



Motivational Aspects of Using Computers for Writing among the Malaysian ESL Students

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ABSTRACT

Past research have shown that students view activities using computers in language learning to be highly motivating (Krendl, 1988). A more recent study conducted by Warschauer (1996), especially focusing on ESL and EFL students' writing in universities in Hong Kong, Taiwan and the US, has found encouraging results with regards to students' motivational attitude towards using computers in writing. In the Malaysian context however, very few researches have been conducted to study the use of computers in language learning at the tertiary level, particularly in identifying factors that affect students' motivation in learning writing using computers. A 42 question survey investigating the attitude of Malaysian students was administered and it was found that students were highly motivated and felt empowered to study language and writing via the computer.

Keywords: Motivational, Computers in Education, Education among Student, Malaysia

INTRODUCTION

Learning to write well is one of the most challenging tasks for anyone, regardless of age. It takes time, practice, and lots of encouragement. Parents and teachers can help students develop their skills and, equally important, a love for words and writing. In today's classrooms, learning to write well is further compounded by the presence of new tools, particularly the computer, whereby students are expected to learn to use the computers as well as learn to write. According to Daiute (2000), using computers for writing development is complicated. Computers can be tools for enhancing written language; yet using the computer requires literacy. Also, computer use is embedded in communication, in classrooms, on the Internet, and in other contexts, which can enhance motivation for learning to write.

In the Malaysian tertiary educational setting, the use of computer has become prevalent among students. Regardless of whether lecturers like it or not, utilize computers in their classrooms or not, students are already using computers everywhere. However, to what extent are students

willing and motivated to use computers for academic writing purposes remains to be explored. This study, a small scale replica of a similar study conducted by Warschauer (1996), hopes to look at the motivational aspect of using computers in writing that tertiary ESL students in Malaysia experience.

The Nature of Motivation

Gardner and Lambert (1972, cited in Crookes and Schmidt, 1991) introduced the notions of instrumental and integrative motivation. In the context of language learning, instrumental motivation refers to the learner's desire to learn a language for utilitarian purposes (such as employment or travel), whereas integrative motivation refers to the desire to learn a language to integrate successfully into the target language community. In later research studies, Crookes and Schmidt (1991), and Gardner and Tremblay (1994) explored four other motivational orientations: (a) reason for learning, (b) desire to attain the learning goal, (c) positive attitude toward the learning situation, and (d) effortful behavior.

Many theorists and researchers have found that it is important to recognize the construct of motivation not as a single entity but as a multi-factorial one. Oxford and Shearin (1994) analyzed a total of 12 motivational theories or models, including those from socio-psychology, cognitive development, and socio-cultural psychology, and identified six factors that impact motivation in language learning. The six factors include attitudes (i.e., sentiments toward the learning community and the target language), beliefs about self (i.e., expectancies about one's attitudes to succeed, self-efficacy, and anxiety), goals (perceived clarity and relevance of learning goals as reasons for learning), involvement (i.e., extent to which the learner actively and consciously participates in the language learning process), environmental support (i.e., extent of teacher and peer support, and the integration of cultural and outside-of-class support into learning experience), and personal attributes (i.e., aptitude, age, sex, and previous language learning experience) (Ngeow, 1998).

According to Warschauer (1996), the motivating aspects of learning with computers have been widely accepted and there is vast literature dealing with this issue (Armour-Thomas, White and Boehm, 1987; Chapelle and Jamieson, 1986, January; Fox, 1988; Perez and White, 1985; Peterson and Sellers, 1992, October; Pollock and Sullivan, 1990; Relan, 1992; Waldrop, 1984; Williams, 1993; Wu, 1992). The most frequently-cited motivating aspects of computer-assisted instruction include (a) the novelty of working with a new medium (Fox, 1988), (b) the individualized nature of computer-assisted instruction (Relan, 1992), (c) the opportunities for learner control (Hicken, et al., 1992; Kinzie, et al., 1988; Pollock and Sullivan, 1990; Williams, 1993), and (d) the opportunities for rapid, frequent non-judgmental feedback (Armour-Thomas, et al., 1987; Waldrop, 1984; Wu, 1992).

Writing with computers

This paper focuses on two particular aspects of computer-assisted language learning namely using the computer for both writing and communication. Word processing has been commonly used for many years in the second and foreign language classroom. Language teachers believe that word processing encourages new pedagogical relationships in the class by facilitating student revision and collaborative writing (Warschauer, 1996). Further, word processing is very helpful for individual attempts at writing facilitating such activities as pre-writing, writing drafts, revise, write another draft, revise then edit and finally, writing the final draft.

However, Computer-Mediated Communication (CMC) is any form of communication between two or more individual people who interact and/or influence each other via separate computers through the Internet or a network connection - using social software. CMC does not

include the methods by which two computers communicate, but rather how people communicate using computers. Computer-mediated communication has features that it is text-based and computer-mediated, many-to-many, time and place-independent, long distance, and distributed via hypermedia links.

Computer-mediated communication was first used by teachers for teaching L1 composition, used computer conferencing for teaching collaborative writing and then this same technique was then used by L2 teachers for the teaching of writing (Sullivan 1993) or for language learning and teaching in general (Chun 1994; Kern 1993). The advent of the electronic mail makes learning more global where communication happens not only within classes but worldwide. This enhances students' motivation as e-mailing is considered to be a less threatening means of communication (Wang 1993).

Brown and Julian (2011) claimed that the majority of writing tasks assigned to second language (L2) learners tend to target an abstract audience and the writing generated is not meant for real or meaningful purposes. The emergence of Web 2.0 concepts has created a potential educational environment where students have access to a widely distributed, authentic audience with a simple click of the mouse. This study examines the impact that targeting an authentic audience within a task-based, computer-mediated environment may have on L2 learner motivation toward English as a second language (ESL) writing. Student perceptions on progress in writing and on motivation to improve their writing were assessed through a semi-structured interview, triangulated with student web-based project work and participant observation. Analysis of interview data reveals that students were motivated to focus on sentence complexity and variety and engaged in the autonomous learning of vocabulary in an effort to communicate information they perceived to be important. The qualitative results also indicate that the participants' awareness of audience and sense of ownership were raised through engagement in this task-based, computer-mediated approach.

Thus, this study attempts to analyze the motivation issue in writing and communication using computers by addressing the following questions:

- RQ1. What aspects of using a computer for writing do second language student find motivating?
- RQ2. What differences exist among the motivating aspects of student of different backgrounds?
- RQ3: How does student motivation vary between gender and the level of studies (diploma and degree)?

METHODOLOGY

The Instrument

The students were administered an anonymous survey in English that is adapted from Warschauer (1996) and it is divided into two parts. In the first part of the questionnaire, questions were asked to gather personal information including age, sex, country of birth, native language, year in university, level of study whether diploma or degree, self rating of typing ability, self rating of computer knowledge, whether students have a computer at home and for how long, amount of experience using word processing, email and the World Wide Web.

The second part of the questionnaire asked thirty questions related to the students' feeling about using computers. The first five questions were about the use of computers for word processing. The next 11 questions were about the use of computers for interpersonal

communication. Finally, the last 14 questions tried to find out general feelings about using computers. All the 30 questions were designed using the five point Likert scale, with 5 being the highest score.

The survey used in this study was an adaptation of the one previously proposed by Warschauer (1996). Permission was sought and received from Warschauer before any modification was done to it to include only questions that are relevant to ESL students in Malaysia. Only one question was removed from the survey of the current study and that was a question eliciting students' experience of using MOO. The researchers agreed that the use of MOO in the Malaysian educational setting is still very limited that it may not be applicable at all.

Respondents

This study surveyed 177 university students in both diploma and degree courses in Universiti Teknologi MARA (UiTM), Shah Alam. Students attending this university are involved in the learning of English as part of the course structure and are required to take English subjects. They are also encouraged to use computers in the classroom or at home to write essays, assignments and projects for their courses. The classes were taught by different lecturers but sometimes each lecturer may be involved in one or two classes.

The following classes participated in the survey:

Degree courses

Courses	No. of Students	Percentage
Furniture Technology	14	7.9%
Office Management and Technology	17	9.6
Civil Engineering	25	14.1
Pharmacy	32	18.1
Accountancy	23	13.0

Diploma courses.

Courses	No of Students	Percentage
Microbiology	17	9.6
Accountancy	49	27.7

Research Procedure

The teacher of each course distributed the questionnaire during normal class time. Instructions were given with explanations that the survey is anonymous and the purpose of the survey is to find out how the ESL learners in Malaysia feel about using computers for writing. Although, the survey questions were worded carefully to be understandable by these university students; however, help is still given for students who find problem with it to ensure they will give the exact data needed by the questions. Students were also told to consult a dictionary or their teacher if they encounter problems in understanding the questions. Students who were absent from class that day did not participate in the survey. Overall, only 177 students participated in the survey.

Analysis

A mean motivation score for each student was determined by calculating the mean responses to all 30 questions. In order to determine which questions generated positive or negative responses at a greater than chance level, the mean Likert score on each question (and on the mean motivation score) for the 177 students was calculated using two-tailed t-tests. The significance level was at $<.01$ for *Learning* & $<.05$ for both communication and empowerment.

RESULTS

RQ1. What aspects of using a computer for writing do second language student find motivating?

The mean motivation score for all students and for all 30 statements is 3.66, implying that on the average, the respondents consider the elements encompassed in the statements taken together fairly motivate them to use computer in writing.

Among individual questions, the most positive response is for question 24, “Learning to use computers is most important for my career.” This is followed by questions 15, 4, 12 and 20 (See *Table 1* below).

Table 1: Questions with the highest mean scores.

Questions	Mean
Learning how to use computers is important for my career.	4.42
Using e-mail and the Internet is a good way to learn more about different people and cultures.	4.07
I enjoy seeing the things I write printed out	4.06
An advantage of e-mail is you can contact people any time you want.	4.06
I want to continue using a computer in my English classes.	4.01
I enjoy using the computer to communicate with people around the world.	3.93
Using a computer gives me more chances to read and use authentic English.	3.92
I can learn English more independently when I use a computer	3.92

Reliability Test on Measurement

The attitude towards using computers by the respondents is gauged using a total of 30 statements. These statements are divided into three groups: learning (14 statements); communication (11 statements); and empowerment (5 statements). The purpose of reliability test (consistency test) is to determine whether the set of statements (measurement) used for each of the three groups are consistent. The test is carried out by using the scores of individual respondents on each statement, and the reliability of the statements is manifest in the value of Cronbach’s alpha. A Cronbach’s alpha value >0.5 in the field of social science implies that the statements used are consistent for the group. Table 1 presents the Cronbach alpha values for the three groups of statements.

Table 2: Result of Reliability Test on Statements

Statement group	Cronbach’s Alpha
Learning (14 statements)	0.832
Communication (11 statements)	0.757
Empowerment (5 statements)	0.522

All the Cronbach’s Alpha values are greater than 0.50. This means that all the statements for learning, communication and empowerment were suitably selected for the study (analysis).

Aspects of Writing Using Computer that Motivate Students:

Learning:

Table 3 shows the mean scores of the 14 statements, listed in descending order of size (decreasing importance or agreeability).

Table 3: Mean Scores of Statements: Learning

Statement	Mean Score	Std. Dev
Learning how to use computers is important for my career	4.42	0.727
I enjoy seeing the things I write printed out	4.06	0.757
I want to continue using computer in my English classes	4.01	0.783
Using a computer gives me more chances to read and use authentic English	3.93	0.739
I can learn English more independently when I use a computer	3.92	0.79
I enjoy the challenge of using computer	3.80	0.826
Using a computer gives more chances to practice English	3.79	0.790
I enjoy writing my papers by computer more than by hand	3.71	0.979
Writing by computer makes me more creative	3.70	0.836
I can learn English faster when I use a computer	3.53	0.860
Using a computer gives me more control over my learning	3.41	0.821
Revising my papers is a lot easier when I write them on computer	3.37	0.871
Writing papers by hand saves time	2.98	1.097
Overall	3.71	0.510

The most agreeable aspect is *learning how to use computer is important for my career* and the least agreeable is *writing papers by hand saves time*. Mathematically, a scale of 1 (strongly disagree) to 5 (strongly agree) must be interpreted as follows:

Mean score of 1.0-1.49 implies that on the average respondents strongly Disagree

Mean score of 1.0-2.49 disagree

Mean score of 2.50-3.49 neutral (uncertain)

Mean score of 3.50-4.49 agree

Mean score 4.50 and higher strongly agree

This applies to Communication and Empowerment as well.

Communication

Table 4 shows the mean scores of the 11 statements, listed in descending order of size (decreasing importance or agreeability).

Table 4: Mean Scores of Statements: Communication

Statement	Mean Score	Std. Deviation
Using e-mail and internet is a good way to learn about different people and cultures	4.07	0.804
An advantage of e-mail is you can contact people anytime you want	4.06	0.784
I enjoy using computer to communicate with people around the world	3.98	0.944
Using e-mail and internet makes me feel part of a community	3.92	0.757
Learning to use computer gives me a feeling of accomplishment	3.89	0.620
Writing to others by e-mail helps me develop my thoughts and ideas	3.48	0.747
Communicating by e-mail is a good way to improve my English	3.84	0.824

E-mail helps people learn from each other	3.67	0.823
I enjoy using computer to communicate with my classmates	3.27	0.920
I enjoy using computer to communicate with my teacher	3.02	0.849
If I have a question or comment, I would rather contact my teacher in person than by e-mail	2.65	1.029
Overall	3.72	0.478

From Table 4, it can be seen that, on the average, the respondents are most agreeable with *using e-mail and internet is a good way to learn about different people and cultures* (mean score 4.07) as a motivating aspect of using computer perceived by the respondents, and *contacting teacher in person, not by e-mail* (mean score 2.65) the least agreeable.

Empowerment

Table 5 shows the mean scores of the 5 statements, listed in descending order of size (decreasing importance).

Table 5: Mean Scores of Statements: Empowerment

Statement	Mean Score	Std. Deviation
I am more afraid to contact people by e-mail than in person	3.86	0.913
Computers make people weak and powerless	3.81	1.041
Computers are usually very frustrating to work with	3.65	0.907
Computers keep people isolated from each other	3.27	1.099
Using computer is not worth the time and effort	3.24	1.000
Overall	3.56	0.584

It can be seen that, on the average, the respondents are most agreeable with *I am more afraid to contact people by e-mail than in person* (mean score 3.86) and least agreeable with *using computer is not worth the time and effort* (mean score 3.24). (Note: This is relative because the respondents actually do not disagree; they are only uncertain)

RQ2. What differences exists among the motivating aspects of student of different backgrounds?

Table 6: Correlation Analysis (Spearman's correlation - non-parametric)

	Overall mean for learning	Overall mean for communication	Overall mean for empowerment
Spearman's rho	.385	.205	.156
Typing ability	.000	.006	.038
Correlation Coefficient	176	176	176
Sig. (2-tailed)			
N			

There is a positive, but small correlation between typing ability and statements under learning; a positive, but small correlation between typing ability and statements under communication; and a positive, but marginal correlation between typing ability and statements under empowerment.

Table 7: Correlation between knowledge of computer and Learning

		Overall mean for learning
Spearman's rho	Knowledge of computers	.354
	Correlation Coefficient	.000
	Sig. (2-tailed)	.000
	N	176

There is a positive, but small correlation ($\rho = 0.354$; $p = 0.000 < 0.01$) between knowledge of computer and statements under learning.

Table 8: Correlation between rate of using computer and statement under learning

		Overall mean for learning	Overall mean for communication
Spearman's rho	Rate how you use a computer to do the following things: e-mail	-.275	-.408
	Correlation Coefficient	.000	.000
	Sig. (2-tailed)	.175	.175
	N	175	175

There is a negative, but small correlation between rate of using computer for e-mail and statements under learning; a negative, but small correlation between rate of using computer for e-mail and statements under communication.

Table9: Correlation between using computer for surfing and statement under communication

		Overall mean for communication	Overall mean for empowerment
Spearman's rho	Rate how you use a computer to do the following things: world wide web	-.245	-.288
	Correlation Coefficient	.001	.000
	Sig. (2-tailed)	.176	.176
	N	176	176

There is a negative, but small correlation between rate of using computer for surfing worldwide web and statements under communication; a negative, but small correlation between rate of using computer for surfing worldwide web and statements under empowerment.

Table 10: Correlation between knowledge of computer and typing ability

		Typing ability
Spearman's rho	Knowledge of computers	.567
	Correlation Coefficient	.000
	Sig. (2-tailed)	.000
	N	176

There is a positive, but moderate correlation ($\rho = 0.567$; $p = 0.000 < 0.01$) between knowledge of computer and typing ability.

Table 11: Correlation between typing ability and motivating factors

			Overall	
Spearman's rho	Typing ability	Correlation Coefficient	.340	
		Sig. (2-tailed)	.000	
		N	176	

There is a positive, but small correlation ($\rho = 0.340$; $p = 0.000 < 0.01$) between typing ability and motivating factors (overall mean of all 30 statements).

Table 12: Correlation between knowledge of computer and motivational factors

			Overall	
Spearman's rho	Knowledge of computers	Correlation Coefficient	.263	
		Sig. (2-tailed)	.000	
		N	176	

There is a positive, but small correlation ($\rho = 0.263$; $p = 0.000 < 0.01$) between knowledge of computer and motivating factors (overall mean of 30 statements).

Table 13: Correlation between using computer for email and motivational factors

			Overall	
Spearman's rho	Rate how you use a computer to do the following things:e-mail	Correlation Coefficient	-.387	
		Sig. (2-tailed)	.000	
		N	175	

There is a negative, but small correlation ($\rho = -0.387$; $p = 0.000 < 0.01$) between rate of using computer for e-mail and motivating factors (overall mean of 30 statements).

Table 14: Rate of using computer for surfing and motivational factors

			Overall	
Spearman's rho	Rate how you use a computer to do the following things:world wide web	Correlation Coefficient	-.244	
		Sig. (2-tailed)	.001	
		N	176	

There is a negative, but small correlation ($\rho = -0.244$; $p = 0.001 < 0.01$) between rate of using computer to surf worldwide web and motivating factors (overall mean of 30 statements).

Table 15: Correlation Analysis (Pearson's correlation - parametric)

		Overall mean for communication
Overall mean for learning	Pearson Correlation	.590
	Sig. (2-tailed)	.000
	N	177

There is a positive, but moderate correlation ($\rho = 0.590$; $p = 0.000 < 0.01$) between statements under learning and those under communication.

Table 16: Correlation between statement under communication and under empowerment

	Overall mean for empowerment	
Overall mean for communication	.181	
Sig. (2-tailed)	.016	
N	177	

There is a positive, but marginal correlation ($\rho = 0.181$; $p = 0.012 < 0.05$) between statements under communication and those under empowerment.

RQ3: How does student motivation vary between gender and the level of studies (Diploma and degree)?

Group Statistics

	Sex	N	Mean	Std. Deviation	Std. Error Mean
Overall mean for learning	Male	48	3.7991	.64390	.09294
	Female	129	3.6845	.44974	.03960
Overall mean for communication	Male	48	3.6034	.57509	.08301
	Female	129	3.7607	.43201	.03804
Overall mean for empowerment	Male	48	3.4688	.62676	.09047
	Female	129	3.6016	.56596	.04983
Overall	Male	48	3.6568	.48061	.06937
	Female	129	3.6730	.35099	.03090

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Overall mean for learning	7.712	.006	1.331	175	.185	.11459	.08609	-.05532	.28451
			1.134	64.828	.261	.11459	.10102	-.08717	.31636
Overall mean for communication	5.163	.024	-1.960	175	.052	-.15727	.08026	-.31566	.00113
			-1.722	67.713	.090	-.15727	.09131	-.33948	.02495
Overall mean for empowerment	1.494	.223	-1.347	175	.180	-.13280	.09855	-.32731	.06171
			-1.286	77.235	.202	-.13280	.10328	-.33845	.07285
Overall	3.875	.051	-.246	175	.806	-.01623	.06595	-.14639	.11392
			-.214	66.544	.831	-.01623	.07594	-.16783	.13537

There is no gender difference in perception on motivating aspects of computer usage in writing under learning ($p = 0.185 > 0.05$), under communication ($p = 0.052 > 0.05$), or under empowerment ($p = 0.180 > 0.05$).

Table 17: T-Test

Group Statistics

a7_recod		N	Mean	Std. Deviation	Std. Error Mean
Overall mean for learning	Diploma	57	3.5627	.47822	.06334
	Degree	119	3.7883	.51307	.04703
Overall mean for communication	Diploma	57	3.6635	.47017	.06228
	Degree	119	3.7441	.48423	.04439
Overall mean for empowerment	Diploma	57	3.5965	.52439	.06946
	Degree	119	3.5504	.61477	.05636
Overall	Diploma	57	3.5879	.37055	.04908
	Degree	119	3.7061	.39476	.03619

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Overall mean for learning	Equal variances assumed	.615	.434	-2.789	174	.006	-.22560	.08088	-.38523	-.06596
	Equal variances not assumed			-2.859	117.782	.005	-.22560	.07889	-.38183	-.06936
Overall mean for communication	Equal variances assumed	.468	.495	-1.043	174	.298	-.08060	.07728	-.23313	.07192
	Equal variances not assumed			-1.054	113.458	.294	-.08060	.07648	-.23211	.07091
Overall mean for empowerment	Equal variances assumed	1.312	.254	.487	174	.627	.04607	.09459	-.14062	.23276
	Equal variances not assumed			.515	127.731	.607	.04607	.08944	-.13091	.22306
Overall	Equal variances assumed	.040	.842	-1.897	174	.060	-.11828	.06236	-.24136	.00480
	Equal variances not assumed			-1.940	117.025	.055	-.11828	.06098	-.23905	.00248

Except for learning, where degree students are relatively higher in their level of agreeability than diploma students there is no difference in respondents' perception on motivating aspects of using computer in writing under communication and under empowerment between diploma students and degree students.

DISCUSSION

Attitude towards using computers

The most significant finding in this study is related to the attitude of students to computers, which is item 24 'Learning how to use computers is important for my career.' Interestingly, this finding is similar to that of Warschauer's, which only goes to show that students, irrespective of the country of origin, seem to be very concerned about their future.

The second item with the highest mean score is item 15 'Using e-mail and the internet is a good way to learn more about different people and cultures.' This finding shows that students now appear to think in a global way; they are now more aware of the benefit of getting to know people of different countries and cultures. The presence of e-mail and internet has further facilitated students' exposure to various cultures of the world and may perhaps encourage written communication between them.

Motivating factors

The findings of this study gave rise to three factors, the strongest of which is Learning (with Cronbach's Alpha 0.832), followed by Communication (with Cronbach's Alpha 0.757) and Empowerment (with Cronbach's Alpha 0.522). This finding is in direct contrast to Warschauer's finding where the factor Communication seemed to be strongest followed by Empowerment and Learning. The implication of this is that Malaysian ESL learners seem to be instrumentally motivated, whereby they are highly motivated by items having to do with the furtherance of their learning. Concern for their future career seem to top all other items, followed by enjoy seeing their printed work, continue using computer in the English class, and offer chances of reading and using authentic English.

The second factor, Communication, is fairly significant whereby learners recognized the fact that using e-mail and internet are good communication tools to learn about others, to contact people anywhere and anytime, and to be part of the larger community of the world.

As for the third factor, Empowerment, learners seem to feel more confident with the use of computers, although the significant level of this factor is low compared to the other two factors. One implication of this is that learners no longer fear or shy away from using technology in the academic setting as well as in their everyday lives.

Differences among students

The findings of this study showed that not much difference existed among the motivating aspects of students from different backgrounds. The data revealed that learners' typing ability, knowledge of computer and their perception of using e-mail and 'www' show very low significant correlation with all the three factors of Learning, Communication and Empowerment.

Differences among Gender and Level of Study

Once again the data showed that there is no gender difference in perception on motivating aspects of computer usage in writing under the factors; Learning, Communication, or Empowerment.

With regards to the level of study, degree students are relatively higher in their level of agreeability than diploma students for the factor Learning. There is no difference in the respondents' perception on motivating aspects of using computers in writing for the other two factors Communication and Empowerment between diploma students and degree students.

CONCLUSION

The Malaysian ESL learners, regardless of whether they are male or female, skilled or unskilled at typing and using computers, have a positive attitude toward using computers for writing and communication in the English language classroom. The factors that influence these ESL learners' positive attitude toward computers include enhancement of learning opportunities, the benefits of computer-mediated communication, and the feeling of empowerment. Teachers can play an important role in encouraging student motivation by helping them to gain knowledge and skill of using computers, providing them with opportunities to utilize electronic communication, and integrating computer based activities into their regular classroom syllabi.

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