficulties they face, and try to satisfy their lower and higher needs. Therefore, it is necessary to investigate the relationship between motivation and language learning to have a clear picture of success and failure in language learning.

1.2. Motivation and Language Learning

Starting with Gardner and Lambert's study (1959), motivation was held to be responsible for second and foreign language learning achievement to a greater degree than language aptitude. Then, in a subsequent study (1972), the division of motivation into two basic types as *integrative* (a desire to integrate with target into target community) and *instrumental* (for practical benefits) was proposed by Gardner and Lambert. Following this, another distinction into intrinsic (motivation that comes from inside) and extrinsic (motivation that comes from outside factors) motivation was made

by Deci and Ryan (1985). Since then, the importance of motivation for language learners has been recognized by teachers and researchers in their classroom implementations. In the last decade, there have been many articles and books re-exploring the relationship of motivation to language teaching and learning (Gömleksiz, 2001; Ruohotie & Nokelainen, 2003; Petrides, 2006; Taguchi, 2006; Wang, 2008; Wang, 2009; Lucas *et al.*, 2010).

The above-mentioned conventional framework analyzing motivation in language learning has been subjected to many criticisms due to its inadequacies. The main point of criticism is that the framework is too simple to tackle the concept of motivation considering the abovementioned theories of motivation. Therefore, an expansion and adjustment of the traditional framework to clarify the nature of language learning motivation is a fundamental issue (Crookes and Schmidt, 1991; Dörnyei, 1994). As an example of expansion and adjustment of the former frameworks, Dörnyei's (1996) components of Foreign Language Learning Motivation, which consist of language level, learner level and learning situational level might be given.

In the light of the previous studies, this paper, first and foremost, aims to shed light on the kinds of motivational attitudes of students towards the use of computers for writing and communication with respect to learning styles, motivation and personality. Secondly, the differences among the motivating aspects of computers for students of different backgrounds are to be investigated to see whether they affect the motivational attitudes of the students. Lastly, the sub-goal of the study is to draw pedagogical and practical implications out of the aforementioned frameworks to explore the connections between the specific aspects of Computer Assisted Language Learning (CALL) and student motivation in terms of writing and communication in and outside the classroom settings.

1.3. Relationship of Computers and Motivation

Computers, which were primarily used for mathematical concerns at its birth, have had their unique place in every part of our lives. Soon afterwards they started to be utilized in general education especially in language learning, and the term 'Computer-Assisted Language Learning' (CALL), referring to the use of computers in the learning and teaching of English, appeared in the literature in early 1970s. Since then, the technology

has undergone a rapid process of improvement and computers in different sizes and functions have become available to almost anyone.

CALL has played a facilitating role for language teachers and students since it helps students progress at their own pace, improve their language skills, study on one's own without being dependent on anyone else, and gives them immediate feedback, corrections and error analysis (Hanson-Smith, 1997). Other than these benefits, affective sides of CALL like learning style, motivation, personality and other factors have been under question with the use of computers in language classes (Genç & Aydın, 2010). Of these, the effects of motivation and writing via computers on language learning and teaching have been studied widely in the literature (cf. Wu, 1992; Williams, 1993; Tyson, 1994; Warschauer, 1996; Ulusoy, 2006; Genç & Aydın, 2010). The common findings of these studies indicate that CALL has motivational value in teaching and learning language and its four skills, particularly writing.

Despite these benefits, CALL also has some limitations in practice. Since “the computer is a human made tool which is incapable of action” without a user [teacher] it cannot guarantee achievement in the language class (Dündar, 2005: 196). If the teacher is not qualified enough in using computers and cannot support his teaching with relevant materials, expecting that students be motivated through CALL is not more than a childish dream. Besides, the ways of motivating students through computers have dramatically changed due to new technologies emerging in the last two decades. Another point is that language learning consists of many social, psychological, and cognitive aspects which are not found in other types of learning, and the motivating factors of a language learner who benefits from a computer might be different from those of other learners studying different subjects (Warschauer, 1996). Therefore, the teachers may have difficulty in adapting themselves to these technological innovations and finding a middle way between those aspects of learning.

1.4. Benefits of Computers in Writing and Communication Process

After the introduction of computers in language teaching, the teaching of English has become more practical and fun for the learners. Daiute (1985) summarizes some of the benefits of computers in the writing process as follows:

- (1) they enable writers to focus on the point,

- (2) they help learners see the spelling mistakes by highlighting the incorrect words
- (3) they provide students with a communication channel through which they intercommunicate with their friends and colleagues,
- (4) they make learning fun and stress-free.

Ulusoy (2006) points out that “in the writing process, computer and computer software can be a valuable tool for many students” (2006: 58). Of course, language learners cannot be held outside this circle. They use word-processing, PowerPoint slide shows to prepare their assignments, homework, presentations and research papers. For at least three decades, word-processing has been available to students, but now it has been even more widespread due to the increasing number of computers, netbooks, even iPods at students’ disposal. It is getting more and more popular in some countries like Germany to take netbooks into the classes and jot down notes during the lectures.

Some benefits of using word-processing in writing might be summed up as follows: (1) student motivation increases towards writing, (2) students easily revise their writing, (3) errors are highlighted and then their writing includes fewer spelling and grammar mistakes, (4) writing occurs in a standard way which increases the readability of the text, (5) writing becomes more visual and pleasant with the aiding tools of word processing like adding tables, drawing graphics, underlining and highlighting the important points in the text.

Computers have also taken up a role in communication. People correspond with one another via e-mails and teleconferencing through computers and the Internet. It was a revolution for language learners, at that time, to communicate not only with their friends but also with native speakers from all parts of the world. With the advent of Computer-Mediated Communication (CMC), it has become possible to establish human-to-human communication rather than human-to-machine.

There are many practical advantages of CMC in the language classroom. Firstly, it presents an interactive learning environment to students independent of place and time limit. The cost is quite low compared to face-to-face student–teacher education. Shy or inhibited students can benefit from the individualized learning environment and become more open to communication and socialization (Lai & Kritsonsis, 2006). Therefore, it might be assumed that CMC plays a critical role in motivating students, even shy ones,

towards communication by providing less threatening and safer environment (Kroonenberg, 1994/1995; Lai & Kritsonis, 2006).

Despite the allegations that computers have motivational aspects in foreign and second language students' writing and communication, there are not many studies dealing with this issue. Moreover, those tackling the issue were conducted outside the context of Turkey. This is why, this study attempts to deal with this issue by addressing the following research questions:

1. What aspects of using a computer for writing and communication do second/foreign language students find motivating?
2. What differences exist among these motivating aspects for students of different backgrounds?

2. Methodology

2.1. Setting and Subjects

This study was conducted at the Faculty of Education, University of Mehmet Akif Ersoy, Burdur. 45 first grade students from English Language Teaching (ELT) department participated in the study. Of them, 14 (31.1%) were male and 31 (68.9%) were female.

2.2. Data Collection Instrument

The data collection tool, utilized for the purpose of the study was adapted from Warschauer (1996). The questionnaire was composed of two parts. The first part was concerned with participants' knowledge of computer and demographic information like gender, home, age, self-rating of typing ability, self-rating of computer knowledge, possession of computer at home. The other part with a five-point Likert-scale (from strongly disagree to strongly agree) consisted of 30 statements about the use of computer for writing and communication. In detail, the first five items were about the use of computers for word-processing, the next eleven questioned the use of computers for interpersonal communication and the rest were related to the participants' general feelings about using computers.

2.3. Design and Procedure

The participants of this study were given the questionnaire and were asked to answer the items on it. The anticipated responses were based on a 5-point scale ranging from 5 (strongly agree) to 1 (strongly disagree). The students were informed about the goal of the study by the researcher. Besides, they were allowed to use a dictionary to look up the unknown words or consult the teacher.

Students who were absent on the day of the administration of the questionnaires were excluded from the study. Out of fifty-five students, forty-five were available on the administration day. The researcher informed the students that participation to the study was voluntary and there would be no extra marks or rewards. The collection of all surveys took one class hour – 45 minutes. After having collected the data, the researcher coded and loaded all the items into SPSS 15.0 statistical software. Then, the data were analyzed by utilizing descriptive statistic tools (including mean, median, standard deviation, range, minimum) available in SPSS to understand the overall pattern of students' responses. Moreover, to see the relationship between variables, t-tests, Manova and Anova analyses were conducted on SPSS 15.0.

2.4. Results

Out of a total number of 45 respondents, 68.9% were female students whereas 31.9% were male. The fact that the number of female respondents was higher than that of males is an indication of the predominance of female students in the ELT teaching classes. The age range of the subjects was between 18 and 25, which indicated that there are either late-starters or those who already did a BA in another program like German or French Language Teaching or Literature.

In addition to this demographic information, participants' knowledge of computers was measured by self-rating their competence and use of computer facilities. First, the students were asked to rate their typing ability and knowledge of computers through a 5-point scale (from poor to excellent). Then, they were asked if they have a computer at home. Finally, their use of computer for *word processing*, *e-mail* and *World Wide Web (www)* were investigated to find out how much they use these facilities in their daily lives. For this reason, a 3-point scale (a lot- little- never) was applied. The overall pattern of the results is illustrated in Table 2 and 3.

Table 2. PC knowledge and typing ability of students.

Valid	PC Knowledge		Typing Ability	
	Frequency	Percent	Frequency	Percent
Poor	1	2.2	0	0
Fair	8	17.8	5	11.1
Good	21	46.7	27	60.0
Very good	12	26.7	9	20.0
Excellent	3	6.7	4	8.9
Total	45	100.0	45	100.0

As seen in Table 2, most participants have a very good typing command and their computer knowledge is comparatively good. It may be assumed that the subjects who have a good command of PC knowledge have a high typing ability. Moreover, almost all students use e-mails and the Internet a lot to correspond with others in their daily lives. The percentage of word-processing use is lower than those of e-mails and WWW. The reason may be that writing through word-processing is not regarded as communicative as e-mails.

Table 3. Use of word-processing, e-mail and the Internet

Valid		Word-processing		e-mail		WWW	
		n	%	n	%	n	%
Valid	a lot	17	37.8	27	60.0	34	75.6
	a little	26	57.8	17	37.8	11	24.4
	never	1	2.2	1	2.2	0	0
Total		44	97.8	45	100.0	45	100.0
Missing		1	2.2				
Total		45	100.0	45	100.0	45	100.0

Research Question 1: What aspects of using a computer for writing and communication do second/foreign language students find motivating?

In the second section of the survey, statements exploring students' use of word-processing, interpersonal communication via computers and their feelings about using computers were directed at students. After the analysis of all the items on SPSS, the mean motivation score for all students was 3.9765, significantly higher than a hypothetical neutral score. Besides, mean scores on 26 of the 30 questions were higher

than neutral (see Appendix for a complete listing). The items that were lower than neutral are 8, 30, 21 and 29 (see Table 4).

Table 4. Statements with the lowest mean scores.

Survey Questions	Mean
8) I am more afraid to contact people by e-mail than in person.	2.0889
30) Computers makes people weak and powerless	2.3556
21) Using a computer is not worth the time and effort.	2.6136
29) Computers are usually very frustrating to work with.	2.8444

Among the individual questions, the most positive responses, at a mean of 4.5778 and significantly higher than many other questions, were given to statement 6, “I enjoy using the computer to communicate with people around the world”. The following highest statements were 15, 24, 12, 16, 20, 11, 7, 19, 28 and 17 (see Table 5).

Table 5. Statements with the highest mean scores.

Survey Questions	Mean
15. Using e-mail and the Internet is a good way to learn more about different people and cultures.	4.4889
24. Learning how to use computers is important for my career.	4.4444
12. An advantage of e-mail is you can contact people any time you want.	4.2955
16. Communicating by e-mail is a good way to improve my English.	4.2444
20. I want to continue using a computer in my English classes.	4.1778
11. E-mail helps people learn from each other	4.1111
7. I enjoy using the computer to communicate with my classmates.	4.0889
19. Using a computer gives me more chances to read and use authentic English.	4.0667
28. Using a computer gives me more chances to practice English	4.0444
17. Learning to use a computer gives me a feeling of accomplishment	4.0000

Four factors can be extracted from the above statements related to aspects that students found motivating while using a computer for writing and communication. They are *communication* [15, 12, 7], *learning* [16, 20, 11], *achievement* [17, 24] and *empowerment* [28, 19]. Students favor using the computer bearing these concerns in their minds.

Research Question 2: What differences exist among these motivating aspects for students of different background?

In evaluating the relationship between the personal aspects (computer knowledge, experience with e-mail, experience with word-processing, typing ability) and mean motivation score, only one factor was found to be correlated with mean motivation at a statistically significant level: *knowledge of computer* (see Table 6). The rest of the personal aspects do not have a significant role in fostering students' motivation according to the analysis. Based on this fact, it may be assumed that as one's knowledge of the computer increases, so does the motivation towards using computers for writing and communication.

Table 6. Personal aspects correlated with motivation scores.

Personal Aspect	Correlation with Mean Motivation
Typing ability	.261
PC Knowledge	.451*
Word processing	-.038
Experience with e-mail	.121
WWW (the Internet)	.117

*significant at $p=.05$

Multivariate Analyses of Variance (MANOVA) between gender and the 30 motivational survey statements, and between having (or not having) a computer at home and the 30 motivational survey questions did not indicate a strong relationship (see Table 7).

Table 7. Mean motivation score by gender and access to computer at home.

Group	Number*	Percent	Motivation
Females			
With computer at home	25	81%	3.721
Without computer at home	6	19%	3.558
Total Females	31	100%	3.636
Males			
With computer at home	11	79%	3.814
Without computer at home	3	21%	3.356
Total Males	14	100%	3.582

Although there is no statistically significant relationship between gender and the 30 survey questions, males having computers at home seemed to be more motivated than females with computers at home according to mean motivation score. However, in general, the female students were found to be slightly more motivated than male students.

2.5. Discussion

The results of the study have demonstrated that almost all participants have positive motivational attitudes towards using computers for communication and writing in and outside the class. However, the reliability of the participants' responses are open to discussion in that they might perceive the survey questions to be positively answered as expected by the researcher. However, reverse-coded items [negative responses to elicit positive attitudes] were included among the survey questions to minimize such participants' sided views on the questionnaire items. As a result of this, reverse-coded items (5, 8, 10, 21, 26, 29 and 30) were found to be on an average mean of 2.87, slightly less than neutral but between disagree and neutral.

The scores with highest mean scores indicated that participants were motivated towards the use of computers both integratively and instrumentally. Their main purpose to use computers was primarily related to communication. The majority of the participants' response to item 6 ("*I enjoy using the computer to communicate with people around the world*") clearly signals that their major concern was communication and they had integrative motivation. The profits of this communicative interest among participants are diverse and multifold: communicating with friends and teachers, learning more about different cultures and people, and being a member of a community.

The other decisive factors of students' motivation upon computers were *learning* and *achievement*. These factors are more relevant to instrumental motivation rather than integrative one. The highlighted benefits can be mentioned as learning from each other, having more chances to practice English, and a feeling of success. At this point, both instrumental benefits and intrinsic satisfaction might be claimed to be determinative in participants' choices.

The last decisive factor according to the results was assumed to be "empowerment", which means giving power to participants in learning English. It is mostly concerned with the affective variables of the survey questions. They revolve around such issues as making it less threatening to communicate with friends, teachers and others, being more creative in writing, reaching authentic language tools, controlling their own learning and coping with isolation.

Among the personal aspects, PC knowledge of the participants was seen to be the most important factor that correlated with students' positive motivational attitudes

towards computer use in communication and language learning. However, this information was based on their self-rating, and it has the risk of misleading us to draw wrong conclusions since it is not certain whether PC knowledge caused positive attitudes or positive attitudes increased PC knowledge. This is a point which needs to be clarified in further research.

The implication for the teachers is that students should be provided with more time and training in computer use so that they might learn as much as possible about the functions and facilities of computers. Since these technological tools are time- and place-free, the individuals can gain a lot from the learning experience of e-mail, Web and word-processing. As a result, they can develop positive motivational attitudes towards learning English either in integrative or instrumental dimension.

Conclusion

The inclusion of computer technology and its products in all walks of life has become an inevitable event in the present era. Naturally, the effect of computers has attracted the attention of educationalists and many new insights have emerged as a result of this attraction. The field of foreign language teaching also embraced these insights and modified them for the needs of the language teaching field. For example, Computer-Assisted Language Learning (CALL) is an offspring of these new insights. It is believed that CALL has a facilitative and motivating role on the part of the students not only in language classes but also in activities outside the classroom. Therefore, this study aimed at exploring students' motivational attitudes towards the use of computers for communication and writing.

Irrespective of whether participants had computers at home or not, they preferred to take advantage of the facilities of computers to communicate with their peers, teachers and even those native speakers from overseas. They seemed to be motivated both instrumentally and integratively depending on their purposes of computer use. Although their personal aspects related to computers like typing ability did not influence their degree of motivation much, the knowledge of computer use was a significant factor that influenced the participants' motivational attitudes.

In the light of the results of the study, it is suggested that the use of computers and its varieties should be integrated into the teaching of English in our schools at all

levels. Particularly, at higher levels, students can be given the chance to take some of their writing classes in computer labs. As assumed, writing is the skill that learners find the most challenging of all the main skills. Considering the lowering effect and facilitating features of computers, it becomes possible to overcome this challenge by computer-based language learning tasks. Plus, its role in encouraging learners to communicate should not be undervalued. Even shy students are motivated to communicate through computers for they do not feel pressured and have the inhibitions they might feel in face-to-face interaction.

The use of computers in language learning can lead to success and teaching for communicative purposes and for the improvement of writing skills. It can also increase positive motivational attitudes towards language learning. Also, teachers' awareness of the motivational frameworks may ease their understanding of the nature of language learning. In this way, they can directly understand the learner needs and respond to them accordingly.

As Lai and Kritsonis (2006) report, "although there are many advantages of computer, the application of current computer technology still has its limitations" (p. 3). It is up to the teachers to take precautions against these obstacles and incorporate computers into the teaching of English by taking the learners' needs into account.

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APPENDIX STUDENT SURVEY

Dear student,

This questionnaire was prepared to examine your attitudes towards using computer for writing and communication. The answers to the survey will be used only in accordance with research objectives and will be kept confidential. Sincere answers to the questions are of great significance for the success and reliability of the study. Thank you very much for taking your time to help me. _____

Sex: Male () Female ()

Age:

Please rate your typing ability:

poor () fair () good () very good () excellent ()

Please rate your knowledge of computers:

poor () fair () good () very good () excellent ()

Do you have a computer at home?

Yes () No ()

How you ever used a computer to do the following things?

Word processing: a lot () a little () never ()

E-mail: a lot () a little () never ()

World Wide Web: a lot () a little () never ()

The statements below are concerned about your opinions of using computer for writing and communication. For each of the remaining statements, please circle a number that best states your opinion (1-5).	SD	D	N	A	SA
1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree					
1) I can write better essays when I do them on computer.	1	2	3	4	5
2) Revising my papers is a lot easier when I write them on computer.	1	2	3	4	5
3) I enjoy writing my papers by computer more than by hand.	1	2	3	4	5
4) I enjoy seeing the things I write printed out.	1	2	3	4	5
5) Writing papers by hand saves time compared to by computer.*	1	2	3	4	5
6) I enjoy using the computer to communicate with people around the world.	1	2	3	4	5
7) I enjoy using the computer to communicate with my classmates.	1	2	3	4	5
8) I am more afraid to contact people by e-mail than in person.*	1	2	3	4	5
9) I enjoy using the computer to communicate with my teacher.	1	2	3	4	5

10) If I have a question or comment, I would rather contact my teacher in person than by e-mail.*	1	2	3	4	5
11) E-mail helps people learn from each other.	1	2	3	4	5
12) An advantage of e-mail is you can contact people any time you want.	1	2	3	4	5
13) Writing to others by e-mail helps me develop my thoughts and ideas.	1	2	3	4	5
14) Using e-mail and the Internet makes me feel part of a community.	1	2	3	4	5
15) Using e-mail and the Internet is a good way to learn more about different people and cultures.	1	2	3	4	5
16) Communicating by e-mail is a good way to improve my English.	1	2	3	4	5
17) Learning to use a computer gives me a feeling of accomplishment.	1	2	3	4	5
18) Writing by computer makes me more creative.	1	2	3	4	5
19) Using a computer gives me more chances to read and use authentic English.	1	2	3	4	5
20) I want to continue using a computer in my English classes.	1	2	3	4	5
21) Using a computer is not worth the time and effort.*	1	2	3	4	5
22) Using a computer gives me more control over my learning.	1	2	3	4	5
23) I enjoy the challenge of using computers.	1	2	3	4	5
24) Learning how to use computers is important for my career.	1	2	3	4	5
25) I can learn English more independently when I use a computer.	1	2	3	4	5
26) Computers keep people isolated from each other.*	1	2	3	4	5
27) I can learn English faster when I use a computer.	1	2	3	4	5
28) Using a computer gives me more chances to practice English	1	2	3	4	5
29) Computers are usually very frustrating to work with.*	1	2	3	4	5
30) Computers make people weak and powerless.*	1	2	3	4	5

*= reverse coded items