

The Application of English Learning Activities based on the Technologies of Web 2.0

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Abstract

Due to the development of technology even in learning and education area, many studies have begun to make a new attempts to research by using SNS, breaking away from traditional learning methods. However, the limitations of these studies are restricted only to the use of wireless Internet and writing on Web sites. This study aims to conduct a research on English learning activities that utilize various technologies such as Bigdata, Facebook, Social Network Services (SNS) and English applications. In addition, this study looks into how these modern technologies can be integrated in the classrooms and which activities can be applied in the English classroom. This research is to suggest effective English learning methods through a thorough investigation on the effectivity of various technologies based on the Web 2.0 such as Flickr, blogs, MySpace, and online discussion board within the context of the English learning.

To verify the effect of the study, the subjects are divided into experimental and control group. The experiment is proceeded with pre- and post-test. The experimental group is designed to verify the effects using SNS tools such as Facebook, Bigdata, and Online Massive Learning. A survey is conducted to determine the preference of utilizing social networking sites and to analyze the effects in class. The result is that the average scores for experimental group have improved more than the average of control group. The comparison of pre and post-test of the experimental group shows that the significance of the higher and median group was statistically significant at the $p < 0.01$.

Keywords : Online Learning, Interaction, Facebook, English Learning, Web 2.0

1. Introduction

Learning activities and entertainment as well as shopping and communication are operated through digital media such as computers, video programs and other software applications. The young generation has accepted these technologies as an inherent aspect of modern living, a way of life that is greatly inter-linked with and massively influenced by the internet.

In the school setting, teachers have devoted themselves to the use of educational applications and digital textbooks such as digital boards and tablet computers to optimize student learning. Recently, social networking services (SNS) such as Twitter, Facebook, Line, and Me2day have emerged as objects of interest and effective media for data gathering and research of students as well as teachers [Wilson, 2012].

These days, many studies explore into the phenomenon of SNS use, the activities of SNS users, its effects on the users relating to English learning and the verification of the effects in the real-life setting. An example of a verification of English learning activities posted on a web board showed that posting the students' writing on SNS increased the user/student's interest on English learning [Cinnery, 2006]. As a result, the students become more motivated for self-study on English.

Due to the changes in the environment, many studies have begun to make a new study using SNS, breaking away from traditional learning methods. However, the limitations of these studies are restricted only to the use of wireless Internet and writing on Web sites. In addition

to, learning methods by pattern analysis such as Big Data are not being studied at all. For example, there have to be some more discussion in the researches such as Mobile learning based on devices such as laptops, mobile phones, PDAs etc [Kim, 2007], A study on Korean writing language using SNS [Yoo, 2011], Practice writing English in web-based situations [Kukulaka, 2005], writing a notice on the bulletin board on the Web [Chung, 2009].

The purpose of this study is to conduct a research on English learning activities by means of various technologies such as Bigdata, Facebook, social networking services (SNS), English applications and online games. This study also intends to show how these modern technologies can be integrated in the learning of English in the classroom setting and to determine what activities can be applied to the learning of English. This research aims to suggest the effective English learning method by studying the various technologies based on the Web 2.0 such as Flickr, blogs, MySpace, and online discussion boards.

This study also looks into the impact of using SNS in English reading and listening areas on the experimental and control groups. The web-based learning methods compares the existing offline methods and the results of this experiment serves as the basis for an English learning and teaching method that can be used in the future.

2. Literature Review

English education at universities is teaching

liberal arts as a compulsory subject in most universities, but most of the classes are set up as subjects of Reading and Conversation courses. Therefore, many studies have moved away from these monotonous classes and have shifted their direction to English education using wireless Internet or mobile phones. Indeed, English study using YouTube and Twitter have been also being published [Yunus et al., 2013].

In Youtube, learning English through videos such as middles and Big Bang Theory have been major resources for study English in University. At first glance, learning the part of the expression with the subtitles is taught by studying and learning it over time. Through this, a student can practice listening to both listening and speaking skills. Also, it allows students to learn from related words in the middle of the drama [Hew, 2011]. For example, for practicing irregular verbs, a student can read the words in brackets quickly watching a screen when the rapper reads a infinitive verb.

Su Ran Lee [2012] introduced about 25 videos speaking Koreans in English from YouTube. She describes the universal phonological characteristics of the nation which Koreans have when speaking English.

Kim [2013] suggests a supplementary learning model by integrating online learning and Facebook for basic English reading and speaking course. In addition, there are many other studies such as Learning experience based on devices such as laptops, mobile phones, PDAs, etc. Kim [2007], Korean Language Writing [Yoo, 2011], English Writing Practice in Web-based Environment [Kukulaka, 2005], Writing a notice

on the bulletin board on the Web [Cheong, 2009].

The study is going to take a step forward and propose a new direction for college liberal English education utilizing modern web technology advancements and various SNS tools. This study is related to existing studies in terms of this web technology, based on this web technology or using multimedia tools.

The difference is that the study was conducted by both pre- and post-test of the experimental and control group and survey of the students who participated in the liberal arts classes.

The characteristics of this study are based primarily on the various contents and dramas from Facebook. It aims to improve the effectiveness of the learning process and the motivation of students' motivation, including writing in a bulletin board that allows students to speak English in a hotel or restaurant. We intend to provide students with optimized learning methods, as evidenced by student satisfaction surveys.

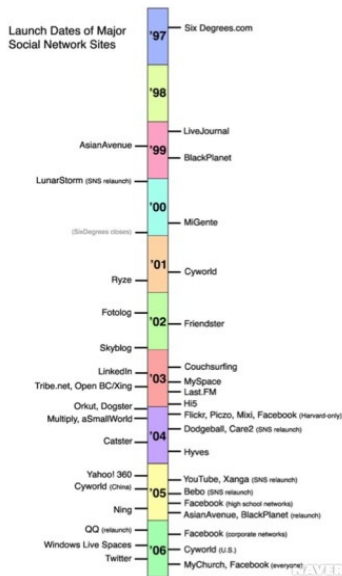
2.1 English Education Realities

The current purpose set by the Ministry of Education for English is to raise the ability of the students to express and understand basic English with regards to daily conversation and general topics.

The primary goal is to encourage students' interest in the English language. The second goal is to make the students recognize the necessity of English communication. The third goal is to make students understand and use

varied information in English.

The comprehensive concepts include the various types of learning which could be used as assistance tools for online learning as well as offline learning [Kim, 2005; Choi, 2013].



Source : Boyd and Ellison [2007].

〈Figure 1〉 The Launch Dates of Major Social Networking Services (SNS)

The Boyd and Ellison [2007] designed the studies they conducted on the topic of social networking services. Boyd and Ellison [2007] looked into the maintenance of image and friendships in social networking. They also studied on the network structure. In addition, they investigated the similarities, differences and connection between online social networking and offline social networking. Lastly, they also explored on the issue of privacy in social networking.

On the other hand, they have suggested in their paper that these studies do not include all researches on social networking services (SNS).

The studies which they have written are based on their experimental research.

2.2 Social Networking Theories

Boyd & Ellison [2007] shared their definition on SNS in 2.1. SNS created a domain wherein an individual's personal information can be stored and searched for in a specific system publicly or privately. The user may reveal a list of other users which he or she has a connection with. Due to this kind of system format, SNS has been defined as a web-based service wherein users may search for other users using the list of connections within the network.

Kukulaka-Hulme and Traxler [2005] argued that learner using mobile learning devices may participate in the learning activities without the physical restriction.

This means that learning can occur through the use of electronic devices, provided that the student has the requisite motivation for learning.

3. Research Method

3.1 Subjects

To provide an effective learning method for English education, this study is to reveal the differences and effectiveness of the traditional offline English classes and various web-based English classes through comparison.

This research is designed to examine and compare the effects of TOEIC courses using Bigdata and other social networking sites such as Facebook, Youtube, and Twitter with the traditional offline classes.

The subjects of this study are students enrolled in the TOEIC class of D University in Cheonan city. The research conducted a pre-assessment to 220 students to ensure homogeneity of English ability of the experimental and control groups.

The hypothesis (1) is established for verifying the gap in total scores of reading and listening evaluations after a semester. The hypothesis (2)~(4) specifies a more descriptive form of research that can be verified through the method of research of this study.

Hypothesis 1 : There is no difference in the level of learning achievement of two groups prior to the actual experiment.

Hypothesis 2 : There is a difference in the level of learning achievement between the two groups after the experiment.

Hypothesis 3 : There is a difference in the achievements of the experiment group between pre-test and post-test after the experiment.

Hypothesis 4 : SNS tools have a positive effect on learning English after the experiment.

To eliminate the average deviation between two groups, only 150 students were selected; the 70 students who had extremely high and low scores were excluded.

The pre-assessment questionnaire had 3 parts with a total of 50 questions. For the pre-assessment, there were 25 questions for the experimental group and 25 questions for the control group.

The number and distribution of students studied are as follows :

As shown above in <Table 1>, the pre-assessment average of the experimental group is 57.56 and the pre-assessment average of the control group is 57.56, which indicates no difference of English abilities between two groups of students. The t value for the differences in the average is 0.000, confirming that there is no difference between the two groups ($p = 1.000$).

3.2 Research Design

The research design of this study was determined through compilation and analysis of data from the review of literature and related studies on SNS-based learning such as Facebook.

In order to develop an instructional model of class activities based on SNS tools, this model explores major communication skills and patterns by looking into the TOEIC offline courses.

The same contents were applied to both experimental and control groups. The control group was taught using offline methods, and the experimental group studied reading comprehension and listening through web-based classes.

<Table 1> Results of the Homogeneity Test of Experimental and Control Groups

Group	Subjects	N	Pre-assessment Average	SD	Correlation Coefficient	<i>t</i>	<i>P</i>
Experiment	D Univ.	75	57.56	12.80	0.793	0.000	1.000
Control	D Univ.	75	57.56	9.95			

The difference between pre-test and post-test scores of both groups was calculated, and the mean difference between the two groups was examined. The study had two tests : pre-tests and post-tests. The experimental group was designed to study the effects of using SNS tools in English learning such as Facebook, Youtube, Twitter, and others. Other experimental models are designed for data analysis and online learning effects using Bigdata and Massive Online Courses.

A survey was also conducted to determine the preference of utilizing social networking sites to analyze the effects in class.

3.3 Research Tools

3.3.1 Bigdata

To ensure its relevance and value, data storage should be based on data accumulated in the past 20 years or more. This leads to the maximization of learning effectiveness by analyzing the accumulated data of thousands of students in the educational arena.

In order to validate the effects of using Bigdata, the students were asked to study the TOEIC questions based on the analysis from Bigdata on these questions on the exam paper. Based on the analysis of the types of existing questions that took place in the TOEIC tests, the students had to focus on similar types of problems based on the results from the Bigdata analysis.

When students prepare for the TOEIC test, they can analyze 98 percent of the vocabulary items. Big Data collects vocabulary problems of the past 10 years, and provides explanations on common vocabulary errors.

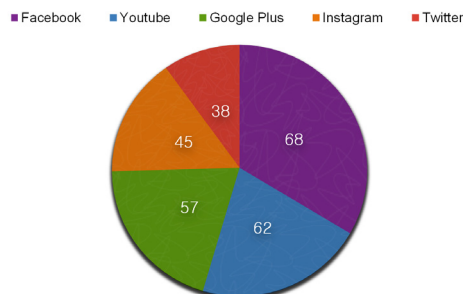
Through all these things, students can learn all the answers through Big Data and learn the vocabulary items as well as the common vocabulary mistakes. By studying on the items of the TOEIC test based on the Big Data, students can improve their TOEIC scores in a short period of time.

By understanding the concepts, learning the basic facts and encountering practical experiences, students can prepare strategies that predict future events using the results of the Big Data analysis on the questions provided.

3.3.2 Facebook.com

The learning design using Facebook, the second experiment tool, is on the prolific use of the online board by creating the Facebook cafe. For example, prior to class learning, listening materials were posted on Facebook online bulletin boards to enable students to learn beforehand, which allowed them to have repetitive learning at their convenient time. In addition, through chatting between students on the bulletin board, they searched for the English sentences and learned how to develop various expressions.

<Figure 2> shows that Facebook is the favorite social networking tool for students.



<Figure 2> SNS Tools used by Experiment Group Students (75 students)

The number of students using Facebook 68, Youtube 62, Google Plus, Instagram 45s, Twitter 38.

As shown in the figure above, students are very familiar with Facebook, which makes them use Facebook a lot. Various English expressions are loaded to encourage students to study English using Facebook, and the students from the experimental group were forced to use these English expressions.

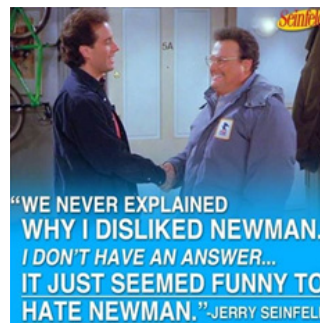
Also, by using these idioms or English expressions, their friends who participate in Facebook cafes may help correct any mistakes committed pertaining to the use of these expressions.

For example, using the Facebook page in OysterCafe allows a user to subscribe to an event and modify the posting on the bulletin board. The cafe is a community of English speakers where users can learn more about the English culture and language through Facebook [www.facebook.com/oystercafe].

The second learning design using Facebook is to learn English from the mid drama which is mounted on Facebook cafe. The students are asked to learn English by watching American TV shows [https://www.facebook.com/seinfeld].

The way to learn English from this sitcom is to have fun and enjoy while watching the episodes over and over again.

The most important aspect of language learning is repetitive listening comprehension practice. Because the show is a perfect comedy, it is not boring to repeat watching the episodes. With numerous repetitions, a student can learn to memorize the conversations and make one's



Source : <https://www.facebook.com/seinfeld>.

〈Figure 3〉 Sitcom Seinfeld

own English language choices.

3.3.3 Massive Online Course

The last research tool is massive online courses such as MOOC. To validate its effects on English learning, students were required to take the online TOEIC courses. Students took a total of 30 lectures online, equivalent to the TOEIC offline classes.

The instructional classes of these online courses were made using Legato 2.0, and the format of the lecture was produced by VOD.

The screen composition consisted of a script with a small window and a power point presentation of the video.

4. Results and Discussion

The results are obtained by evaluating the pre-test and post-test data to determine the effectiveness of SNS tools for English study such as Facebook, Bigdata, and massive online open lectures like MOOC.

To assess the effectiveness of the various activities of English offline classes during the semester, the first evaluation was conducted on

the eighth week and the second evaluation was on the fifteenth week of the semester. As shown in the results in <Table 2>, there is a difference in the scores between the experimental and control groups. It is interesting to note that both groups started with the same average score in the early assessment.

In the first test, both groups scored an average of 57.56. However, in this assessment, the experimental group scored 72.64, while the average score of the control group is 64.36. The noted difference of 8.64 points is from the experimental group with higher average score, compared to the control group with an average score of 64.36.

Compared to the first assessment scores, the control group's second assessment average of 64.36 showed an improved score of 6.8 from the compared to the first assessment score of 57.56. The experimental group's second assessment average score at 72.64, increased by 15.08 points from the first assessment score of 57.56. From the second assessment scores of both groups,

the t value score is 5.61 ($t = 5.61$, Correlation coefficient = 0.801).

The results of assessment of both groups confirms that English classes using various web-based activities significantly improve students' listening and reading skills than offline classes. Over a longer period, the difference in scores becomes larger and it can be expected that the effects of the prolonged SNS activities for English study increase more.

<Table 3> shows the assessment results of the experimental group being compared with the post-test with pre-test scores. The evaluation of improvement according to gender in the experimental group consisted of a total rating of 60 points and a perfect score of 40 points.

The evaluation results were analyzed through t -verification. The experimental group has improved by 9.64 points on the average of the pre-test and post-evaluation results and statistically significant differences were noted in the $p < 0.001$ level.

The test results of the high group have statis-

<Table 2> Difference between Experimental and Control Groups($p < .001$)

Group	Subjects	No.	Post-assessment Average	SD	Correlation Coefficient	t	P
Experiment	D Univ.	75	72.64	12.31	0.801	5.61	0.000
Control	D Univ.	75	64.36	9.56			

<Table 3> Pre and Post-Assessment Results of the Experimental Group

Level	Evaluation	Average	Standard Deviation	t	p
High	Pre	71.88	7.019	-16.995	0.000
	Post	85.88	5.668		
Middle	Pre	58.13	2.232	-63.000	0.000
	Post	73.88	1.959		
Low	Pre	44.33	6.500	-21.685	0.000
	Post	59.67	7.566		

High Group ($t = -16.995$ $df = 23$, $p = 0.000$), Middle Group ($t = -63.000$, $df = 23$, $p = 0.000$), Lower Group ($t = -21.685$, $df = 26$, $p = 0.000$).

tically significant differences at a $p < 0.1$ level of probability ($t = -16.995$, $df = 23$, $p = 0.000$). The test results of the median group are statistically significant different with at probability of $p < 0.1$ ($t = -63.00$, $df = 23$, $p = 0.000$). The low group shows an average of 4 points in the post-evaluation assessment, but there is no statistically significant difference in the subgroup scores.

Students' survey results on <Table 4> shows the analysis of effectiveness of learning English through SNS tools like Facebook, pattern learning based on the Bigdata analysis, and massive online courses like MOOC.

<Table 4> The Effect of Student's Use of SNS

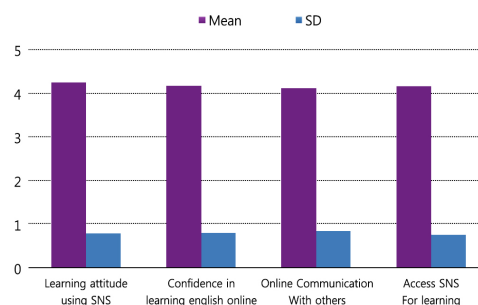
	SA/A (%)	Mean	SD
Vocabulary effect	72	4.07	0.95
Improvement of Grammar	60	3.84	1.00
Listening Improvement	74.7	4.11	0.85
Reading Improvement	76	4.09	0.88
Communication Ability Improvement	80	4.17	0.778

SA/A : strongly agree or agree.
The learning effect of English vocabulary.

<Table 4> shows 72% of the respondents replied that the method of learning English using SNS help improve the effectiveness of learning English vocabulary, while 60% students expressed that this learning method helped them to study English Grammar. Also, 74.75% students agreed about their improved listening skills, while 76% agreed on their reading improvement. The highest rating is on communication ability improvement at 80%. This reveals and confirms that the use of SNS tools such as Facebook, Youtube, Twitter and Twitter has

helped students improve their abilities with the English language specifically on vocabulary, grammar, listening, reading and communication.

The final survey question is the analysis data of students' attitude for social networking records after a semester's class of students. As shown in <Figure 4>, the change in attitudes of the students toward SNS is very positive (mean = 4.24, SD = 0.77).



<Figure 4> The Change in Attitudes of the Students for SNS

<Figure 4> shows students' attitude toward SNS. The mean values which are greater than 3.0 indicate students' positive changes. The average mean value is 4.24 with SD of 0.77. This shows a very positive change of attitude towards students' social networking sites; Confidence in learning English online : Mean = 4.17, SD = 0.79; Online Communication with others : Mean = 4.12, SD = 0.84; Access SNS for learning purposes : Mean = 4.16, SD = 0.75.

The method of learning English using SNS has a significant positive effect on the students' ability to learn English. The best improvement in the listening test ability was from the average students of the class, the high performing students also showed significant improvement while the low performing students showed only

slight but insignificant improvement.

The study compared the results of the pre-test and post test scores from the experimental and control groups. In addition, this research investigated the three learning methods of English : (1) to use SNS tools such as Facebook, Twitter and Youtube, (2) to study English based on the analysis of Bigdata, and (3) the use of web-based English learning.

As a result, the three investigated methods for English learning turns out to be more efficient than traditional offline classes. This conclusion is based on the statistically proven results from the experimental and control groups and the positive results of the survey of these two groups after a semester. A new and more effective learning model can be developed if these learning methods which correspond to the needs of the students are used as basis for its framework.

5. Conclusions

Social networking services (SNS) are called platforms-to connect, interact, and share ideas and opinions with others. For example, Facebook offers a variety of ways to communicate and interact with old friends who are in different places, as well as make new friends around the world.

This study showed how listening comprehension of English TOEIC Test can be improved by utilizing a familiar student site such as the Facebook mini soap opera café; and the effectiveness of this method was analyzed through the survey conducted to the students. Various methods of learning English were presented us-

ing Facebook.

First, the students were allowed to use and carry out on the bulletin board various English expressions that are commonly used by native speakers. By using these idioms or English expressions, friends who participate in the bulletin board could correct any erroneous usage on the Facebook cafe.

For example, using Facebook page in Oyster Cafe allows you to subscribe to an event and modify the posting on the bulletin board. The cafe is a community of English speakers that enables learning of English culture and language through Facebook. Another way to learn English using Facebook is to learn English by watching a mid-drama. For example, the Seinfeld, a more successful sitcom than Friend which aired for 9 seasons from 1989 to 1998, can be watched repeatedly where students can eventually memorize the lines and pick up the expressions from the sitcom.

Another approach using web-based tool presented in the study is the TOEIC learning method by Bigdata's analysis. Based on the Bigdata analysis, the study looks into the method of studying TOEIC through analysis of the patterns of non-English speaking students, rather than focusing on the entrance examination itself.

Bigdata maximizes learning effectiveness by analyzing the learning data of thousands of students every year in the field of education for more than 20 years. For example, the brain science smart learning method was presented. It utilizes a big-data based diagnostic tool derived from 70,000 questions developed by English assessment experts. Depending on whether the

problem is correct, the difficulty level of the following problems can be adjusted automatically, so the current level can be accurately identified.

To provide an effective learning method for learning English, the study examined the results and effects through comparison of various Web-based English classes with offline classes.

In order to verify the effectiveness of the learning methods presented in this study, the survey was carried out to the students in the experimental and control groups.

The experimental group were tasked study English through Facebook's mid-drama cafe, online discussions, analysis of English words using Bigdata analysis, and take part in massive online learning just like MOOC. The control group was tasked to study English through offline classes with the course content as the experimental group. Six months later, the results of the two groups showed that the average score of students in the experimental group increased by 8.00 points.

These various SNS activities turned out to be very effective learning tools because students access social networking sites easily with more interest, as can be seen from the survey.

When a research is accomplished for a foreign language, it is important to develop the motivation and interest of students, and to explore the teaching method by providing students with various learning tools to get the most effective goals. The academic expectation is that this study flows toward the direction of learning is presented in various multimedia learning tools. Over a longer period, the difference in scores becomes larger and it can be expected that the

effects of the prolonged SNS activities for English study increase more.

This conclusion is based on the statistically proven results from the experimental and control groups and the positive results of the survey of these two groups after a semester. A new and more effective learning model can be developed if these learning methods which correspond to the needs of the students are used as basis for its framework.

The study looked into how various forms of information technology can be used as very useful tools in the field of education. Social learning tools have shown that social networking sites have considerable influence as an e-learning tool.

It is needed to consider the differences in the level of English among students in the future study by utilizing various SNS tools for the experimental students as well as the control group.

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