

EFFECTS OF STUDY ACTIVITIES ON ACADEMIC ACHIEVEMENT IN UNIVERSITY STUDENTS IN THAILAND

John Brian Power¹

Abstract

In this paper the influence of study activities on academic achievement at university level in Thailand is examined. Furthermore, the extent to which multitasking and the use of technology have now become determining factors in student study behavior is explored. The study concentrated on a group of 318 students (131 males and 187 females) in their final year at Mahidol University International College (MUIC) in Thailand. Results of this research demonstrate that of the 57 factors assessed, 51 showed no correlation between the activities that students engage in while studying and academic achievement, while 6 factors showed a correlation (Criteria: Sig.< 0.05 Reject null hypotheses). The conclusion highlights the level to which multitasking and technology play a role in study activities at the tertiary level.

Introduction

Although research into the way students study can be traced back to Wrenn in 1933 in the United States (Brown and Holtzman 1995) and Entwistle (1968), in the UK, the amount of research in this area for students

at college level, as noted by Mokhtari, Reichard and Gardner (2009), is relatively limited. Previous methods of assessment included surveys using the Student Attitude Inventory (SAI) initiated by Entwistle, Nisbert, Entwistle and Cowell (1971), and modifications to these approaches such as the Approaches to Study Inventory (ASI) (Entwistle and Ramsden 1983; Foster and Lin 2007). Other instruments, such as the Learning and Study Strategies Inventory (LASSI), aimed to assess students' awareness about, and use of, learning and study strategies (Weinstein 1987). Numerous models for investigating academic performance in higher education built on the interaction model developed by Spady (1970, 1971). Although these studies provided valuable information and input into the learners' language learning, the variables tested were mainly academic, and other aspects that affect academic performance, such as the students' social environment were left out of consideration according to Eggens, van der Werf and Bosker (2008). Often researchers focused on specific procedures, such as underlining or summarizing (Lenz, Ellis and Scanlon 1996), or meta-cognitive approaches such as study strategies or the way a student plans and evaluates his or her study behavior (Gettinger and Siebert 2002).

Research into the study activities of Asian students have focused on such areas as motivation (Kember 2000), learner variables, such as management strategy (Wen and Johnson 1997), establishing links between thinking styles and academic achievement (Bernado, Zhang and Calleung 2002), and linking academic success to values and learning activities at home (Schneider and Lee 1990). Little research has been conducted into the actual nature of Asian students' study

¹ Lecturer, Mahidol University International College, Mahidol University

activities; how much time they spend studying; where, when and with whom; what they actually do while they are studying; and how these activities impact on academic achievement. Media multitasking, the use of technology such as mobile phones, texting, the Internet, iPods and iPads, is on the rise (Rosen 2008), and has become an important factor in the lives of young Asians (Synovate 2010). The impact of this access to electronic equipment has fundamentally changed the way that students study, and research is relatively nascent, particularly in the context of Asian students' study activities.

The extent to which technology has now become part of students' everyday lives can be reflected in the use of the term 'digital natives' (Prensky 2005) to describe a generation which may be making a fundamental shift in the way they approach the learning process, due to the ease with which they adapt to technological innovations, and how they incorporate those innovations into their learning styles. In all parts of the MUIC campus, students can be found using computers, tablet computers, phones and other electronic media while engaged in studying. It is common for students to use mobile phones to take pictures of lecturers' Power Point Presentations, and whiteboard work in place of note taking. In short, electronic media has permeated all areas of students' lives.

As far back as 2000, it was widely acknowledged that technology provided students with ready access to educational opportunities (Murphy, Walker and Webb 2001; Ryan, Scott, Freeman and Patel 2000), and early studies by Breen, Lindsay, Jenkins and Smith (2001), and Brotcorne (2005) established that

computer use was a major element of a students' working day. Nevertheless, views on the impact of technology on education are not always favourable. According to the Alliance for Childhood, a non-profit organization based in the USA, not only is there little evidence of the benefits in the long-term of the high-tech lifestyle and education promoted by government and business, there are also growing indications of harm (Alliance for Childhood 2004). Academics are also concerned about the educational effectiveness of technological devices such as the internet (Selwyn 2008). A study by Brotcorne (2005) showed that the use of the Internet often clashed with students' progress through university assessment. In spite of these criticisms, empirical studies on the impact of the Internet on studies are still comparatively few (Mokhtari et al. 2009). Furthermore, research in this area has often focused on one particular aspect of studying, such as the impact of the Internet on reading habits (Compton-Lilly 2007; Ennemoser and Schneider 2007) or the influence of personal networks on study attainment (Eggens et al. 2008).

Multitasking

The term multitasking owes its origin to the advent of the computer age and describes, according to the Oxford online dictionary, the ability to execute more than one program or task simultaneously. Other definitions point to the shifting of attention from one task to another over a short time-span (Oswald, Hambrick and Jones 2007), and a more contemporary interpretation highlights the attempt to do as many things as possible simultaneously, usually with the assistance of technology (Rosen 2008). For the purposes of this research, multitasking is defined as the attempt to

complete or make progress on two or more tasks over a short time-span. Multitasking, in relation to studying, can refer to productive activities such as reading, writing and revising notes, and such distractive activities such as texting, listening to pop music, talking on the phone and watching television.

The increasing availability of social networking, mobile phones, computers and the Internet has led to a rise in multitasking for students in the field of education, and it seems common for students to execute various tasks simultaneously (Clarebout, Coens and Elen 2008). A detailed study of over 500 college students by Mokhtari et al. (2009) reported that many of the subjects were multi-tasked while studying. Rosen (2008) talks about a multitasking culture and, experts believe there is a lot of social pressure to multi-task with students twittering, e-mailing and being part of on-line communities such as Facebook and Hi5 (Ophira, Nass and Wagner 2009). Recent research on young Asians revealed that multitasking is the norm amongst youth in Asia, with youngsters fitting 38 hours worth of activities into a 24-hour day (Synovate 2010). In sum up, this current generation of young people has spent their whole lives surrounded by digitization and connectivity (Watson 2010).

Effects of Multitasking

Past studies of multitasking in the learning environment have shown that respondents' performance suffers when they perform two or more tasks simultaneously (Hembrooke and Gay 2003; Spelke, Hirst, and Neisser 1976). In several benchmark tests by the Proceedings of the National Academy of Sciences in America, students

who multi-tasked fared poorly when compared to peers who engaged in low levels of multi-tasking activities. Children who are heavy media users, (which includes the Internet, mobiles and TV), are more likely to report getting fair or poor grades than other children (Kaiser Foundation 2010) and studies have shown that multitasking is a poor long-term strategy for learning (Rosen 2008).

With the emergence of more technological innovations, such as tablet computers, and the constant development of existing technologies, the learning environment, both in and outside the classroom, is in a state of rapid change. This fact, and the extent to which the points raised in the discussion on study activities are relevant to the particular environment in which the author works, have contributed to the desire to move beyond a theoretical perspective to a more empirical one where some light can hopefully be shed on the effects of study activities on academic achievement. A report by the Kaiser Foundation (2010) found a link between poor grades and heavy media use for college students in America. Could such heavy media use contribute to similar findings in research into the link between study activities and academic achievement in an Asian environment? Research into study activities and media use in a Thai context, it is hoped, will provide a clearer picture on assumptions often based on Western investigations.

Purposes of the Study

This research study investigated the nature of the way in which Thai university students actually use their study time, and whether any of the following factors can be determined to contribute to academic achievement in English: the amount of

time they spend studying English, where and when they study, whether they study alone or with others, what activities they engage in, such as listening to pop music, organizing their notes, watching TV and chatting online, and to what extent the expanding options and tools available courtesy of technology, play a role. Towards this end, a research instrument was developed to gather quantitative data on Thai students' study activities at the tertiary level. To a significant extent such data on Thai university students is lacking. In summary, the study aimed to answer the following two research questions:

1. Can a relationship between study activities and academic achievement in English be identified for Thai university students?
2. To what extent does technology and multitasking play a role in study activities for Thai university students?

For clarity, the word *activities* will be used throughout this report to describe the factors outlined above.

Method

Participants

The subject pool was drawn from students in their final trimester of the English Language Studies Program at Mahidol University International College in Bangkok, Thailand. All international college students are required to complete the English Language Studies Program as part of their general education requirements. Students are required to take 4 to 5 hours of lectures per week, and they have to progress through 5 levels of the program over a period of five semesters, each of 11 weeks duration. The syllabus includes courses on academic

writing, research skills, public speaking, and linguistics. There were 318 students in total, of which 58.8% were female, 41.2 % male.

Research Design

Time diary techniques, such as those used by Robinson and Godbey (1997), and the refined version by Nie & Erbring (2002) were tested with a limited number of the student population at a preliminary stage of the project in early 2009. Problems commonly associated with this approach, such as the uncertain recollection of participants (Mokhtari et al. 2009) were encountered. Furthermore, the use of inventory approaches often have limitations due to the reliance on self-reporting (Foster and Lin 2007). Some of the students in the English Language Studies Program at MUIC felt that recording in their diaries took up valuable time and contributed to an already heavy workload. Therefore, a questionnaire model was proposed, based on data provided by students on the English Language Studies Program. According to Cohen, Manion, & Morrison (2000), such questionnaires can afford the researcher the 'freedom to fuse measurement with opinion, quantity and quality' (p. 253). The items were a mixture of closed ended questions and the Likert scale.

Procedure

Students in all final semester classes of the English Language Studies Program were invited to participate in the survey by their respective teachers. Questionnaires were distributed to the students by their respective lecturers and completed during the introductory lesson of the semester beginning the January 2010. In accordance with the Mahidol University Ethics

Committee guidelines, student confidentiality was assured, and a description of the research was provided on the cover page of the questionnaire. Lecturers in the respective classes were briefed on the questionnaire and the scope of the research, and were therefore able to answer any queries from students. The average completion time of the questionnaire was 10 minutes. The response rate was 100%.

Data Analysis

Initially, a heuristic approach was used to gather information to help determine the items to be included in the questionnaire. Students on the first day of their course program at MUIC are required to provide writing samples for the purpose of comparison at later stages of the course. Teachers are free to select the writing topic, and for the purposes of this research students were asked to write an essay describing their study activities. Data was collected over a period of 3 semesters during the college year 2010.

Three experienced researchers then analyzed the raw data from the written work of over 200 students in order to determine the reliability of the initial items for the questionnaire. This was then supplemented by data collected from a series of 4 focus groups consisting of students studying English at a higher level, over a period of three months, from September to December 2009. The number of students in each focus group varied between five and eight. From this data, 57 study activity variables were established, which formed the foundation on which the questionnaire was constructed. The data collected by the questionnaire was subdivided into four key areas:

The time Thai university students spent studying English

The places where they studied, and with whom

Use of the computer

Activities Thai students engaged in while studying English

A pilot was conducted with a small group of entry-level students and some small adjustments were subsequently made. (See appendix I for the finalized version). After all the questionnaires had been completed and collected, the final results were examined through SPSS (Statistical Package for the Social Sciences) analysis, using Descriptive Statistics and the Chi-Square test. The Chi-Square test method was used because the questionnaire was designed for non-parametric statistical analysis and was a Case Study in reference to this particular group of students only.

Success, or academic achievement, was defined as passage through the five compulsory levels of the English Minor program without repeating a level. Of the 318 subjects in the study, 112, or 35.2%, had repeated levels on at least one occasion.

Results

Findings from the questionnaire are divided into the 4 categories outlined above. Successful students, those who passed through all five levels of the English Minor program without repeating a level, are categorized as NR (Non-Repeat) and those students who repeated one or more level are categorized as R (Repeat). First we will look at the overall findings for both R and NR students.

The time Thai university students spent studying English

A significant number of both R and NR students studied once a week (104, or 33%), with 5% studying everyday. Over 70% studied for 2 hours or less, with only 7.5% studying for 4 or more hours. Just under 50% of all students took a break after 45 minutes of studying, with over 20% taking a break every 15 minutes. Over 35% of respondents had not studied for over a week, although 29% had studied the previous day. Students studied most frequently at weekends (48.7%) while 41.6%, or 129 students, preferred to study at night. Forty one per cent of R students had a study timetable and always or usually stuck to it compared to NR students at 30%.

The places where they studied and with whom

Studying at home was done by 40% of students either every time or usually. Only 2% studied with their friends every time. 30%, or 93 respondents, rarely studied with their friends and almost 14% never did. The average time for studying with friends was less than 2 hours, (47.9%). Around 58% rarely or never studied English in public places (such as coffee shops) with 35% sometimes doing so, and only 8% usually doing so.

Use of the computer

A computer was considered essential when studying by 59% of respondents, although only 15% used a computer every time. The computer interfered with the studies of 31%, or 98 students. Average use of the computer was 2 hours or less, with just over 20%, or 63 students, using it for 4 or more hours. Over 60% of students used the internet, not text books, to check grammar, either always

or usually. Access to the internet was deemed essential by 68% of respondents, with 5% disagreeing. Going online was the biggest distraction for 42.7% of respondents.

Activities Thai students engaged in while studying English

A quarter of the participants usually did other things while studying English, 10% did other things every time, and 47.3%, or 150 respondents, sometimes did other things. Sixteen percent agreed that multitasking helped them when they were studying; 37% were undecided. Just over forty one percent said that going online was the biggest distraction when studying, and 59% either always, or sometimes chatted online while studying, followed by chatting on the phone (19%). A relatively high percentage (17.2%) watched movies every time they studied, while 31.2% usually watched movies, and 22.6% sometimes watched movies. Over 100 students sometimes chatted on their mobiles, while nearly 7% usually did so, and 3% always did so. A majority (60%) usually or always corrected errors from their assignments, and 12% usually wrote down new vocabulary from their lectures.

Correlating Factors

Of the 57 variables tested, only the six listed below showed a correlation (Sig.< 0.05) between Thai university students study activities and academic success.

1. The first thing I do when I sit down to study English is (*activity*)
2. I use the computer for (*length of time*)
3. I chat on the Internet
4. I listen to pop songs in English
5. I listen to pop songs in English for (*length of time*)
6. I write up my notes from English class for (*length of time*)

Table 1

The First Thing I Do When I Sit Down to Study English Is

	% Repeat students (R)	% Non-Repeat students (NR)	χ^2	Sig.
Turn on my computer	19.8	36	16.669	0.005*
Call my friend	.0	2.5		
Turn on the TV	12.6	7.4		
Organize my notes	39.6	37.4		
Organize my time	17.1	12.3		
Other	10.8	4.4		

Note: *p.< 0.01

Table 1 represents responses to the variable: *The first thing I do when I sit down to study English is...* Respondents are divided into Repeat (R)-those students who repeated one or more levels of the English program- and Non-Repeat (NR), those students who passed every level without repeat.

This variable had the strongest correlation ($\chi^2= 16.669$ Sig. < 0.005). Overall, a high percentage of both repeat (R) and non-repeat (NR) students organized their notes when they first sat down to study (37.4% and 39.6%). A much higher percentage of NR turned on their computers first (36% v. 19.8%) and 12.6% of R turned on the TV first, as opposed to 7.4% of NR. A significant number of R students-almost 11%-did other things when they sat down to study English, but these were not specified.

2. I use the computer for (length of time)

Overall, a high percentage (70+%) of both R and NR used the computer for 2 hours or less when they were studying. A significantly higher number of NR (23%) used the computer for 4 or more hours, compared to R (15.7%). These figures

indicate that NR students used their computers more when studying English.

3. I chat on the Internet

Both R and NR chatted for fewer than 2 hours on the Internet when they were studying (78+%). Nearly 11% of NR chatted for 3 hours compared to R (2.8%). A high percentage of R (around 21%) never chatted on the Internet when studying English. Overall, the charts indicate that more NR students chatted on the Internet when studying than R.

4. I listen to pop songs in English

Around 1/3 of both NR and R sometimes listened to pop music when studying. A markedly higher number of R (29.5%) never listened to pop music as opposed to around 16% of NR. Additionally, more NR (8.4%) listened to pop music every time as opposed to just 1.8% of R. It can be assumed from these figures therefore, that NR students listened to pop music more when studying English.

5. I listen to pop songs in English for (length of time)

The majority of both R and NR listened to pop songs in English for 2 hours or fewer when studying English (82% and 85% respectively). Nevertheless, a significant number (11% and 9.5%) listened for 4 or more hours when studying.

Table 2

6. I Write Up My Notes from English Class Every

	% Repeat students (R)	% Non- Repeat students (NR)	χ^2	Sig.
4+ hours	3.7	.5	9.814	0.044*
3 hours	.9	3.0		
2 hours	29.6	23.9		
Less than that	63.9	66.2		
Never	1.9	6.5		
Total	100	100		

Note: *p.< 0.01

Table 2 displays figures for the amount of time students spent writing up notes from their English classes when studying English. Overall, a high percentage (60-70%) of both R and NR spent fewer than two hours writing up notes from their English lectures. More R students (3.7%) spent 4 or more hours writing up their notes from English class than NR. A small number of NR students (6.5%) never wrote up their notes from English class.

Discussion

Kember (2000) classified some Asian students as 'engagers' -those who like to work together to solve problems. This classification is consistent with the author's somewhat empirical findings of students studying in the campus environment (chatting and working together, as well as using mobiles, checking their Facebook page, etc.), and these factors seem to be supported to a certain extent by the results of this research, although the level to which they occurred may not be as high as expected. As always, some caution needs to be exercised when interpreting this data. For example, although 50% of all participants said that a computer was essential for studying, and 60% used the internet to check grammar, only 15%, or 48 participants, said that they used a computer every time they studied. Additionally, over 30% agreed that using a computer *interfered* with their studies. One of the electronic devices most commonly used by students, the mobile phone, did not seem to be used so much during study (over 58% of all students rarely, or never, chatted on their mobile when studying). This is not consistent with recent market research, which shows that young Thai people spend an average of 1.7 hours chatting on their mobiles every day, compared to 49 minutes by other Asians (Synovate 2010). Additionally, according to the data, 57% of all students rarely or never studied in public places, with only 7.6% usually doing so, and 6% always. It may be that students did not consider studying in cafeterias and areas around the campus as public spaces. Text books are being abandoned in favor of the Internet when students check grammar and other language items, with over 60% of all students usually or always using the medium.

The data on the usefulness of multitasking is not clear, with 37% of all respondents neutral on its benefits, 15% saying it is positive, with just over 12% strongly disagreeing. Nevertheless, a high percentage of both repeat and non-repeat students, (between 50-60%) watched movies always or usually when they were studying, implying that they were indeed, multitasking in some form or another. Moreover, almost 10% of all respondents did other things while studying English, while over 70% either usually or sometimes did so. This statistic may be explained by the fact that young Thais own more electronic devices than their regional peers according to research by Synovate (2010). Students may be spending considerable time doing other things in the study environment but are unclear as to the benefits. Significantly, nearly 60% of all students chatted online while studying English, and over one third said it was their biggest distraction.

As the questionnaire was constructed based on students' own views of the activities they engaged in while studying and the question items clearly indicate that students were participating in a variety of tasks, it is reasonable to assume that multitasking plays a significant part in students's study behavior. Nevertheless, students may be so 'attuned' to multitasking that they are unaware that they are engaging in it. For educators the challenge may be, as Frattra has commented, to learn to recognize the differences in how this generation processes, gathers, and analyses data to solve problems (2009).

Previous research may have indicated that not all students were inclined to integrate the internet into their studies as might have been assumed (Selwyn 2008). However,

consistent upgrading of university network facilities and increasing availability of cheaper technology, such as laptops and tablets, would suggest that most college students now have the knowledge, skills, and access to the Internet, and exploit it successfully. The incoming Thai government in 2011 pledged to put tablet computers in the hands of every school child, acknowledging recognition of the importance of technology in education by the government and educational authorities. Mahidol University International College registers all students on its intranet, which allows them access to databases and other academic sites, both from college and home. Young Thais own more electronic devices such as mobile phones (72% v. 64%) and computers (42% v 32%) than their regional peers (Synovate 2010). Computers and hand-held devices in the classroom are now the norm. In fact, the majority of students in the English Language Studies Program automatically bring some form of electronic device to lectures in order to write with and take notes.

The areas in which there was a correlation between activities and academic success also seem to contradict the traditional concept of effective study activities and practice. For example, the strongest correlation-*the first thing I do when I sit down to study English is-* ($\chi^2=16.669$, Sig.<0.005) actually demonstrated that more repeat students (R) organized their notes, almost 40%, compared to 'successful', or non-repeat students (NR) at 37.5%. It can be reasonably assumed that a disciplinary activity, such as organizing notes, is normally associated with students who are more successful academically. Similarly, almost twice as many R students (over 20%) never chatted on the Internet while studying English,

compared to NR at 10.5%. ($\chi^2=11.574$, Sig.<0.021). Areas of more traditional activities, such as writing up notes from class, writing down new vocabulary and checking grammar, showed no correlation with academic achievement. Again, what would appear to be contradictory evidence is provided here; whereas over 15% of R students wrote up their notes from class every time, only 7% of NR student did so. This can be interpreted in many ways. Perhaps R students, being weaker, see the need to write up their notes more often. Alternatively, this may be a strategy they have learned to adapt the 'second time' round. Activities such as writing down notes from class, and writing down new vocabulary reveal almost identical figures from both R and NR: most respondents (60+%) only sometimes or rarely did so.

Conclusion

This study set out to answer the following two research questions:

1. Can a relationship between study activities and academic achievement in English be identified for Thai university students?
2. To what extent does technology and multitasking play a role in study activities for Thai university students?

1. Can a relationship between study activities and academic achievement in English be identified for Thai university students?

To begin with the question of whether any of the factors investigated above can be determined to contribute to academic achievement in English. Analysis of the four broad categories identified- use computer, place and nature of study, time

spent studying English, and activities engaged in while studying-revealed few significant differences between repeat and non-repeat students' approaches to studying English outside of class. For example, 40% of all students studied at home, and 41.7% of both categories stated that going online was the biggest distraction, and the majority of students (over 33%) studied once a week. As only six of the 57 variables tested could be linked to academic achievement, and since the data provided by these six variables contradicts accepted theories, we can reasonably conclude that *a link cannot be established between study activities and academic success in English for Thai university students*. Nevertheless, due to the specific requirements of the MUIC English Language Studies Program, the size of the sample and the profile of the student population, more quantitative research on a larger scale is needed in order to draw any conclusions on the effects of study activities on academic achievement in a wider context. These could additionally be merged effectively with more qualitative models such as LASSI (Weinstein 1987).

2. To what extent does technology and multitasking play a role in study activities for Thai university students?

The content focus of the questionnaire was based on data gathered from a large body of students on their views as to what activities they engaged in while studying English. As many of the items involved technology, it can be assumed that technology played a significant part in the students' study time. The extent to which students engaged in multitasking, chatting on the internet, watching movies, etc., is not as prevalent as may have been assumed, according to the data.

Students may well move on from using computers in the learning environment to more convenient hand-held devices, such as tablets or mobile phones, and the presence of these technological options may accelerate the age of perpetual partial attention, and encourage a level of multitasking previously unknown (Hembrooke and Gay 2003). The current generation of learners is eschewing the more traditional longer hours of study, and replacing them with shorter bursts of information assimilation in order to keep them engaged and energized (Frattra 2009). This corresponds with data from the research which shows that the majority of students studied for fewer than two hours and frequently took breaks. There are concerns that there is an increasing focus on quick access to facts and information which is almost devoid of broad understanding (Watson 2010). Educators will need to acknowledge these changes and reflect them in their course content and delivery.

Although this research was unable to conclusively link study activities to academic success, it has identified the variety of tools and distractions now available to Thai university students when they are studying. Further research is needed on how Thai university students study activities are changing, and how these activities impact on academic achievement.

References

- Alliance For Childhood. (2004). TechTonic: Towards a new literacy of technology. <http://www.scribd.com/doc/19264/Tech-Tonic-Towards_a-new-literacy-of-technology>.
- Bernado, A. B. I., Zhang, L. and Calleung, C. M. (2002). Thinking styles and academic achievement among Filipino students. *The Journal of Genetic Psychology*, 163(2), 149-163.
- Breen, R., Lindsay, R., Jenkins, A. and Smith, P. (2001). The role of information and communication technologies in a university learning environment. *Studies in Higher Education*, 26(1), 95-114.
- Brotcorne, P. (2005). *Making sense of the internet: Exploring students' use of internet-based information resources in university*. Paper presented at the British Educational Research Association Annual Conference, University of Glamorgan.
- Brown, W. F. and Holtzman, W. H. (1995). A study-attitudes questionnaire for predicting academic success. *Journal of Educational Psychology*, 46(2), 75-84.
- Clarebout, G., Coens, J. and Elen, J. (2008). The use of ipods in education: The case of multitasking. In J. Zumbach, T. Schwartz, T. Seufert & L. Kester (Eds.), *Beyond knowledge: The legacy of competence: Part II-I*, 75-82.

- Cohen, L., Manion, L. and Morrison, K. (2000). *Research methods in education* (5th ed.). London: Routledge Farmer.
- Compton-Lilly, C. (2007). What can video games teach us about teaching reading? *The Reading Teacher*, 60(8), 718-727.
- Eggens, L., van der Werf, M. P. C. and Bosker, R. J. (2008). The influence of personal networks and social support on study attainment in university education. *Higher Education*, 55, 553-573.
- Ennemoser, M. and Schneider, W. (2007). Relations of television viewing and reading: Findings from a 4-year longitudinal study. *Journal of Educational Psychology*, 99(2), 349-368.
- Entwistle, N. J. (1968). Academic motivation of school attainment. *British Journal of Educational Psychology*, 38(2), 181-188.
- Entwistle, N. J., Nisbert, J., Entwistle, D. and Cowell, M. D. (1971). The academic performance of students. *British Journal of Educational Psychology*, 41, 258-267.
- Entwistle, N. J. and Ramsden, P. (1983). *Understanding Student Learning*. London: Croom Helm.
- Foster, J. and Lin, A. (2007). Approaches to studying and students' use of a computer supported learning environment. *Education for Information*, 25, 155-168.
- Frattra, R. (2009). Effects of technology on 21st century study habits. <<http://www.classroom20.com/forum/topics/affects-of-technology-on-21st>>.
- Gettinger, M. and Siebert, J. K. (2002). Contributions of study skills to academic competence. *School Psychology Review*, 31(3), 350-365.
- Hembrooke, H. and Gay, G. (2003). The laptop and the lecture: The effects of multitasking in learning environments. *Journal of Computing in Higher Education*, 15(1), 46-64.
- Kaiser Foundation. (2010). Generation M2: media in the lives of 8-18-year olds. <<http://www.kff.org/entmedia/mh012010pkg.cfm.pub.no.8010>>.
- Kember, D. (2000). Misconceptions about the learning approaches, motivation and study practices of Asian students. *Higher Education*, 40, 99-121.
- Lenz, B. K., Ellis, E. S. and Scanlon, D. (1996). *Teaching learning strategies to adolescents and adults with learning disabilities*. Austin, TX: Pro-Ed.
- Mokhtari, K., Reichard, C. A. and Gardner, A. (2009). The impact of television and internet use on the reading habits and practices of college students. *Journal of Adolescent & Adult Literacy*, 52(7), 609-619.
- Murphy, D., Walker, R. and Webb, G. (2001). *Online learning and teaching with technology*. London: Kogan Page.
- Nie, N. H. and Erbring, L. (2002). Internet and mass media: A preliminary report. *IT & Society*, 1(2), 134-141.

- Ophira, E., Nass, C. and Wagner, A. D. (2009). Cognitive control in media tasks. *Proceedings of the National Academy of Sciences*, 106(33).
- Oswald, F. L., Hambrick, D. Z. and Jones, L. A. (2007). Keeping all the plates spinning: Understanding and predicting multitasking performance. In D. H. Jonassen (Ed.), *Learning to solve complex scientific problems*. Mahwah, NJ: Erlbaum.
- Prensky, M. (2005). Listen to the natives. *Educational Leadership*, 63(4), 8-13.
- Robinson, J. P. and Godbey, G. (1997). *Time for life: The surprising way Americans use their time*. University Park, PA: Pennsylvania State University.
- Rosen, C. (2008). The myth of multitasking. *The New Atlantis*, 20, 105-110.
- Ryan, S., Scott, B., Freeman, H. and Patel, D. (2000). *The virtual university: The internet and resource-based learning*. London: Kogan-Page.
- Schneider, B. and Lee, Y. (1990). Model for academic success: the school and home environment of East Asian students. *Anthropology & Education Quarterly*, 21(4), 358-377.
- Selwyn, N. (2008). An investigation of differences in undergraduates' academic use of the internet. *Active Learning in Higher Education*, 9(11), 11-22.
- Spady, W. (1970). *Dropouts from higher education: towards an empirical model*. Interchange.
- Spady, W. (1971). *Dropouts from higher education: An interdisciplinary review and synthesis*. Interchange.
- Spelke, E., Hirst, W. and Neisser, U. (1976). Skills of divided attention. *Cognition*, 4, 215-230.
- Synovate. (2010). Young Asians Survey. <<http://www.synovate.com/news/article/2010/08/latest-synovate-survey-shows-young-asians-are-inseperable-from-their-mobiles.html>>.
- Watson, R. (2010). *Future minds: How the digital age is changing our minds, why this matters and what we can do about it*. London: Nicholas Brearley.
- Weinstein, C. E. (1987). *LASSI user's manual*. Clearwater, Florida: H&H Publishing Inc.
- Wen, Q. and Johnson, K. R. (1997). L2 learner variables and English achievement: A study of tertiary-level English majors in China. *Applied Linguistics*, 18(1).

Appendix: Questionnaire

Please tick the appropriate boxes.

Gender

Male

Female

☐☐

Please fill in your GPA score and scores for IELTS and TOEFL if known

GPA

IELTS

TOEFL

Please indicate the level at which you joined the English Studies Program.

ERS

EC1

Advanced Track 1

Have you ever repeated a level of the English Studies Program?

Yes

No

☐☐

If you answered *Yes* to the previous question, please indicate the number of times you repeated levels.

ERS

EC1

EC2

EC3

EC4

Which EC4 class have you enrolled in this term?

Global

Lit. Analysis

Creative Writing

Adv. Oral

Linguistics

Please circle and tick the appropriate boxes. Please tick one box only for every item

1. When I study English outside of the class I study

Every day

3+ times a week

once a week

less than that

never

☐☐☐☐☐

I study English for

4+ hours	3 hours	2 hours	less than that	never
☐	☐	☐	☐	☐

2. The last time I studied English was

Yesterday that	2 days ago	3 days ago	1 week ago	more than
☐	☐	☐	☐	☐

3. I study English best on

Mon weekends	Tues	Wed	Thrs	Fri
☐	☐	☐	☐	☐

4. I study English in the

Early morning	late morning	afternoon	early evening	night
☐	☐	☐	☐	☐

I study English from

8 am	10am	12pm	2pm	4pm
☐	☐	☐	☐	☐
7pm	8pm	9pm	10pm+	midnight
☐	☐	☐	☐	☐

5. The first thing I do when I sit down to study English is

Turn on my computer call my friend turn on the TV organise my notes
organise my time

☐	☐	☐	☐	☐
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Other

☐	Please specify _____
--------------------------	----------------------

6. The biggest distraction for me when I am studying English is

Going online **chatting on the phone** **listening to music** **watching TV** **playing computer games**

☐	☐	☐	☐	☐
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Other

☐	Please specify _____
--------------------------	----------------------

When I study English I get distracted for

5 minutes **10 mins** **20 mins** **40 mins** **1 hour +**

☐	☐	☐	☐	☐
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

7. I do other things while studying English

Every time **usually** **sometimes** **rarely** **never**

☐	☐	☐	☐	☐
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

8. I use a computer when I'm studying English

Every time **usually** **sometimes** **rarely** **never**

☐	☐	☐	☐	☐
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

I use it for

4+ hours **3 hours** **2 hours** **less than that** **never**

☐	☐	☐	☐	☐
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

9. While I'm studying English I chat with friends on the internet

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

I chat for

4+ hours	3 hours	2 hours	less than that	never
☐	☐	☐	☐	☐

10. While I'm studying English I play computer games

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

I play for

4+ hours	3 hours	2 hours	less than that	never
☐	☐	☐	☐	☐

11. Using a computer is essential for studying English

Strongly agree disagree	agree	neither agree/disagree	disagree	strongly
☐	☐	☐	☐	☐

12. Using a computer interferes with my English studies

Strongly agree disagree	agree	neither agree/disagree	disagree	strongly
☐	☐	☐	☐	☐

13. When studying English access to the internet is essential

Strongly agree disagree	agree	neither agree/disagree	disagree	strongly
----------------------------	-------	------------------------	----------	----------

☐	☐	☐	☐	☐
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

14. I use the internet, not text books, when I want to check grammar and other language items

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

15. I study English with my friends

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

I study English with them for

4+hours	3 hours	2 hours	less than that	never
☐	☐	☐	☐	☐

16. I study English at home

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

I study for

4+ hours	3 hours	2 hours	less than that	never
☐	☐	☐	☐	☐

17. I study English in a public place. (e.g. a coffee shop)

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

I study for

4+ hours	3 hours	2 hours	less than that	never
☐	☐	☐	☐	☐

18. While I'm studying English I listen to pop songs in English

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

I listen for

4+ hours	3 hours	2 hours	less than that	never
☐	☐	☐	☐	☐

19. While I'm studying English I watch movies in English

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

I watch for

4+ hours	3 hours	2 hours	less than that	never
☐	☐	☐	☐	☐

20. While I'm studying English I chat on my mobile

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

I chat for

2 hours	1 hour	30 mins	less than that	never
☐	☐	☐	☐	☐

21. I write up my notes from EC class

Every time **usually** **sometimes** **rarely** **never**

☐☐☐☐☐

I write for

4+ hours **3 hours** **2 hours** **less than that** **never**

☐☐☐☐☐

22. I correct errors from my EC assignments

Every time **usually** **sometimes** **rarely** **never**

☐☐☐☐☐

I do this for

**1hour
that** **30 mins** **20 mins** **10 mins** **less than**

☐☐☐☐☐

23. I write down new vocabulary from my EC classes

Every time **usually** **sometimes** **rarely** **never**

☐☐☐☐☐

I write for

**1hour
that** **30 mins** **20 mins** **10 mins** **less than**

☐☐☐☐☐

24. I do grammar exercises

Every time **usually** **sometimes** **rarely** **never**

☐☐☐☐☐

I do them for

1 hour that	30 mins	20 mins	10 mins	less than
☐	☐	☐	☐	☐

25. While I'm studying English I read articles in English on the net

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

I read English articles on the net for

4+ hours	3 hours	2 hours	less than that	never
☐	☐	☐	☐	☐

26. I study other subjects at the same time as I am studying English

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

27. Multi tasking (doing other things at the same time) helps me when I study English

Strongly agree disagree	agree	neither agree/disagree	disagree	strongly
☐	☐	☐	☐	☐

28. When I was at school, English is the first subject that I studied

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

29. I have a study timetable and try to stick to it

Every time	usually	sometimes	rarely	never
☐	☐	☐	☐	☐

30. I take breaks when I am studying English

Every 15 mins every 30 mins every 45 mins every hour longer than
that

31. Which is the most useful thing you do to help you when studying English?

(Please rank **each one** as follows: 1, 2, 3, 4, 5) 1=very useful, 5 =not useful at all)

Surf the net

chat online

study with friends

use my mobile

use a computer

Watch TV

listen to music

study outside home

multi-task

study other subjects

Are there any more things that you do when you study English?

Thanks for your time ☺