

Technical College Students' ARCS Learning Motivation on Hospitality English Vocabulary

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Abstract

The purposes of the study were to examine technical college students' hospitality English vocabulary learning performance and motivation. The subjects were 93 students from a technical college in southern Taiwan. The instruments included one questionnaire called ARCS questionnaire consisting of four factors about learning motivation on hospitality English vocabulary and one English test called Professional Vocabulary Quotient Credential (PVQC) on hospitality. The subjects accepted a 40-hour hospitality English vocabulary training course. Then, 93 subjects took a 50-minute PVQC test and 10-minute ARCS questionnaire in December, 2015. The researchers collected the data from the questionnaire and PVQC test and analyzed the data by descriptive statistics and inferential statistics. The

results revealed that most of the subjects liked to learn hospitality English vocabulary, and found that learning hospitality English vocabulary was important for them, and most of them reported that English was associated with salary and promotion in the future; however, most of them spent little time learning English after school. The results also showed that some learning motivation factors had effects on hospitality English vocabulary learning performance, like being treated and assessed by teachers equally, getting recognition, or being willing to work hard. Finally, the researchers drew a conclusion based on the results and provided some teaching and research implications for the future.

Keywords: ARCS, learning motivation, technical college, hospitality English vocabulary

1. Introduction

English is a global language and internationalization is a trend for many industries. Promoting English, especially professional English, is important for those who work in industries. Technical college prepares individuals for occupations. To meet the needs of the workplace, technical graduates should possess not only professional skills but also English for specific purposes (ESP) (Yang, 2011) such as tourism- or hospitality-related English, business English, or medical English.

Chen (2008) stated that because ESP teaching can promote students' competitiveness, it should be a major focus of English teaching. Many scholars have claimed that English instruction at the college level should include ESP teaching (Chen, 2006, 2008; Tso, 2009). In other words, enhancing students' ESP ability appears to be essential.

According to a Test of English for International Communication (TOEIC) report released by the Educational Testing Service (Appendices 1-2), it is crucial for non-English-speaking countries to promote ESP to meet the requirements of different jobs. It is also quite important for most technical college students and employees in hotels and restaurants in Taiwan to improve their English skills. In particular, promoting technical college students' workplace English is the key for them to succeed in the global workforce.

The researchers of the present study have taught general English, hospitality English and tourism English in technical college for many years and have realized that promoting students' workplace English skills is crucial to enhancing their future competitiveness. Vocabulary is the core of language, and enlarging vocabulary size is the first priority to promote language competency. Chen and Chung (2008) showed that vocabulary learning is a principal issue for English learning and found that effective and flexible learning mode can promote English vocabulary learning motivation. And Chen and Li (2010) stated that meaningful vocabulary learning integrated with social, cultural and life contexts can enhance learner learning interest and efficiency. Additionally, motivation is central to learning; therefore, the researchers examined the hospitality vocabulary learning motivation of technical college students studying hospitality English.

In the present study, the researchers would like to examine technical college students' opinions while learning hospitality English vocabulary, technical college students' hospitality English vocabulary learning achievement, and to identify which learning motivation factors

had effects on technical college students' hospitality English vocabulary learning achievement.

2. Literature Review

2.1 *English for Specific Purposes (ESP)*

Hyland (2007) stated that the field of English for specific purposes (ESP), which addresses the communicative needs and practices of particular professional or occupational groups, had developed rapidly in the past forty years to become a major force in English language teaching and research. ESP is a learning-centered teaching approach, but not a teaching product (Hutchinson & Waters, 1987; Yu, 2006). Different ESP courses are based on different teaching contents and learning purposes. According to Hutchinson and Waters (1987), the development of ESP can be divided into multiple phases: the register analysis approach in the 1960s, the discourse analysis approach in the 1970s and 1980s, and the needs analysis approach in the 1980s. Needs consist of necessities and wants; in the context of the present study, necessities refer to professional English vocabulary that learners can use in specific situations, and wants refer to professional English vocabulary that learners believe they need. To ensure that ESP curricula meet the needs of learners, instruction designers should possess awareness of the gap between learners' current and target professional language ability.

Some previous ESP studies have focused on the backgrounds and learning goals of students (Frodesen, 1995) and the viewpoints of teachers (Bridgeman & Carlson, 1983; Johns, 1981), but few have considered the needs of learners. In fact, the needs of learners are related to how, what, and why learners learn. More recent studies have shown that the needs analysis approach became crucial to ESP teaching (Harding, 2007; Hutchinson & Waters, 2002; Hyland, 2007; Richards, 2005), and this approach to ESP teaching has been adopted by many researchers (Ananyeva, 2014; Belcher, 2006; Chang, 2009; Hsu, 2008; Hu, 2009; Kang, 2013; Kavaliauskienė, 2011; Lin, 2007; Liu et al., 2011; Shen, 2008).

Other related studies have focused on the relationship between vocabulary and language performance (Al-Nujaidi, 2003; Atay & Ozbulgan, 2007; Henriksen et al., 2004; Hilton, 2008; Qian, 2002; Sarani & Sahebi, 2012; Stæhr, 2008; Zhang, 2008) and the difficulty of vocabulary learning (Yo et al., 2000). Most related studies have indicated that technical college students' English vocabulary is insufficient and urgently requires improvement (Guo, 2006; Huang, 2001, 2004; Huang, 2010; Huang et al., 2006). Liang (2014) employed the Vocabulary Size Test designed by Nation and Belgar (2007) to examine the English vocabulary of first-year university students and found that their English vocabulary required extending, and this view has been supported in related studies involving technical college students. Therefore, the present study focused on investigating the professional English vocabulary of technical college students.

2.2 *ARCS Motivation Model*

ARCS Model, including four factors affecting learner's motivation, namely, *attention*, *relevance*, *confidence*, and *satisfaction*, was proposed by John M. Keller in 1983, whose goal is to make instruction more appealing to learners. Motivation is regarded as a variable in the

instructional process, and should be taken care to keep during the instructional activities.

2.2.1 Attention

Attention can be gained in two ways: (1) perceptual arousal– uses surprise or uncertainty to gain interest. Uses novel, surprising, incongruous, and uncertain events; or (2) inquiry arousal–stimulates curiosity by posing challenging questions or problems to be solved.

2.2.2 Relevance

Establish relevance in order to increase a learner’s motivation. To do this, use concrete language and examples with which the learners are familiar.

2.2.3 Confidence

Help students understand their likelihood for success. If they feel they cannot meet the objectives or that the cost (time or effort) is too high, their motivation will decrease.

2.2.4 Satisfaction

Learning must be rewarding or satisfying in some way, whether it is from a sense of achievement, praise from a higher-up, or mere entertainment.

Some researchers employed ARCS model to understand learners’ language learning efficiency, and found that students’ English achievement was enhanced (Chang & Lehman, 2002; Colakoglu & Akdemir, 2012; Keller, 2009; Liu & Chu, 2010; Ouyang & Xie, 2009; Yang et al., 2008; Wang, 2011) and students’ positive learning motivation (Chang & Lehman, 2002; Colakoglu & Akdemir, 2012; Liu & Chu, 2010; Mahadzir & Phung, 2013; Yang et al., 2008; Zou & Chen, 2010), positive English learning attitude (Yang et al., 2008), confidence (Wang, 2011), and autonomy (Qingquan, 2010) were found.

In this study, the researchers would like to find that whether there is any relationship between ARCS motivation model and technical college students’ hospitality English vocabulary learning achievement and which learning motivation factors have effects on the subjects’ hospitality English vocabulary achievement.

3. Methodology

3.1 Research Questions

The researchers would like to examine technical college students’ opinions, and hospitality English vocabulary learning motivation, and learning achievement. Therefore, the research questions were formulated:

- (1) How do technical college students think about learning hospitality English vocabulary?
- (2) What is the hospitality English vocabulary learning achievement of technical college students?
- (3) What factors in ARCS model influence technical college students’ hospitality English vocabulary learning achievement?

According to the research purposes, the study was conducted in two stages during the fall of 2015. The first stage was a pilot study assessing the validity and reliability of the survey instrument, the ARCS questionnaire. For the pretest, the respondents were 102 undergraduate students enrolled in a tourism or hospitality program at a technical college in Southern Taiwan. The pilot study was conducted to gather respondents' feedback, uncover potential problems, refine the wording of the survey questions, check the data collection results, and test the reliability and validity of the instrument. The reliability analysis for internal consistency revealed that the instrument attained a Cronbach's alpha value of .932. According to Hair et al. (2010), this value is substantially higher than the recommended value of .70, indicating high internal consistency. Furthermore, the ARCS questionnaire explained 83.79% of the variance, indicating adequate validity. The second stage was focused on using the ARCS survey to examine technical college students' viewpoints of hospitality English vocabulary learning motivation.

3.2 Subjects

In the present study, the subjects were 93 technical college students from Southern Taiwan who took a PVQC test on hospitality English vocabulary in December 2015. According to the researchers' teaching experience, the subjects were homogeneous in their general English competence or hospitality English because most of the subjects were taught by the researchers.

3.3 Definition

(1) ESP vocabulary learning motivation

Hospitality English is a part of ESP. In the present study, the researchers applied an ARCS motivation questionnaire to examine the ESP vocabulary learning motivation, which comprises the model dimensions of *Attention*, *Relevance*, *Confidence*, and *Satisfaction*.

(2) ESP vocabulary achievement

In this study, the researchers used scores from a Professional Vocabulary Quotient Credential (PVQC) test on hospitality as a measure of ESP vocabulary achievement.

3.4 Research Instrument

3.4.1 Professional Vocabulary Quotient Credential (PVQC)

Professional English is a key to success in most global workplaces. Many universities in non-English countries take professional English as a graduation threshold. Key words always play an essential role in communication. When students possess a professional level of vocabulary, they have greater access to future employment. There are typically 500–2000 key words or terms in every professional field. Being familiar with such terms promotes professional communicative ability. PVQC programs are issued by Global Learning and Assessment Development in the United States. A PVQC program comprises six tests, described briefly as follows: Test 1, read vocabulary in the local language and then write it in English; Test 2, read vocabulary in English and then choose the correct meaning in the local

language; Test 3, listen to vocabulary in English and then select the correct meaning in the local language; Test 4, listen to vocabulary in English and then select the correct spelling in English; Test 5, read vocabulary in the local language and then select the correct English pronunciation; and Test 6, read vocabulary in English and then select the correct English pronunciation. In the PVQC tests, test-takers can choose to take Tests 1–6 in 70 minutes (the total score is 600 points, with a threshold of 390 points and at least 70 points in each test) or they can take Tests 2–6 in 50 minutes (the total score is 500 points, with a threshold of 350 points and at least 70 points in each test). In the present study, all subjects took Tests 2–6; Test 1 was not included because it was optional.

3.4.2 ARCS Questionnaire on Hospitality English Vocabulary

The researchers designed a self-administered structured questionnaire, which consisted of 16 items, to gather the subjects' responses about ARCS on hospitality English vocabulary learning motivation. The 16 items were divided into four factors, consisting of four items, respectively. A Likert scale of 5= agree strongly, 4= agree, 3= neither agree nor disagree, 2= disagree, and 1= disagree strongly was used to assess the respondents' viewpoints of ARCS on hospitality English vocabulary learning. The 5-point Likert scale was preferred to reduce Asian respondents' bias (Truong, Yap, & Ineson, 2012).

Data collected were analyzed using SPSS Version 17. Pearson Product-Moment Correlation Coefficient was used to test whether ARCS model had any relation with PVQC test or not. Regression Analysis was used to test if any of ARCS model had effects on PVQC test.

4. Results and Discussion

The 93 subjects took the 50-minute PVQC test on hospitality English, and completed the ARCS questionnaire (shown as Appendix 3). The data collected from the PVQC test and ARCS questionnaire were used for further data analysis.

4.1 Student Demographic Profile

Table 1 shows the demographic profile of subjects in the study. The characteristics and demographic data of the subjects were found to be as follows:

- . Most subjects (80.6%) were female, whereas 19.4% were male.
- . Most subjects (83.9%) reported that they liked to learn hospitality English vocabulary.
- . The significant majority of subjects (97.8%) reported that learning hospitality English vocabulary was important for them.
- . The significant majority of subjects (95.7%) reported that English is associated with salary.
- . The significant majority of subjects (96.8%) reported that English is associated with advancement in the future.
- . Most subjects (89.3%) reported that they spent less than three hours learning English after classes per week.

Table 1. Demographic Characteristics of the Subjects ($n=93$)

Category	<i>n</i>	%
Gender		
Female	75	80.6%
Male	18	19.4%
Learning Hospitality English vocabulary		
Like	78	83.9%
Dislike	4	4.3%
Other	11	11.3%
Learning Hospitality English vocabulary		
Important	91	97.8%
Unimportant	0	0%
Unknown	2	2.2%
Associated with Salary		
Yes	89	95.7%
No	2	2.2%
Unknown	2	2.2%
Associated with Advancement		
Yes	90	96.8%
No	2	2.2%
Unknown	1	1.1%
Time to Learn English		
<1 hr	34	36.6%
1-3 hrs	49	52.7%
3-5 hrs	7	7.5%
>5 hrs	3	3.2%

Table 2 shows that most subjects (77.4%) passed the PVQC test on hospitality English. In other words, some subjects still could not reach the threshold.

 Table 2. The Results of PVQC Test ($n=93$)

The Result of PVQC		
Pass	72	77.4%
Fail	21	22.6%

Table 3 shows that the *mean* of Test 6 was the highest (98.44), and the *mean* of Test 5 was the lowest (79.61); the *mode* of Test 6 was the highest (99), and the *mode* of Test 5 was the lowest (82.00); the *standard deviation (SD)* of Test 5 was the highest (12.27), and the *SD* of Test 6 was the lowest. The *mean* of TOTAL scores was 424.10 being much higher than the threshold (350). In other words, it seemed that passing the test was not too difficult for the subjects; however, over 22% of the subjects still failed in the test. The reason would be that the subjects had to get at least 70 points in every test; but some subjects were worse at certain tests even their TOTAL was higher than 350 points. Based on the test results, most subjects did not perform well in Test 5 (read vocabulary in Chinese and then select the correct English pronunciation), because in Test 5, English is quite different from Chinese (the subjects' mother tongue), and there is no corresponding relationship between the two languages; therefore, it is not easy for some subjects to choose correct ones. On the other hand, the subjects performed best in Test 6 (read vocabulary in English and then select the correct English pronunciation) because the relationship between most English spelling and pronunciation are corresponding and predictable.

Table 3. The Summary of PVQC Test Results (n=93)

	<i>Mean</i>	<i>Mode</i>	<i>SD</i>
Test 2	83.86	85.00	10.99
Test 3	81.68	88.00	10.06
Test 4	80.49	88.00	12.26
Test 5	79.61	82.00	12.27
Test 6	98.44	99.00	2.01
TOTAL	424.10	402.00	42.73

Note: The subjects did not take Test 1 (read vocabulary in Chinese and then write it in English) in the study.

In the ARCS model, there are four factors, Attention, Relevance, Confidence, and Satisfaction. There are four items in every factor, including Attention 1-4, Relevance 1-4, Confidence 1-4, and Satisfaction 1-4. Table 4 shows that Attention 4 and Test 2 were significantly correlated, $r = .239$, $p < .05$, and Attention 4 and Test 4 were significantly correlated, $r = .276$, $p < .01$. That is, the familiarity with hospitality English vocabulary was related to Tests 2 & 4. It is worthy to explore the relationship between Attention 4 and Tests 2 & 4.

Table 4. Pearson product-moment correlation coefficient between Attention Motivation & PVQC Test

	Test 2	Test 3	Test 4	Test 5	Test 6
<i>Attention 1</i>	-.008	-.101	.081	-.052	-.046
<i>Attention 2</i>	.057	.030	.204	.057	.036
<i>Attention 3</i>	.071	.036	.153	.119	.038
<i>Attention 4</i>	.239*	.187	.276**	.165	.017

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 5 shows that *Relevance 1* and Test 4 were significantly correlated, $r = .214$, $p < .01$, and *Relevance 3* and Test 4 were significantly correlated, $r = .232$, $p < .05$. In other words, clear learning goals and content and associating with future jobs were related to Test 4. It is worthy to explore the relationship between *Relevance 1* and Test 4, *Relevance 3* and Test 4.

Table 5. Pearson product-moment correlation coefficient between Relevance Motivation & PVQC Test

	Test 2	Test 3	Test 4	Test 5	Test 6
<i>Relevance 1</i>	.147	.107	.214*	.101	.009
<i>Relevance 2</i>	.106	.128	.165	.127	.077
<i>Relevance 3</i>	.198	.177	.232*	.157	.036
<i>Relevance 4</i>	.139	.111	.141	.148	.041

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 6 shows that *Confidence 1* and Test 2 were significantly correlated, $r = .205$, $p < .05$, and *Confidence 2* and Test 2 were significantly correlated, $r = .270$, $p < .01$; *Confidence 2* and Test 3 were significantly correlated, $r = .220$, $p < .05$; *Confidence 2* and Test 4 were significantly correlated, $r = .228$, $p < .05$; *Confidence 2* and Test 5 were significantly correlated, $r = .252$, $p < .05$; *Confidence 3* and Test 4 were significantly correlated, $r = .225$, p

< .05; *Confidence 4* and Test 2 were significantly correlated, $r = .252$, $p < .05$; *Confidence 4* and Test 3 were significantly correlated, $r = .281$, $p < .01$; *Confidence 4* and Test 4 were significantly correlated, $r = .263$, $p < .05$; *Confidence 4* and Test 5 were significantly correlated, $r = .240$, $p < .05$.

In other words, having confidence, being willing to work hard, getting recognition, and increasing professional knowledge were related to some subtests in PVQC test. It is worthy to explore the relationship between them.

Table 6. Pearson product-moment correlation coefficient between *Confidence* Motivation & PVQC Test

	Test 2	Test 3	Test 4	Test 5	Test 6
<i>Confidence 1</i>	.205*	.168	.188	.180	.117
<i>Confidence 2</i>	.270**	.220*	.228*	.252*	.126
<i>Confidence 3</i>	.181	.166	.225*	.153	.027
<i>Confidence 4</i>	.252*	.281**	.263*	.240*	.146

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 7 shows that *Satisfaction 1* and Test 4 were significantly correlated, $r = .286$, $p < .01$; *Satisfaction 2* and Test 4 were significantly correlated, $r = .243$, $p < .05$; *Satisfaction 3* and Test 4 were significantly correlated, $r = .210$, $p < .05$; *Satisfaction 4* and Test 4 were significantly correlated, $r = .254$, $p < .05$. In other words, being treated and assessed equally, getting praise and positive feedback were related Test 4. It is worthy to explore the relationship between them.

Table 7. Pearson product-moment correlation coefficient between *Satisfaction* Motivation & PVQC Test

	Test 2	Test 3	Test 4	Test 5	Test 6
<i>Satisfaction 1</i>	.196	.184	.286**	.195	.055
<i>Satisfaction 2</i>	.175	.146	.243*	.146	.084
<i>Satisfaction 3</i>	.194	.169	.210*	.190	.168
<i>Satisfaction 4</i>	.154	.174	.254*	.165	.157

* $p < .05$, ** $p < .01$, *** $p < .001$

From Tables 4-7, some sub-factors of motivation factors were significantly related to certain tests. It is necessary to study more about how well those sub-factors influence those tests. Table 8 shows that a simple linear regression was calculated to predict subjects' Test 2 based on their *Attention 4*. A significant regression equation was found ($F(1, 91) = 5.509$, $p < .05$), with an R^2 of .057. In other words, *Attention 4* could predict subjects' 5.7% of Test 2. A simple linear regression was calculated to predict Test 4 based on *Attention 4*. A significant regression equation was found ($F(1, 91) = 7.515$, $p < .05$), with an R^2 of .076. That is, *Attention 4* could predict subjects' 7.6% of Test 4. In other words, the familiarity with hospitality English vocabulary could promote subjects' learning achievement in Test 2 (read vocabulary in English and then choose the correct Chinese meaning) and Test 4 (listen to vocabulary in English and then select the correct English spelling).

A simple linear regression was calculated to predict Test 4 based on Relevance 1. A

significant regression equation was found ($F(1, 91)=4.385, p< .05$), with an R^2 of .046; that is, *Relevance 1* could predict subjects' 4.6% of Test 4. A simple linear regression was calculated to predict Test 4 based on *Relevance 3*. A significant regression equation was found ($F(1, 91)=5.183, p< .05$), with an R^2 of .054; in other words, *Relevance 3* could predict subjects' 5.4% of Test 4.

In other words, clear learning goals and content, and relating to future workplace could enhance the learning achievement of Test 4 (listen to vocabulary in English and then select the correct English spelling).

A simple linear regression was calculated to predict Test 2 based on *Confidence 1*. A significant regression equation was found ($F(1, 91)=4.004, p< .05$), with an R^2 of .042; that is, *Confidence 1* could predict subjects' 4.2% of Test 2. A simple linear regression was calculated to predict Test 2 based on *Confidence 2*. A significant regression equation was found ($F(1, 91)=7.149, p< .01$), with an R^2 of .073; that is, *Confidence 2* could predict subjects' 7.3% of Test 2. A simple linear regression was calculated to predict Test 3 based on *Confidence 2*. A significant regression equation was found ($F(1, 91)=4.637, p< .05$), with an R^2 of .048; in other words, *Confidence 2* could predict subjects' 4.8 of Test 3. A simple linear regression was calculated to predict Test 4 based on *Confidence 2*. A significant regression equation was found ($F(1, 91)=4.996, p< .05$), with an R^2 of .052; that is, *Confidence 2* could predict subjects' 5.2% of Test 4. A simple linear regression was calculated to predict Test 5 based on *Confidence 2*. A significant regression equation was found ($F(1, 91)=6.164, p< .05$), with an R^2 of .063; that is, *Confidence 2* could predict subjects' 6.3% of Test 5. A simple linear regression was calculated to predict Test 4 based on *Confidence 3*. A significant regression equation was found ($F(1, 91)=4.853, p< .05$), with an R^2 of .051; that is, *Confidence 3* could predict subjects' 5.1% of Test 4. A simple linear regression was calculated to predict Test 2 based on *Confidence 4*. A significant regression equation was found ($F(1, 91)=6.196, p< .05$), with an R^2 of .064; that is, *Confidence 4* could predict subjects' 6.4% of Test 2. A simple linear regression was calculated to predict Test 3 based on *Confidence 4*. A significant regression equation was found ($F(1, 91)=7.800, p< .01$), with an R^2 of .079; that is, *Confidence 4* could predict subjects' 7.9% of Test 3. A simple linear regression was calculated to predict Test 4 based on *Confidence 4*. A significant regression equation was found ($F(1, 91)=6.760, p< .05$), with an R^2 of .069; that is, *Confidence 4* could predict subjects' 6.9% of Test 4. A simple linear regression was calculated to predict Test 5 based on *Confidence 4*. A significant regression equation was found ($F(1, 91)=5.585, p< .05$), with an R^2 of .058; that is, *Confidence 4* could predict subjects' 5.8% of Test 5. In other words, having confidence, willing to work hard, getting recognition, and increasing professional knowledge could enhance learning achievement of some subtests in the PVQC Test.

A simple linear regression was calculated to predict Test 4 based on *Satisfaction 1*. A significant regression equation was found ($F(1, 91)=8.116, p< .01$), with an R^2 of .082; that is, *Satisfaction 1* could predict subjects' 8.2% of Test 4. A simple linear regression was calculated to predict Test 4 based on *Satisfaction 2*. A significant regression equation was found ($F(1, 91)=5.724, p< .05$), with an R^2 of .059; that is, *Satisfaction 2* could predict subjects' 5.9% of Test 4. A simple linear regression was calculated to predict Test 4 based on

Satisfaction 3. A significant regression equation was found ($F(1, 91)=4.206$, $p < .05$), with an R^2 of .044; that is, *Satisfaction 3* could predict subjects' 4.4% of Test 4. A simple linear regression was calculated to predict Test 4 based on *Satisfaction 4*. A significant regression equation was found ($F(1, 91)=6.294$, $p < .05$), with an R^2 of .065; that is, *Satisfaction 4* could predict subjects' 6.5% of Test 4.

As a whole, the familiarity with hospitality English vocabulary, having confidence, willing to work hard, emphasizing the importance of hospitality English vocabulary can increase the performance of Test 2. Willing to work hard, and emphasizing the importance of hospitality English vocabulary can promote the performance of Test 3. The familiarity with hospitality English vocabulary, clear learning goals and content, relating to future jobs, willing to work hard, getting recognition, emphasizing the importance of hospitality English vocabulary, being treated and assessed equally, getting praise, and getting positive feedback could increase the performance of Test 4. Willing to Work hard, and emphasizing the importance of hospitality English vocabulary could promote the performance of Test 5. Especially, willing to work hard can mostly increase the performance of Test 2 and Test 5, and emphasizing the importance of hospitality English vocabulary can mostly increase the performance of Test 3, and being treated equally can mostly increase of Test 4. More specifically speaking, *Satisfaction* motivation could enhance Test 4 (listen to vocabulary in English and then select the correct English spelling).

Based on Table 8, willing to work hard could enhance Tests 2 & 6 mostly. Increasing professional knowledge could enhance Test 3 mostly. Being treated equally could enhance Test 4 mostly. In other words, getting confidence and getting satisfaction are related to learning achievement mostly. The results are consistency with some studies (Chang & Lehman, 2002; Colakoglu & Akdemir, 2012; Liu & Chu, 2010; Ouyang & Xie, 2009; Yang et al., 2008; Wang, 2011).

Table 8. Regression Analysis between Motivation & PVQC Test

	Test 2	Test 3	Test 4	Test 5	Test 6
<i>Attention 4</i>	$R = .239^*$ $R^2 = .057$		$R = .216^*$ $R^2 = .076$		
<i>Relevance 1</i>			$R = .214^*$ $R^2 = .046$		
<i>Relevance 3</i>			$R = .232^*$ $R^2 = .054$		
<i>Confidence 1</i>	$R = .205^*$ $R^2 = .042$				
<i>Confidence 2</i>	$R = .270^{**}$ $R^2 = .073$	$R = .220^*$ $R^2 = .048$	$R = .228^*$ $R^2 = .052$	$R = .252^*$ $R^2 = .063$	
<i>Confidence 3</i>			$R = .225^*$ $R^2 = .051$		
<i>Confidence 4</i>	$R = .252^*$ $R^2 = .064$	$R = .281^{**}$ $R^2 = .079$	$R = .263^*$ $R^2 = .069$	$R = .240^*$ $R^2 = .058$	
<i>Satisfaction 1</i>			$R = .286^{**}$ $R^2 = .082$		
<i>Satisfaction 2</i>			$R = .243^*$ $R^2 = .059$		
<i>Satisfaction 3</i>			$R = .210^*$ $R^2 = .044$		
<i>Satisfaction 4</i>			$R = .254^*$ $R^2 = .065$		

Note:

Attention 4: I feel familiar with hospitality English vocabulary.

Relevance 1: The learning goals and content of hospitality English vocabulary are very clear.

Relevance 3: Hospitality English vocabulary is related to my future workplace.

Confidence 1: I have confidence to succeed in hospitality English vocabulary learning.

Confidence 2: If I work hard, I can perform well in hospitality English vocabulary learning.

Confidence 3: I can get recognition if I perform well in hospitality English vocabulary learning.

Confidence 4: The hospitality English vocabulary can increase my professional knowledge in hospitality English.

Satisfaction 1: It is important for teachers to treat every student equally.

Satisfaction 2: It is important for teachers to use the same criteria to assess every student.

Satisfaction 3: I feel satisfactory if I get praise from classmates or teachers when I perform well in hospitality English vocabulary learning.

Satisfaction 4: It is important to get positive feedback from teachers while learning hospitality English vocabulary.

5. Conclusion

The results of this study indicated that most subjects liked to learn hospitality English vocabulary, and professional English vocabulary learning was important for them. Most subjects reported that English is associated with salary and advancement; however, they spent less than three hours learning English after classes per week. Most subjects did not perform well in Test 5 (read vocabulary in Chinese and then select the correct English pronunciation).

In the ARCS questionnaire, in regard to *Attention*, *Attention 4* and Tests 2 & 4 were significantly correlated; more specifically speaking, the familiarity with hospitality English vocabulary was related to Tests 2 & 4.

In regard to *Relevance*, *Relevance 1* and *Relevance 3* were significantly correlated with Test 4; more specifically speaking, clear learning goals and content, and associating with future jobs were related to Test 4.

In regard to *Confidence*, *Confidence 1, 2, & 4* were significantly correlated with Test 2; *Confidence 2 & 4* were significantly correlated with Test 3; *Confidence 2, 3, & 4* were significantly correlated with Test 4; *Confidence 2 & 4* were significantly correlated with Test 5; more specifically speaking, having confidence, willing to work hard, getting recognition, and increasing professional knowledge were related to some subtests in PVQC test.

In regard to *Satisfaction*, *Satisfaction 1, 2, 3, & 4* were significantly correlated with Test 4; more specifically speaking, being treated and assessed equally, getting praise and positive

feedback were related Test 4.

6. Implications, Limitations, and Future Research

6.1 Implications

Based on the conclusion, the researchers provided some implications. To increase students' ESP vocabulary learning motivation and achievement, in class, teachers had better give students clear learning goals and content, and help students be familiar with hospitality English vocabulary.

What's more, teachers had better make students understand hospitality English vocabulary could increase their professional knowledge and relate to their future jobs. Furthermore, teachers had better increase students' confidence, give them recognition and positive feedback, and encourage them work hard. Finally, teachers had better encourage students to spend more time on hospitality English vocabulary learning after classes.

6.2 Limitations and Recommendations for Future Research

One limitation of the study is generalization. The study used a convenience sampling method by selecting students from tourism or hospitality departments at the college university the researchers teach, which makes generalizing the findings in the study a challenge. To address the limitations of the current study, future research endeavors can examine hospitality English vocabulary learning motivation of technical college students in Taiwan.

Another limitation of the study comes from the sample size. This study should be repeated in the future with a larger sample size to confirm the relationships between ARCS and hospitality English vocabulary learning.

References

- Al-Nujaidi, A. H. (2003). *The relationship between vocabulary size, reading strategies, and reading comprehension of EFL learners in Saudi Arabia*. Unpublished doctoral dissertation, Oklahoma State University, USA.
- Ananyeva, M. (2014). A Learning Curriculum: Toward Student - Driven Pedagogy in the Context of Adult English for Academic Purposes, English for Specific Purposes, and Workplace English Programs. *TESOL Journal*, 5(1), 8-31. <https://doi.org/10.1002/tesj.73>
- Atay, D., & Ozbulgan, C. (2007). Memory strategy instruction, contextual learning and ESP vocabulary recall. *English for specific purposes*, 26(1), 39-51. <https://doi.org/10.1016/j.esp.2006.01.002>
- Belcher, D. D. (2006). English for specific purposes: Teaching to perceived needs and imagined futures in worlds of work, study, and everyday life. *TESOL quarterly*, 40(1), 133-156. <https://doi.org/10.2307/40264514>
- Bridgman, B., & Carlson, S. (1983). *Survey of Academic Writing Tasks Required of Graduate and Undergraduate Foreign Students* (TOEFL Report No. 15). Princeton, NJ: Educational Testing Service.

- Chang, M. M., & Lehman, J. D. (2002). Learning foreign language through an interactive multimedia program: An experimental study on the effects of the relevance component of the ARCS model. *CALICO journal*, 81-98.
- Chang, W. Y. (2009). A Needs Analysis of Applying an ESP Program for Hotel Employees. *Journal of YuDa University*, 21, 1-16.
- Chen, C. M., & Chung, C. J. (2008). Personalized mobile English vocabulary learning system based on item response theory and learning memory cycle. *Computers & Education*, 51(2), 624-645. <https://doi.org/10.1016/j.compedu.2007.06.011>
- Chen, C. M., & Li, Y. L. (2010). Personalized context-aware ubiquitous learning system for supporting effective English vocabulary learning. *Interactive Learning Environments*, 18(4), 341-364. <https://doi.org/10.1080/10494820802602329>
- Chen, P. C. (2006). A Linguistic Auditing Study on College ESP Curriculum Design: Bridging the Gap between EAP and EOP. *The Project Report for National Science Council in 2005*.
- Chen, Y. H. (2008). The Future of English in Globalization. *Career English*, 27, 20-27.
- Colakoglu, O. M., & Akdemir, O. (2012). Motivational Measure of the Instruction Compared: Instruction Based on the ARCS Motivation Theory vs Traditional Instruction in Blended Courses. *Turkish Online Journal of Distance Education*, 11(2), 73-89.
- Frodesen, J. (1995). Negotiating the syllabus: A learning-centered, interactive approach to ESL graduate writing course design. In Diane Belcher and George Braine (Eds), *Academic Writing in a Second Language: Essays on Research and Pedagogy*, 331-350. Ablex Publishing Corporation, NJ.
- Guo, C. F. (2006). An Investigation into the Vocabulary Size and Vocabulary Proficiency of Chinese No-English Freshmen. *Journal of Anhui Agricultural University (Soc. Sci)*, 1, 038.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice Hall.
- Harding, K. (2007). *English for Specific Purposes*. Oxford: Oxford University Press.
- Henriksen, B., Albrechtsen, D., & Haastrup, K. (2004). The relationship between vocabulary size and reading comprehension in the L2. In D. Albrechtse (ed.) *Angles on the English-speaking world--Writing and Vocabulary in Foreign Language Acquisition* (pp.129-140). Denmark: Museum Tusculanum Press.
- Hilton, H. (2008). The link between vocabulary knowledge and spoken L2 fluency. *The Language Learning Journal*, 36(2), 153-166. <https://doi.org/10.1080/09571730802389983>
- Hsu, L. W. (2008). Taiwanese Hospitality College Students' English Reading Strategies in English for Specific Purpose Courses. *Journal of Hospitality and Home Economics*, 1(5), 53-67.

- Hu, R. J. (2009). ESP Course Design and Needs Analysis-A Case Study in Cheng Shiu University. *Journal of General Studies in Cheng Shiu University*, 6, 233-252.
- Huang, C. C. (2001). An investigation of ESP students' vocabulary knowledge and reading comprehension. In English Teachers' Association (Ed.), *Selected papers from the Tenth International Symposium on English Teaching/Fourth Pan Asian Conference* (pp. 436-445). Taipei, Taiwan: English Teachers' Association.
- Huang, C. C. (2004). University Student's Vocabulary Knowledge, Content Knowledge and Reading Comprehension. *Journal of Tainan Teachers' College*, 35(1), 125-153.
- Huang, W. C., & Yu, G. S. (2006). *How Much Is Technical College Freshmen's English Vocabulary Size?* Proceeding of 2006 International Conference on English.
- Huang, Y. C. (2010). *EFL Learners Vocabulary Insufficiency and Communication Strategies in Communication with NNS and NS-A Case Study in Taiwan*. Colchester: University of Essex.
- Hutchinson, T., & Waters, A. (1987). *English for specific purposes: A learning-centered approach*. Cambridge: Cambridge University Press.
<https://doi.org/10.1017/CBO9780511733031>
- Hutchinson, T., & Waters, A. (2002). *English for Specific Purposes*. Cambridge: Cambridge University Press.
- Hyland, K. (2007). *English for specific purposes*. International handbook of English language teaching, 391-402. https://doi.org/10.1007/978-0-387-46301-8_28
- Johns, A. M. (1981). Necessary English: A Faculty Survey. *TESOL Quarterly*, 15, 51-57.
<https://doi.org/10.2307/3586373>
- Kang, C. C. (2013). *ESP: The Course Design for MICE English*. Cheng Shiu University Research Report.
- Kavaliauskienė, G. (2011). Blended learning in ESP listening. *English for Specific Purposes World*, 10(31), 1-9.
- Keller, J. M. (2009). *Motivational design for learning and performance: The ARCS model approach*. Springer Science & Business Media.
- Liang, S. C. (2014). English Vocabulary Size of Medical Junior College Students. *Journal of Shu Zen Junior College of Medicine and Management*, 11, 43-56.
- Lin, C. C. (2007). The Relations among Parenting Goal Orientations, Teachers' Expectations, Achievement Goals, and Academic Achievement of Vocational High School Students. *Journal of Humanities and Social Sciences*, 3(2), 37-53.
- Liu, J. Y., Chang, Y. J., Yang, F. Y., & Sun, Y. C. (2011). Is what I need what I want? Reconceptualising college students' needs in English courses for general and specific/academic purposes. *Journal of English for Academic Purposes*, 10(4), 271-280.

<https://doi.org/10.1016/j.jeap.2011.09.002>

Liu, T. Y., & Chu, Y. L. (2010). Using ubiquitous games in an English listening and speaking course: Impact on learning outcomes and motivation. *Computers & Education*, 55(2), 630-643. <https://doi.org/10.1016/j.compedu.2010.02.023>

Mahadzir, N. N., & Phung, L. F. (2013). The use of augmented reality pop-up book to increase motivation in English language learning for national primary school. *Journal of Research & Method in Education*, 1(1), 26-38. <https://doi.org/10.9790/7388-0112638>

Nation, I. S. P., & Beglar, D. (2007). A vocabulary size test. *The Language Teacher*, 31(7), 9-13.

Ouyang, J. P., & Xie, J. (2009). Constructing a Model of Autonomous English Learning: An Empirical Study [J]. *Journal of PLA University of Foreign Languages*, 3, 012.

Qian, D. D. (2002). Investigating the relationship between vocabulary knowledge and academic reading performance: an assessment perspective. *Language Learning*, 52(3), 513-536. <https://doi.org/10.1111/1467-9922.00193>

Qingquan, N. (2010). An empirical study of the correlation between learning motivations, strategies and autonomy in college English learning [J]. *Foreign Language World*, 3, 007.

Richards, J. C. (2005). *Communicative language teaching today*. SEAMEO Regional Language Centre.

Sarani, A., & Sahebi, L. F. (2012). The Impact of Task-Based Approach on Vocabulary Learning in ESP Courses. *English Language Teaching*, 5(10), 118-128. <https://doi.org/10.5539/elt.v5n10p118>

Shen, Y. M. (2008). ESP Students' Experiences of Content Area Reading. *Journal of General Studies*, 14, 113-142.

Stæhr, L. S. (2008). Vocabulary size and the skills of listening, reading and writing. *The Language Learning Journal*, 36(2), 139-152. <https://doi.org/10.1080/09571730802389975>

Survey Report of English Requirement for Employees in Top 1000 Taiwan Industries. http://www.toEIC.com.tw/img_report/2012report.pdf

TOEIC Score Report for Test-takers in Taiwan in 2016 <http://www.toEIC.com.tw/file/17054017.pdf>

Truong, T. T., Yap, M. H. T., & Ineson, E. M. (2012). Potential Vietnamese consumers' perceptions of organic foods. *British Food Journal*, 114, 529-543. <https://doi.org/10.1108/00070701211219540>

Tso, W. L. (2009). Needs-based Curriculum Development: A Case Study of NCKU's ESP Program. *Taiwan International ESP Journal*, 1, 77-95.

Wang, P. L. (2011). The effect of computer-assisted whole language instruction on Taiwanese university students' English learning. *English Language Teaching*, 4(4), 10.

<https://doi.org/10.5539/elt.v4n4p10>

Yang, C. L. (2011). Internationalized Medical Care Services Increase Need of Health Care Providers to Improve English Communication Skills. *The Journal of Nursing*, 58(1), 97-101.

Yang, J. C., Lin, Y. L., Wu, J. J., & Chien, K. H. (2008, November). Design and evaluation of a physical interactive learning environment for English learning. In *Digital Games and Intelligent Toys Based Education, 2008 Second IEEE International Conference on* (pp. 36-43). IEEE. <https://doi.org/10.1109/DIGITEL.2008.40>

Yo, Y. L., Tsai, C. Y., Chuang, W. C., Kuo, J. F., & Lu, H. I. (2000). *Technical College Students' English Learning Difficulties—A Case Study of Freshmen in National Yunlin University of Science and Technology*. Proceeding of 2000 International Conference on English.

Yu, G. S. (2006). ESP and English Education in Technical College. *Technological & Vocational Education Newsletter*, 174.
<http://120.96.85.9/News/2006111006.asp?c=0200&vers=174>

Zhang, L. J. (2008). The Role of Vocabulary in Reading Comprehension: The Case of Secondary School Students Learning English in Singapore. *RELC Journal*, 39, 51-76.
<https://doi.org/10.1177/0033688208091140>

Zou, L., & Chen, Y. (2010). Application Analysis of ARCS Model in Classroom Teaching [J]. *Journal of Huangshi Institute of Technology (Humanities and Social Sciences)*, 2, 022.

Appendix 1

The TOEIC Scores of General University and Technical University Test-Takers in 2015 and 2016 & TOEIC Requirement for Workplaces in 2015

General University TOEIC test-takers' Score in 2015	General University TOEIC test-takers' Score in 2016	Technical University TOEIC test-takers' Score in 2015	Technical University TOEIC test-takers' Score in 2016
561	565	413	413
The Threshold of TOEIC for Recruitment in Different Industries in 2015			
Manufacturing	522.2		
Service	564.7		
Financial	652.5		

Note: revised from http://www.toEIC.com.tw/report_2015_01_02.jsp

Appendix 2

TOEIC Scores in Different Industries in Taiwan in 2016

Industry	Listening scores	Reading scores	Total scores
diplomatic affairs	343	288	631
trade	334	277	611

hotel/travel/ entertainment/hospitality/ restaurant	262	194	455

Note: revised from TOEIC Newsletter No. 43 <http://www.toEIC.com.tw/file/17054017.pdf>

Appendix 3

Part A:

1. You are male female
2. Do you like to learn hospitality English vocabulary? yes no unknown
3. Do you think it is important to learn hospitality vocabulary? yes no unknown
4. Do you think English is associated with your salary in the future? yes no
 unknown
5. Do you think English is associated with advancement in the future? yes no
 unknown
6. How much time do you learn English after class every week? less than 1 hour 1-3 hours
 3-5 hours more than 5 hours

Part B:

ARCS Questionnaire of Hospitality English Vocabulary Learning	A S	A	N	D	D S
1. It can arouse my hospitality English vocabulary learning desire if the teacher uses different tones or asks questions.	5	4	3	2	1
2. It can arouse my hospitality English vocabulary learning curiosity if the teacher uses different teaching media.	5	4	3	2	1
3. It can arouse my hospitality English vocabulary learning interest if the teacher provides different learning environments.	5	4	3	2	1
4. I feel familiar with hospitality English vocabulary.	5	4	3	2	1
5. The learning goals and content of hospitality English vocabulary are very clear.	5	4	3	2	1
6. Hospitality English vocabulary is related to my living experience.	5	4	3	2	1
7. Hospitality English vocabulary is related to my future workplace.	5	4	3	2	1
8. Hospitality English vocabulary is related to my academic performance.	5	4	3	2	1
9. I have confidence to succeed in hospitality English vocabulary learning.	5	4	3	2	1
10. If I work hard, I can perform well in hospitality English vocabulary learning.	5	4	3	2	1
11. I can get recognition if I perform well in hospitality English vocabulary learning.	5	4	3	2	1
12. The hospitality English vocabulary can increase my professional knowledge in hospitality English.	5	4	3	2	1
13. It is important for teachers to treat every student equally.	5	4	3	2	1
14. It is important for teachers to use the same criteria to assess every student.	5	4	3	2	1
15. I feel satisfactory if I get praise from classmates or teachers when I perform well in hospitality English vocabulary learning.	5	4	3	2	1
16. It is important to get positive feedback from teachers while learning hospitality English vocabulary.	5	4	3	2	1

Note: AS: agree strongly A: agree N: neither agree nor disagree D: disagree DS:

disagree strongly

Items 1-4: Attention; Items 5-8: Relevance; Items 9-12: Confidence; Items 13-16: Satisfaction

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