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Exploring the relationships between EFL learners' choices of multimedia and their approaches to learning English

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Abstract: In the 21st century, technology-assisted learning is the trend of learning especially for English as Foreign Language (EFL) learners. This article is to explore the relationships between the EFL learners' choices of suitable multimedia for themselves and their approaches to learning English. In this case, involved totally 244 (44 males and 200 females) English department undergraduates in northern Taiwan, their ages ranged from 19 to 26 years old. With utilized one questionnaires to respectively survey EFL learners' approaches to learning English and one multimedia form to survey EFL learners' choosing technology. In particular, the survey of approaches to learning English used in this study is a newly designed questionnaire which includes two parts, one is internal interest and strategies, the other is external interest and strategies. Besides, in multimedia form, realized what kind of media suit for their approaches to learning English. This paper presents the findings of exploratory factor analysis revealed the adequate validity of approaches to learning English questionnaire (ALEQ). The logistic regression analyses revealed that EFL learners' approaches to learning English were predicted with their multimedia for learning English, such as Skype, Facebook, YouTube and so on. This study contributes two things, one is to find out what kind of multimedia EFL learners will choose for English learning in the future; the other is to realized what kind of User Interface (UI) is appropriate to English learning for media designer.

Keywords: EFL learners, Multimedia, Approaches to learning English

1. Introduction

In recent years, the literature review points out that the advantages of technology have great benefits for teaching and learning (Hussein, 2015). It can provide more learning for learners, and it can also lead to learning motivation and interest through the use of technology. Therefore, technology plays an important role in learning.

Nowadays, the most commonly used technologies for learning, such as YouTube, Application (apps) and language learning platforms. These common features are that the learning environment is not limited by time, space and location (Chun, Kern, & Smith, 2016). Learners can practice repeatedly through the multimedia according to their approach to learning. More and more appropriate multimedia resources will enhance learners' motivation and strategies for learning the language.

This study has two main goals: to understand the learners' possible predictions for selecting multimedia and to realize the relationship between learners' approaches to learning English and selection of multimedia.

2. Literature Review

2.1 Multimedia Resources

Multimedia means that text and images are presented in digital form. The way of presentation is audio, video and network resources. Through the tools, such as the pad, mobile phones, desktop computers and so on, learners will not be limited by time, space and location.

With the rapid development of science and technology, the learning style of learners has also changed. Obviously, not only technology-assisted learning is used in the classroom, but also the most commonly used multimedia resources supported and maintained language learning after school. The language learning platforms or learning-related apps, such as Youtube, voice tube, TED talks and so on.

In the research studies, it was pointed out that through multimedia resources, there is a positive attitude of learning languages (Alwehaibi, 2015; Orús, Barlés, Blanche, Casaló, Fraj, & Gurrea2016; Walter-Laager, Brandenberg, Tinguely, Schwarz, Pfiffner & Moschner, 2017; Zou, Li, & Li 2018). Therefore, it can be determined that by using their own learning methods, appropriate resources are selected for learning. This study aimed to reveal the selection of technology for approaches to learning by EFL learners.

2.2 Approaches to Learning

Approaches to learning are to use the method of learning to make learning more effective. Learning skills enable all students to become stronger, more self- regulated learners. Learning methods play an important role in developing good motivations for learners and maintaining long-term learning. However, learning motivation can be divided into two types, one is intrinsic motivation and the other is extrinsic motivation. Intrinsic motivation is the satisfaction and joy in certain activities. This kind of satisfaction will encourage individuals to continue or strengthen activities. Intrinsic motivation is internal, not externally induced (Bruner & Goodman, 1947).

Extrinsic motivation means that individual behavior is influenced by factors other than behavior or rewards and punishments, for example students study hard to get a high score, which is the external motivation, the opposite of the intrinsic motivation (Kruglanski, Chernikova, Rosenzweig, & Kopetz. 2014). In this study, the use of technology-assisted language learning provided learners with a lot of choice learning environment, maintaining EFL Learners to learning.

2.3 Relationships between the Multimedia Resources and Approaches to Learning

The aim of this study was to explore the relationships between choosing multimedia of EFL learners and their approaches to learning English.

In this study, approaches to learning can be divided into eight factors, Intrinsic Interest, Commitment to Work, Relating Ideas, Understanding, Fear of Failure, Aim for Qualification, Minimizing Scope of Study, and Memorization. Based on these factors, it will help us to predict what kind of selecting of technology is the main point.

2.4 Purpose

As mentioned previously, to understand the relationship between EFL learners' approach to learning and choosing technology for learning, in this study we developed an "approaches to learning questionnaire in English" to investigate the learners' learning situation, and to measure their learning methods. Second, through the logistic regression of statistical methods, we can better to find out the relationship between technology and learning methods, and predict which factors in technology affect learners' learning.

3. Methodology

3.1 Participants

In this study, the participants included 244 undergraduates (44 males and 200 females) from a university in northern Taiwan. All of the students were majoring in English department, they are kind of expert to study English, the participants studied English for an average of 13 years. Their ages ranged from 19 to 26 years (mean = 21 years); 115 were freshman and sophomore students, while 129 were junior and senior students.

3.2 Multimedia Form

The term multimedia was first used in the 1960s. It uses a combination of different content forms such as text, audio, images, animations, video and interactive content. In this study, we divided multimedia into three parts, YouTube, social media and online platform. Social media are interactive computer-mediated technologies that facilitate the creation and sharing of information, ideas and other forms of expression via virtual communities and networks. It includes some social websites and apps like Facebook, LINE, and educational apps. Moreover, online platform is a specially developed platform using internet technology for the design and development of teaching and learning purposes, such as VoiceTube and MOOEC. Participants choose multimedia suit for their needs based on their approaches to learning English and experience.

3.3 Approaches to Learning English

The Approaches to Learning English Questionnaire (ALEQ) is to investigate EFL learners' self-report instrument for measuring how to learning English. The questionnaire is primarily targeted at Taiwanese university students, majoring in English department. This questionnaire includes 37 items from eight factors measured with a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

4. Data analysis

In this study, all the data analysis and screening were conducted by SPSS version 23.0. Our aim is to explore the relationships between EFL learners choose multimedia and their approaches to learning English. Moreover, each factor's alpha coefficient of the survey was calculated to ensure its reliability. Exploratory factor analysis (EFA) was utilized to explore the relationships between EFL learners' usage of multimedia and their approaches to learning English. We can also know which observational variable (ALEQ factors) has the most correlation with latent variable (approaches to learning English). Finally, logistic regression analyses were conducted, in which the usage of multimedia was considered as the predictors, while their approaches to learning English were the outcome variables.

5. Results

First, we use EFA to establish the factor structure of the ALEQ. Principal analysis was used as the extraction method with the rotation method of varimax with Kaiser normalization (Kaiser, 1958). Following the principle stated by Stevens (1996), items weighted higher than 0.50 on the relevance factor and lower than 0.50 on all other factors were maintained. The results of the rotated factor analyses of the EFL learners' approach to learning questionnaire will be showed by following words description. Each item's factor loading weighed greater than 0.5 on the relevant factor.

Therefore, under seven main factors, we kept 37 items in our final result. According to analysis result, the overall alpha coefficient=0.90, and our main factors includes “Intrinsic Interest” (II), alpha=0.94, factor loading from 0.72~0.84 (six items), mean=3.87, S.D.=0.84, “Commitment to Work” (CW), alpha=0.86, factor loading from 0.55~0.72 (four items), mean=3.48, S.D.=0.94, “Relating Ideas” (RI), alpha=0.92, factor loading from 0.57~0.87 (seven items), mean=3.87, S.D.=0.78, “Understanding” (U), alpha=0.74, factor loading from 0.69~0.79 (three items), mean=3.58, S.D.=0.92, “Fear of Failure” (FF), alpha=0.91, factor loading from 0.87~0.88 (three items), mean=2.56, S.D.=1.16, “Aim for Qualification” (AQ), alpha=0.84, factor loading from 0.62~0.86 (four items), mean=3.98, S.D.=0.93, “Minimizing Scope of Study” (MSS), alpha=0.84, factor loading from 0.69~0.82 (five items), mean=3.69, S.D.=1.1, and “Memorization” (MEN), alpha=0.87, factor loading from 0.71~0.88 (five items), mean=2.65, S.D.=1.1.In addition, the total variance explained is 72.51%. Through all the data above, we can see the results of the various fitness indicators are good, so the model has a good compatibility, proved that internal consistency was achieved.

Second, as the result of our descriptive statistics, we can see all the min=1.00, and max=5.00. In addition, table 1 presents “Intrinsic Interest” (II), Me=3.83, S=0.73, “Commitment to Work” (CW), Me=3.41, S=0.79, “Relating Ideas” (RI), Me=3.83, S=0.63, “Understanding” (U), Me=3.55, S=0.74, “Fear of Failure” (FF), Me=3.60, S=1.05, “Aim for Qualification” (AQ), Me=3.98, S=0.76, “Minimizing Scope of Study” (MSS), Me=2.75, S=0.89, “Memorization” (MEN), Me=2.67, S=0.89.

Table 1

Descriptive statistics of ALEQ (N=244)

Item	Min	Max	Me	S
II	1.00	5.00	3.83	.73
CW	1.00	5.00	3.41	.79
RI	1.00	5.00	3.83	.63
U	1.00	5.00	3.55	.74
FF	1.00	5.00	2.60	1.05
AQ	1.00	5.00	3.98	.76
MSS	1.00	5.00	2.75	.89
MEM	1.00	5.00	2.67	.89

Third, logistic regression analyses were used to analyze and interpret a relationship between a nominal-scale dependent variable with an interval-scale independent variable. The basic assumptions of logically regression are similar to linear regression. Logically regression is mainly used when dependent variables are two-dimensional variable (0,1). We apply this way to analyze all the categorical data. However, the category data is classified as a dispersion type. So before we start our logistic regression analyses, it is necessary to convert this data to a continuous data between 0 and 1. Moreover, the result of the analyses can help us use continuous variables to predict nominal variables. In this study, the data will show the relationship between the predictions among EFL learners choose multimedia and their approaches to learning English.

Table 2 presents the logistic regression model of predicting EFL learners prefer using YouTube to learn English. The overall mode is significant showed by results of omnibus test, $\chi 2 = 18.790^{*}$, $p = 0.016$ (<0.05). Moreover, it showed that EFL learners’“Relating Ideas” (B=0.968, Wald=4.006, p=0.045<0.05),“Fear of Failure” (B=0.571, Wald=4.192, p=0.041<0.05), and“Memorization”(B=-0.823, Wald=6.750, p=0.009<0.01) was significantly predicted the multimedia they chose. In addition, the numbers of people that got more“Relating Ideas”, have 2.632 (Odds ratio=2.632) times higher preference of choosing YouTube as their tools to learn English. Furthermore, the numbers of people that got more“Fear of Failure”, have 1.769 (Odds ratio=1.769) times higher preference of choosing YouTube as their tools. However, the numbers of

people that got more“Memorization”, have 0.439 (Odds ratio=0.439) times lesser preference of choosing YouTube as their tools to learn English.

Table 3 presents the logistic regression model of predicting EFL learners prefer using social media to learn English. The overall mode is non-significant showed by results of omnibus test, $\chi 2 = 6.752$, $p = 0.564(>0.05)$, which means this model don’t have predictive ability.

Table 4 presents the logistic regression model of predicting EFL learners prefer using online platform to learn English. The overall mode is significant showed by results of omnibus test, $\chi 2 = 26.721^{**}$, $p = 0.001$ (<0.01). Moreover, it showed that EFL learners’“Understanding” (B=-4.92, Wald=4.300, p=0.038<0.05),“Fear of Failure” (B=0.316, Wald=4.146, p=0.042<0.05),“Aim for Qualification” (B=0.583, Wald=6.307, p=0.012<0.05), and“Minimizing Scope of Study” (B=-4.440, Wald=5.843, p=0.016<0.05) was significantly predicted the multimedia they chose. In addition, the numbers of people that got more“Understanding”, have 0.611 (Odds ratio=0.611) times lesser preference of choosing online platform as their tools to learn English. However, the numbers of people that got more“Fear of Failure”, have 1.371 (Odds ratio=1.371) times higher preference of choosing online platform as their tools. Furthermore, the numbers of people that got more“Aim for Qualification”, have 1.791 (Odds ratio=1.791) times higher preference of choosing online platform as their tools. In the end, the numbers of people that got more“Minimizing Scope of Study”, have 0.644 (Odds ratio=0.644) times lesser preference of choosing online platform as their tools.

Table 2

Logistic regression model that predicts students prefer using YouTube to learn English (N=244)

Item	B	S.E.	Wald	Significance	Odds ratio
II	-.134	.491	.075	.784	.874
CW	.571	.417	1.874	.171	1.770
RI	.968	.484	4.006	.045	2.632
U	-.303	.375	.650	.420	.739
FF	.571	.279	4.192	.041	1.769
AQ	.020	.387	.003	.959	1.020
MSS	.562	.316	3.164	.075	1.755
MEM	-.823	.317	6.750	.009	.439
Constant	-2.258	1.866	1.465	.226	.105
Omnibus test	**$\chi^2 = 18.790^{*}$, p = 0.016**				

Notes: *p<.05, **p<.01, ***p<.001

Table 3

Logistic regression model that predicts students prefer using social media to learn English (N=244)

Item	B	S.E.	Wald	Significance	Odds ratio
II	.478	.289	2.739	.098	1.613
CW	-.184	.251	.534	.465	.832
RI	.025	.274	.008	.927	1.025
U	.125	.226	.304	.581	1.133
FF	.058	.144	.161	.688	1.059
AQ	-.003	.219	.000	.989	.997
MSS	.138	.171	.647	.421	1.148
MEM	.088	.173	.256	.613	1.092
Constant	-2.144	1.147	3.493	.062	.117
Omnibus test	**$\chi^2 = 6.752$, p = 0.564**				

Notes: *p<.05, **p<.01, ***p<.001

Table 4

Logistic regression model that predicts students prefer using online platform to learn English (N=244)

Item	B	S.E.	Wald	Significance	Odds ratio
II	.390	.302	1.662	.197	1.477
CW	-.204	.255	.643	.423	.815
RI	.499	.291	2.935	.087	1.647
U	-.492	.237	4.300	.038	.611
FF	.316	.155	4.146	.042	1.371
AQ	.583	.232	6.307	.012	1.791
MSS	-.440	.182	5.843	.016	.644
MEM	.015	.178	.007	.931	1.015
Constant	-2.986	1.228	5.914	.015	.050

Omnibus test $\chi^2 = 26.721^{**}$, **p = 0.001**

Notes: *p<.05, **p<.01, ***p<.001

6. Conclusion

In this study, our aim is to explore the relationships between EFL learners choose multimedia and their approaches to learning English. Approaches to learning can be divided into surface motivation and deep motivation (Kember, Biggs, & Leung, 2004), and from our result, we found two phenomena. First, students who have both internal interest ("Relating ideas") and external interest ("Fear of Failure") prefer using YouTube as their tools to learn English. While people who have external interest ("Memorization"), won't take this tool as their first priority. Second, students who have external interest ("Fear of Failure", "Aim for Qualification") got more motivation to use online platform as their tools to learn English. While people who have both internal interest ("Understanding") and external interest ("Minimizing Scope of Study"), won't prefer using this tool to learn. Moreover, all the surface motivations and deep motivations don't have a lot of connections with students choosing multimedia.

Therefore, there is a high association between students' approaches of learning English and how they choose their suitable multimedia. We realized what kind of media may suit for their approaches to learn English. It is expected that we can collect more samples in the future, and have a further analysis to understand whether using these multimedia would improve their language skills.

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