

The Motivational Effects of Scaffolding Instruction in an ESP Context

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Abstract

This study aimed at investigating the motivational effects of Scaffolding approach applied in the instruction of college ESP writing. The data were quantitatively measured by the ARCS motivation scale, and divided into four categories of motivation model (Attitude, Relevance, Confidence, and Satisfaction). With respect to the current college ESP learning in Taiwan, many empirical studies have examined the applicability of learning motivation in the context of ESP learning. Accordingly, this study focused on a novel way of enabling ESP students to experience a resume and cover letter writing under Scaffolding instruction, and explored multiplicative relationship with students' motivation development in an ESP context. The subjects were in two sophomore English classes. The instruction of Scaffolding ESP writing was adopted in the experimental class of 32 subjects; whereas the control group of 30 subjects received teacher-centered, template mode of writing instruction. ANCOVA and Pair *t*-test were used to analyze students' motivation scale and the writing performance between two classes. The finding showed that the Scaffolding approach significantly influenced the experimental group's L2 learning motivation. The results also revealed that the experimental group significantly outperformed the control group on three measures: the motivation development, the writing products, and problem-solving skills for target needs.

Key words: Scaffolding, ESP, ARCS motivation, autonomy



1. Introduction

The majority of technical university students in Taiwan are required to take English course like other required courses, who studied in vocational high schools before college, unlike other general high schoolers, those students graduated from vocational high schools had limited English proficiency and less exposure to English learning based on the syllabus of vocational high school curriculum sanctioned by the respective boards. However, we see that students find L2 (English) learning challenging and impenetrable in college English class, such as proper language output or using language in creative ways within various social medias. As has been observed, Taiwanese students are prone to learning English through memorizing word spellings and grammatic rules. As far as students' behaviors towards English learning are concerned, most of them are not learning L2 for life but grades. Learning English for over ten years and learning deductively under most instructions of grammar patterns and rules, Taiwanese college students were found hard to integrate their L2 speaking and writing skills into social or workforce interaction. Frequent stressful tests and achievement exams mostly encourage students to eliminate their learning curiosity and motivation in the classroom even though the language for social practice should be the case. The author in this study attempted to explore the scaffolding technique in teaching English resume (CV) and cover letter writing as an ESP course projects, which reactivated students' diverse backgrounds and language proficiency in the academic writing, including editing and proofreading. Several Scaffolding techniques such as modeling, bridging and schema-building have been applied to transfer responsibility for learning to students.

With respect to numbers of teaching materials altered towards ESP instruction for the last decade, ESP teaching has been flourishing in many universities and technical colleges in Taiwan. However, studies indicated that certain dissatisfaction was placed by instructors or students with the effects of learning and impact of the teaching. Cai (2004) pointed out that English education has association with the adoption of traditional teaching style and method notably, and teachers often monopolized their class by main combination of literacy texts and target vocabulary work. As a result of this tendency, ESP studies for long have helped shed some insight on L2 teaching or learning inadequacy.



Among research in higher education, the proposed application of Scaffolding Instruction has stood out significantly to promote students' autonomy and engagement in writing. Scaffolding Instruction (Wood et al., 1976), based on Constructivism (Honebein, 1993) and Lev Vygotsky's Zone of Proximal Development (ZPD) theory (Vygotsky, 1978), emphasizes the meaningful and authentic learning with the classroom interaction between teachers and students. Scaffolding should occur in collaborative environments rather than the teacher playing the role of "more knowledgeable other" (Li, 2016). Students also contributed to ongoing development of social understanding during the negotiation process in the classroom. On the weekly basis, in this study, when considering students' target needs to acquire writing skill for the specific purposes (e.g. future job application and interviewing), the author modeled and gave guidelines and bridged the link between students' lives and subject matter. Last but not least, applying the ARCS mode of motivation scale in the end of the course can be challenging when assessing students' learning attitude, satisfaction, confidence, and motivation towards the experimental instruction since conventional learning mode had led to many Taiwanese students focusing mainly on course exams and grades in exchange for instilling learning worries and uninterest. Nevertheless, the convincing evidence in this study may forge a link between the Scaffolding learning and ESP content, in accordance with students' L2 progress and their target needs.

2. Significance of the research

English for workplace or business, as one aspect of ESP, has frequently been laid into Taiwan college English syllabus to achieve better learning results in the professional fields. Yet constant feedbacks from college graduates revealed that later after leaving school they had not been able to perform their language above the average level at workplace. The graduates were thus more likely to reveal some dissatisfaction with what they had learned previously in the ESP classroom. Similarly, students may also apply to the disconnect between academic and ESP learning, due to the fact that their academic language ability might be sufficient to manage their L2 coursework on campus, they



struggle otherwise to cope with the language demands in later workforce environment.

Based on long observance of most English teaching that characterized teacher-centered instruction with little differentiation in targeting the content-appropriate for students' individual proficiency. The author tried to implement the motivational scaffolding approach and provide students techniques with multiple steps to promote the writing resumes as the ESP class project. The supports included modeling proper target language, bridging students' prior knowledge, and contextualizing the learning process through aids. In each scaffolding session, the author provided frameworks including language patterns, target vocabulary, and writing tasks. Until the autonomous and self-engagement learning have been developed, the scaffolds were removed gradually as students became dynamic in writing, their motivation developed as well.

The significance of the research to be explored is as follows:

- 1) May Taiwanese students develop their motivation of learning, in L2 classroom, through scaffolding process to enhance their learning engagement and autonomy?
- 2) Learning through resume and cover letter writing, how do students benefit from the scaffolding approach for both academic and professional needs?
- 3) Does Scaffolding Instruction promote students' future independent learning and students' using target language to transfer their existing linguistic and technical knowledge into real-life situation?

3. Literature Review

3.1 Scaffolding instruction

In second language (L2) acquisition studies, scaffolding learning has gained growing attention (Haghparast and Behdokht, 2015. Miller, et al, 2015; Lantolf, 2000a, 2000b) particularly based on the theory of Vygotsky's Zone of Proximal Development (ZPD), a perspective has developed and assumed that scaffolding approach facilitates and enhances language skills of the learners (Cotteral & Cohen, 2003; Hammond et al, 2012). However,



various opinions on the definition and measurement of scaffolding were viewed and addressed. Scaffolding was originally introduced in the context of instructors assisting learners in acquiring knowledge or solving problems in informal learning environments (Wood, Bruner, & Ross, 1976). Later, the theory was adjusted to include a wider range of learners with diverse learning goals in formal education (Sharma, Forlin, Loreman, & Earle, 2006). With the application of advanced technologies in education, e.g. online resource or multi-media, scaffolding was further expanded to language learning environments based on new resources and technologies (Davis, 1996; Davis & Linn, 2000).

Van Lier (1996, p. 196, 2004) has formulated six principles of pedagogical scaffolding specific to language learning in general and learning in particular including contextual support, continuity, intersubjectivity, contingency, learner handover/takeover, and communication flow; namely, the teacher is no longer perceived as a “primary knower” (Berry, 1981), a knowledge or a decision maker. Instead, the teacher is the facilitator in the classroom, the one who “facilitates the acquisition of knowledge” (Brookfield, 1985); in other word, the instructor plays a role to encourage students to become active participants in their learning process, and is responsible for coordinating the tasks and creating an autonomy learning environment and experience for students.

3.2 ARCS Model and Motivation

The ARCS model is a model for analyzing motivational components based on the appropriate strategies applied. ARCS model is also an instructional model that prioritizes attention of the students, adjusts learning materials with the students’ learning experiences, creates self-confidence in students, and gives a sense of satisfaction in students. Siregar (Siregar & Nara, 2014) reported that ARCS is the components of the learner’s attitude of attention, relevance, confidence, and satisfaction. Attention refers to the learner’s sense of curiosity during the learning process, (Malik, 2014) while relevance relates to learning materials presented to the needs and conditions of the learners. According to Keller (2010) The third component confidence is closely related to the learner’s learning motivation so that learners can achieve the accomplishment and expectations to succeed in learning.



The fourth condition of motivation is satisfaction, referring to the positive feelings about accomplishments and learning experiences when learners receive recognition and success supports the feelings of satisfaction (Keller, 2018).

3.3 Scaffolding instruction and motivation theory

A scaffold is a mechanism that supports growth and development in learning, which can be represented such as a mentor, facilitator, or teacher; and guideline texts such as a rubric, checklists or worksheets, (Hmelo-Silver, Duncan & Chinn, 2007). Belland et al. (2013) and the frameworks support scaffolding approach to encourage L2 learners' motivation, including strategies for establishing task value, promoting mastery goals, belonging, emotional regulation, expectancy for success, and autonomy. A number of theories on motivation and autonomy in class were summarized by Martin (2012), who concluded that motivation appeared to be linked to and precede learning engagement. Research suggests that motivational scaffolding benefits low performing readers: "It helped them build a positive and engaging motivational environment for reading challenging texts" (Reynolds, D., & Goodwin, A., 2016). Miller, et al (2015). Hsieh (2016) finds a positive impact of online resources on learners' writing abilities, and the use of effective scaffolding techniques in the teaching of writing skills is the most appropriate in the current L2 situations.

3.4 ESP in language learning

The concept of special language was proposed in 1960s and early 70s. The language of ESP (English for Specific Purposes) is presented as an internationalization of structures of general English for the purpose of their application (Harding, 2007). ESP has developed as an independent discipline, apart from General English, it has gained increasing popularity among many practitioners, especially in higher education studies where learners specialize in different or professional areas. ESP classes do not always have to be practiced in a traditional way. Subtitling activity in the ESP context goes along with the interdisciplinary approach to language learning, which is important because it emphasizes that students should be able to integrate and combine knowledge from two or



more areas and apply what they have learned from one specific field into other fields that do not have to be related. Miloservic (Milosevic 2017, Carver 1983) states that there are three characteristics common to ESP courses: 1) authentic materials - students are encouraged to conduct tasks using a variety of different resources including the Internet. 2) purpose-related orientation – refers to the simulation of communicative tasks required by the target situation. 3) self-direction - it is necessary that teacher encourage students to have a certain degree of autonomy. Thus, teachers for such courses are suggested to play various roles and acquire certain specific related knowledge.

4. Research Methodology

4.1 Research Subjects

This empirical teaching experiment was conducted in 2018 for two sophomore English courses (English-II) in Cheng-Shiu University. Each course was arranged with three different majors. The students had taken the English placement exam previously when they entered the university and were then arranged into the intermediate English classroom based on test results (advanced, intermediate, and basic levels). The subjects in each class had completed the Freshman English (English I) course. According to the curriculum core competency for Sophomore English course, most students were qualified basic-intermediate or lower-intermediate listening comprehension. They were familiar with standard English tests and used basic linguistic meta-language; however, they were not very able to perform higher order reading and listening tasks such as making inferences by using context clues. Those sophomores' vocabulary sets were limited which has been the disadvantageous outcome when facing with the prospect of a producing a written work, they were weak performers.

The total number of students in these two classes is 62. Among them, 32 students were in the experimental group and 30 students were in the control group. The subjects did not show significant discrepancies in English proficiency when they were divided into two classes. The two courses shared a similar syllabus; however, for the control group,



the author taught resume writing tasks by using translation approach, vocabulary work, grammatical knowledge, and transforming models provided by the textbook. In accordance with the experiment design, the attention on the experimental class was the Scaffolding Instruction approach for the students who produced their writing based on the guidance and self-outsourcing online resources. Students in the experimental class, under the instruction, took the writing process as cyclical and recursive reflection to scaffold for themselves to conduct the resume framework. Students in class were assigned to collaborate and give feedback reflection in order to focus attention on meaning making and the evaluation of the communicative outcome. In contrast to the experimental class, the control group students were taught by the teacher-centered teaching mode. In class the author was an authoritarian one, and the roles of the students were the learners of language features and forms with less communication and autonomy involved.

4.2 Research instruments

ARCS motivation questionnaire

The ARCS motivation questionnaires were distributed respectively to a total of 63 students in both experimental and control class before and after the intervention. The questionnaire consisted of 24 questions in four main components: Attention, Relevance, Confidence, and Satisfaction (see Appendix 1). Each model consisted of 6 questions to gather the subjects' motivation responses before the instruction began so that the evaluation would cause variations in the learning behavior until the instruction completed. A 5-Likert scales were measured from 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and scale 1 = strongly disagree. Each question was scored accordingly (i.e., 5, 4, 3, 2, and 1). For total 24 questions, 22 positively-worded questions were directly scored, and 2 negative worded questions (question 5 [Q5] and question 21 [Q21]) were scored reversely in the opposite direction. The results of the mean scores of all questions from pre- and post-assessments were analyzed using ANCOVA and Pair *t*-test to evaluate whether the ARCS scale output made significant difference among mean scores and the effects on the ESP resume writing instruction between two classes.



The instruction

The implementation of the scaffolding approach was carried through the four-stage process for completing the resume and cover letter writing: ‘prewriting’, ‘drafting’, ‘revising’, and ‘peer feedback’. Each stage took three to four-week process and workshop such as modeling and constructing to scaffold the writing from beginning to end-product output.

Prewriting

The technique began with the prewriting stage where the students were exposed to a collection of resume and cover letter samples from Google, Facebook, Wikipedia, and other online resources. The author was leading the construction of the content based on students’ learning needs. The tasks included inquiry-based learning, formatting and resume layouts. Students then gave opinions, problems, and suggestions about those resumes they have chosen from the media to be ‘good’ or ‘poor’ resumes.

Drafting

Drafting and formatting were the process that students input their personal profiles, background education, and extracurricular information items into sentences and paragraphs. Students had to synthesize what they observed about the most appealing and understandable resumes and cover letters they had selected from the web and critiqued their so-called ‘poor’, or ‘difficult’ resume samples they defined. The author at this stage played a role of providing and differentiating online information that contained useful authentic materials for students, which included text interpretation and ESP target vocabulary teaching when students were conducting and drafting their paragraphs. Furthermore, meaning-making, changes and new perspectives also presented in the group interaction.

Revising

With the scaffolding diagram the author helped students self-engage the layout paragraphs into a systematic order. Going through this phase, they also learned the linguistics feature, generic structure, and word use in a communicative way. Students at



this cycle involved in meaning-making again in the layout regarding what they have perceived, experienced and how they interpreted the meaning line by line. The author gave students the access to questions and more resources to help improve overall understanding of the ESP target words presented, or adding more details.

Peer feedback

The peer feedback reflection was an important step in which students not only assisted each other in revising, but provided students with opportunities to work on their writing skill and their own communication as well. The author incorporated peer feedback in a variety of perspectives such as providing suggestions, corrections, and comments to peers from surface-level to thoughtful revision. By the time the author started collecting and reading students' drafts, and found that students had already addressed a fairly large number of what the author would have commented or corrected. In other words, the more feedback and comments the students provided, the more efficiently the author could scaffold further with more specific, focused revision. The posttest ARCS model questionnaires were then distributed near the end of the course and prompted the students to reflect on their perceptions of this ESP writing course.

5. Findings and Discussions

A closer examination of the pre- and post-test responses of each group suggested that the significant change in the overall class responses was due primarily to the different instructions. Among the 24 items in four ARCS components, 2 negative questions ([Q5], [Q21]) were reversed calculated from students' responses. The mean changes between two groups (see Table 1) in ANCOVA indicated the post values as dependent variable and pre values as covariate. The pretests showed slight mean difference at 50.00 and 54.67 between experimental and control group respectively (see Table 1). When the results of pre-tests were reported, the control group's beginning learning motivation according to the mean scores (mean = 54.67 = 11.82) n fact slightly higher than that of experimental



group (mean =50.00, $SD = 11.82$) before the instruction occurred. However, the significant difference showed reversely between the two groups over time strengthens the instruction for the motivation and confidence growth in the experimental group. The posttest mean scores are 88.59 ($SD = 4.51$) for the experimental group, and 60.47 ($SD = 10.31$) for the control group presented the significant increase for the effects of the instruction for experimental students.

Group		pretest	posttest
Experimental	Mean	50.0000	88.5938
	<i>N</i>	32	32
	Std. Deviation	12.72285	4.50705
Control	Mean	54.6667	60.4667
	<i>N</i>	30	30
	Std. Deviation	11.82439	10.31481
Total	Mean	52.2581	74.9839
	<i>N</i>	62	62
	Std. Deviation	12.42015	16.17779

Table 1 Comparison of mean score gain between two groups



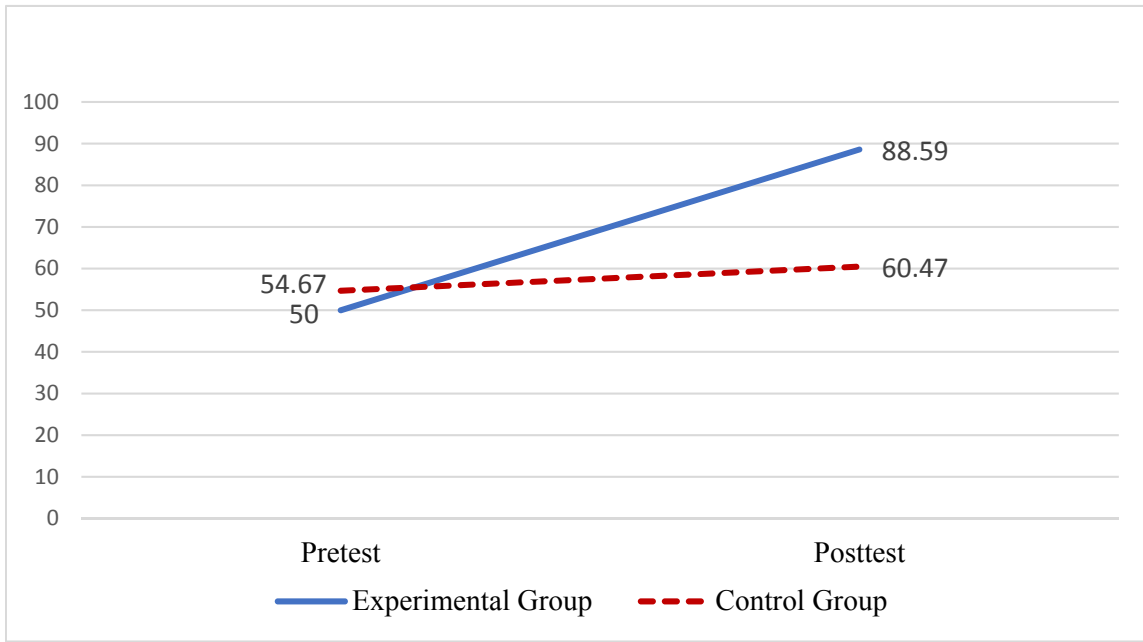


Figure 1 The instructional evaluation for ARCS motivation scale

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	12513.808 ^a	2	6256.904	106.966	.000	.784
Intercept	13533.043	1	13533.043	231.356	.000	.797
pretest	264.010	1	264.010	4.513	.038	.071
group	12488.837	1	12488.837	213.504	.000	.783
Error	3451.176	59	58.495			
Total	364565.000	62				
Corrected Total	15964.984	61				

(Dependent Variable: Posttest)

Table 2 Tests of Between-Subjects Effects a. R Squared = .784 (Adjusted R Squared = .777)

As shown on Table 2, the results showed that there was a significant gain in motivation when the influence of pretest scores was removed (as the covariate), e.g. students' language background or initial motivation, or when students, in the quasi-experiment, cannot be assigned randomly to the experimental and control groups ($F_{group} = 213.50, p < .001$). The significance was also shown in the cross analysis of the



comparison within the two groups (see Figure 1), when the instructional evaluation for ARCS motivation scale helped clear observe the motivation outcome.

The first part of the questionnaire documented students' attention to their learning. The results showed the mean difference were students' expressing "the intention to set goals for learn English" ([Q1], mean = 2.00, *SD* = 1.05). When responded to the relevance of their L2 ability and their future potential, the experimental group reported with higher mean gains for "students being motivated for future higher-paid jobs when they reached higher L2 proficiency" ([Q10] mean = 1.78, *SD* = 1.31, and [Q12] mean = 1.50, *SD* = 1.32, respectively).

Consequently, the third part of the questionnaire reported confidence in "English self-introduction and meeting different people from different cultures" ([Q13] mean = 2.53, *SD* = .88, and [Q16] mean = 2.75, *SD* = 1.08, respectively), the mean changes presented larger in the experimental group. The highest mean scores for the last part of questionnaire indicated that students agreed that "learning English was not as difficult as they have thought before", and laid their satisfaction with their English improvement ([Q19] mean = 2.28, *SD* = .68, [Q20] mean = 2.31, *SD* = 1.02, respectively).

Posttest - Pretest	Mean	Std. Deviation	Std. Error Mean	<i>t</i>	<i>df</i>	Sig. (2-tailed)
Q1 post-pre	2.000	1.047	.185	10.803	31	.000
Q2 post-pre	.813	1.469	.260	3.129	31	.004
Q3 post-pre	1.188	1.120	.198	5.999	31	.000
Q4 post-pre	1.313	1.148	.203	6.466	31	.000
Q5 post-pre (converted)	1.56250	1.18967	.21031	7.430	31	.000
Q6 post-pre	1.125	1.264	.223	5.036	31	.000
Q7 post-pre	.969	1.425	.252	3.845	31	.001
Q8 post-pre	1.125	1.129	.200	5.638	31	.000
Q9 post-pre	.813	1.176	.208	3.908	31	.000
Q10 post-pre	1.781	1.313	.232	7.672	31	.000
Q11 post-pre	1.438	1.243	.220	6.543	31	.000



Q12 post-pre	1.500	1.320	.233	6.429	31	.000
Q13 post-pre	2.531	.879	.155	16.284	31	.000
Q14 post-pre	1.781	1.211	.214	8.320	31	.000
Q15 post-pre	1.969	1.062	.188	10.486	31	.000
Q16 post-pre	2.750	1.078	.191	14.436	31	.000
Q17 post-pre	1.844	1.273	.225	8.195	31	.000
Q18 post-pre	1.875	1.008	.178	10.522	31	.000
Q19 post-pre	2.281	.683	.121	18.889	31	.000
Q20 post-pre	2.313	1.203	.213	10.873	31	.000
Q21 post-pre (<i>converted</i>)	.78125	1.49697	.26463	2.952	31	.006
Q22 post-pre	1.531	1.047	.185	8.275	31	.000
Q23 post-pre	1.219	1.809	.320	3.811	31	.001
Q24 post-pre	2.094	1.118	.198	10.598	31	.000

Table 3 Pair mean difference and significance

6. Conclusion

This study aimed to examine the effects of using a motivational scaffold instruction to teach and assist college students to take greater responsibility for their learning through autonomic and authentic learning experiences in ESP resume and cover letter writing. Three perspectives of Scaffolding approach were emphasized for facilitating ESP writing skills: 1) the motivational scaffolding perspective, 2) ESP process-based instructional perspective, and 3) the instructor's planning and problem-solving behavior in class. The finding showed that the scaffolding approach was in favor of both ESP writing performance and learning motivation when students interacted within collaboration during the process of self-constructive resume formatting, editing, and revising. Likewise, the author believed that the results of this empirical study provided supportive evidence and suggested that the Scaffolding implement in the ESP context equally enhanced college students' L2 skills. When students were engaging their peer collaboration



searching online resources, the problem-solving skill was developed as well, which helped strengthen students' confidence in ESP learning and fulfill students' target needs.

Regarding the first research question, the study showed that the constant Scaffolding instruction in the ESP context stimulated students' L2 motivation. In addition to the overall increase in mean score on the posttest (mean = 74.98, $SD = 16.18$, see Table 1), the significance was displayed in the progressive reflection within the scaffolded groups (experimental class), as opposed to the non-scaffolded group (control class) (see Figure 1). The Scaffolding approach made it possible for students' motivation of gaining confidence, satisfaction, and the sense of achievement at the stage from the beginning to the product output, the significant difference revealed before and after the intervention.

Regarding the second research question, with due emphasis given on evaluating students' target situational needs, the ESP resume writing course was designed to satisfy students' future employment demands. Thus, the use of authentic learning material for students was proved to be beneficial when students were encouraged to optimize their resumes. Using a variety of different resources apart from the textbook, either materials modified by instructor or unmodified, the post-tests from two groups observed the finding of increase mean scores. Significantly, the mean score in the experimental post-test was displayed higher (mean = 88.59, $N = 32$). Although the downfall did not reveal at all in this study, the higher scores from the experimental group was significant enough to conclude that the ESP learning under the Scaffolding construction were beneficial for two aspects: the acquisition of writing skill for target needs, and the applied L2 skill corresponding to further scaffolding experiments.

Regarding the third research question, the author's job was to support individual educational goals by providing the adequate guidance and concept mapping with respect to the importance of students' various background experience and language proficiency. The Scaffolding strategy favored students' motivation development towards setting their goals based on their various language proficiency for upcoming products. The gaining scores presented the constant growth of attention, relevance, satisfaction, and confidence. The quantitative survey results were consistent with students' course achievement in that



most students have not been satisfied with their English ability in the beginning and found motivation increased for improving their target language skills (see Fig. 1) (mean = 88.59, $SD = 4.51$). Accordingly, the learning of resume and cover letter writing was constructed progressively by students, and will be revised by them for future update constantly as time moves forward; in other words, it is conceived and supported that students can be inherently confident in carrying out a real-life language output.



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Appendix 1

ARCS Motivation Scale	Strongly disagree	Agree	Neutral	disagree	Strongly disagree
I. Attention (Attention to purposes)					
1. I usually set goals to learn English.					
2. I am interested in English learning.					
3. I am interested in English-speaking countries.					
4. English is important for exams and my education.					
5. English learning is a great challenge and I easily feel frustrated.					



6. I am interested in participating English-related events.					
II. Relevance (Relevance of the future)					
7. English learning can help my future job hunting.					
8. If I apply for the overseas working-holiday in the future, my English can help me with my daily life.					
9. I hope to have contacts with foreign customers at work in the future.					
10. English can help my learning in other aspects.					
11. I think English is the requirement in the future workplace.					
12. Speaking good English will give me better opportunities to get higher paid jobs					
III. Confidence (Confidence development)					
13. I can briefly introduce myself in English.					
14. I can have dialogue with others in English.					
15. I can express my emotion or feelings in English.					
16. I like meeting different people from different cultures.					
17. I will gain more confidence if my English is good.					
18. I know how to find English learning resource from the web.					
IV. Satisfaction (Sense of satisfaction and achievement)					
19. Learning English is not as difficult as I thought.					
20. I am satisfied with my English improvement.					
21. I think English learning is boring and I am thinking quitting.					



22. My English grades are not as bad as I think.					
23. Learning English is easier than learning other languages.					
24. I think hard working pays off study English.					



