THE IMPACT OF CHOICE ON EFL STUDENTS' MOTIVATION AND ENGAGEMENT WITH L2 VOCABULARY LEARNING

Han-Chung Wang, Hung-Tzu Huang, & Chun-Chieh Hsu

ABSTRACT

The current study investigates EFL college learners' motivation and engagement during English vocabulary learning tasks. By adopting self-determination theory (SDT; Deci & Ryan, 1985, 2000), the study looked into the impact of autonomy on college students' task motivation and engagement with vocabulary learning tasks and their general English learning motivation (i.e. trait motivation). Changes in task motivation over 14 weeks of research were also investigated. The results of quantitative analyses obtained from questionnaires and observations over 14 weeks uncovered that the participants who were given the freedom to choose their own target words showed higher task motivation and task engagement than those who were required to learn pre-selected target words. Learners' general attitude toward English learning, however, was not influenced by the provision of choice in the vocabulary learning tasks. The 14-week experimental research also depicts the changes of task motivation and engagement over time. Even with the same settings and task procedures, learners' task motivation fluctuated. In accordance with SDT, the findings in the present study support the importance of creating autonomy-supportive vocabulary learning tasks.

Key Words: L2 motivation, task motivation, trait motivation, vocabulary learning, autonomy, self-determination theory

INTRODUCTION

In the field of second and foreign language (L2) motivation, researchers have not only verified that there is a strong correlation between L2 motivation and language learning success, but have also pointed out that teachers can help to improve learner motivation (Dörnyei, 2001, 2005; Oxford, 1996). As motivation determines the direction and magnitude of human behaviors, how to help students

become more motivated and active language learners is often a focal concern for L2 teachers. Within classroom contexts, the quality and design of pedagogical tasks offer insights into the factors that increase or decrease learners' motivation. Since the 1990s, L2 research has seen an increasing interest in understanding L2 learning behaviors that lead to L2 acquisition within a task-based framework (e.g. Crookes & Gass, 1993; Robinson, 1995; Skehan, 1998). Examining learners' motivation within a task framework adheres to the micro and situated approaches of investigating L2 motivation (Crookes & Schmidt, 1991; Dörnyei, 2001, 2003; McGroarty, 2001) and produces pedagogically relevant suggestions for the planning of motivational tasks (Dörnyei, 2005; Dörnyei & Kormos, 2000).

The current study sets out to investigate EFL college learners' motivation and engagement during English vocabulary learning tasks. By adopting self-determination theory (SDT) (Deci & Ryan, 1985, 2000), the study looked into the impact of autonomy on college students' task motivation and engagement with vocabulary learning activities. SDT (Deci & Ryan, 1985, 2000) argues that to understand motivation it is pivotal to consider three basic human psychological needs: autonomy, competence, and relatedness. The satisfaction of autonomy is considered the cornerstone of motivation. Since L2 vocabulary learning is a highly individualized phenomenon, L2 learners have somewhat differing vocabulary even if they are members of rather homogenous groups (Schmitt, 2008). Depending on the contexts in which they are situated, learners have different goals, different vocabulary levels to start with, and different chances of being exposed to words. Developing autonomous vocabulary learning strategies and habits for individual learners, therefore, is advantageous for long-term learning. With this in mind, the study investigated the impact of autonomy or the provision of choices in order to understand learners' motivation and their motivational behaviors during vocabulary-learning activities.

LITERATURE REVIEW

Conceptualizations of L2 Task Motivation

L2 motivation research has seen a number of new conceptualizations since the 1990s (Dörnyei, 2003). For one, there has been a gradual shift from investigating general trait motivation to emphasizing

situation-specific task motivation (Dörnyei, 2000, 2001). While classic models of L2 motivation (e.g. integrative motivation; Gardner & Lamber, 1972) focus on general motivational orientation such as the influences of social communities and intercultural identification, task motivation emphasizes situation-specific motives that support the completion of a particular task in language classrooms (Dörnyei & Kormos, 2000). Compared to trait motivation, which examines how language attitudes influence learners' general tendencies to invest effort, task motivation is more directly related to pedagogical practices because of its focus on the learning environment, task characteristics, and learners' motivational behaviors in language classrooms (McGroarty, 2001).

The significance of task motivation was highlighted by Dörnyei and Kormos (2000). With 46 Hungarian students, they examined the interrelationship between general and situation-specific motivational factors and learners' task engagement in oral argumentative tasks. It was found that situation-specific rather than general motives more precisely predicted language learners' engagement with oral argumentative tasks. In this study, task engagement or motivational learning behaviors during tasks, rather than achievement scores, were taken as the main criterion variables in determining participants' motivation. Learners with more situation-specific motives, both at the course and task levels, produced a greater number of conversational exchange turns and words in oral tasks.

Although examining motivation within a task-based framework has much potential in understanding learners' participation and completion of classroom activities, little empirical research on task motivation has been conducted since Dörnyei and Kormos (2000). Earlier research of task motivation sees task motivation as dependent on learners' generalized motivation (i.e. trait motivation) and their situation-specific task motives (e.g. Boekaerts, 2002; Julkunen, 1989). More recent task motivation studies, however, have begun to emphasize the dynamicity and temporal variation of task motivation (Dörnyei, 2003; Dörnyei & Ottó, 1998; Dörnyei & Tseng, 2009). Task motivation is modeled as a complex and dynamic system involving interrelated affective, cognitive, and contextual elements constantly working together to produce continuous evolution within the system. Under this conception, the dynamic process and complexity inherent in task motivation was investigated longitudinally at the various stages of the tasks. Including elements such as learners' task enjoyment, success expectancy, and group dynamic, Poupore (2013) for example found that the topics and

cognitive complexity of tasks were important parameters in shaping learners' motivational trajectories. Also using a complex and dynamic approach, de Burgh-Hirabe and Feryok (2013) reported that Japanese learners' motivation for extensive reading waxed and waned throughout the seven months of research time due to the interaction between learner's attitudes toward Japanese language and culture, their beliefs about L2 learning, and the perceived success of extensive reading.

While task motivation has been increasingly characterized as a complex dynamic system rather than as a composite of trait and situation-specific motives, the relationship between general L2 motivational orientation and learners' experiences of participating in tasks has not been widely explored. Indeed, the motivation for engaging in a particular task may be influenced by multiple learner-specific and contextual factors as suggested by complex and dynamic perspectives, but how may cumulated positive experiences in well-designed tasks influence one's general L2 motivational attributes (i.e. trait motivation) over time? Previous research into motivational development has found that learners' trait motivation tends to decline as they gain more experience in learning a language (Bernaus, Moore, & Azevedo, 2007; Gardner, Masgoret, Tennant, & Mihic, 2004; Williams, Burden, & Lanvers, 2002). It is therefore of interest to investigate whether creating a positive learning experience or encouraging learners' volitional engagement in tasks can thereby enhance or at least sustain their overall motivational intensity for learning a language.

Autonomy-Supportive L2 Learning and Motivation

Self-determination theory (SDT; Deci & Ryan, 1985, 2000) underscores the importance of internalizing the learning activity. In SDT, innate psychological needs for autonomy, competence, and relatedness are considered crucial to understanding human motivation. Autonomy, the essence of these psychological constructs, is defined as the sense of 'choicefulness' and volition that are related to one's activities and goal pursuits. It is "the organismic desire to self-organize experience and behavior and to have activity be concordant with one's integrated sense of self" (Deci & Ryan, 2000, p. 231). When participating in an autonomy-supportive activity, learners' behaviors are spontaneous; they are not controlled by external incentives because their sense of authorship, personal agency, and self-determination are encouraged

(Ryan & Deci, 2000).

The utility of the self-determination perspective has been promoted in order to understand how learning environments can foster optimal forms of learner motivation. To examine the effect of autonomy on learning motivation, one of the standard designs used in many SDT empirical studies is to compare participants' motivational differences in an autonomy-supporting and a controlling setting (Ryan & Deci, 2006). Past research often compared learners' intrinsic motivation, engagement, or learning outcome in choice vs. no-choice task conditions (e.g. Cordova & Lepper, 1996; Iyengar & Lepper, 2000; Patall, Cooper, & Wyann, 2010). In an often cited study, Iyengar and Lepper (1999) investigated the effect of personal choices on intrinsic motivation and task performance with word tasks. The study revealed that Caucasian American elementary school students had greater intrinsic motivation when they made choices on which word tasks to engage in, rather than having the tasks chosen for them. Asian American children, on the other hand, demonstrated a higher level of intrinsic motivation and better task performance when their mothers made choices for them compared with when they made choices for themselves. More recently, Patall and colleagues (2010) tested whether providing a choice of homework assignments facilitated high school students' intrinsic motivation. After doing 28 homework assignments in four weeks, the students who received a choice of homework options reported greater intrinsic motivation and felt more competent regarding the homework than those who did not have a choice of homework options. The handful of studies focusing on choice, autonomy and motivation has found that having opportunities to make personal choices in the process of learning is especially beneficial for children (see Katz & Assor, 2007 and Patall, Cooper, & Robinson, 2008 for reviews).

Within L2 motivation research, SDT was most widely applied in Noels and her colleagues' work (1999, 2000, 2001). In this line of research, the self-determination continuum was used to depict different types of L2 motivational intensity based on degrees of autonomy and self-regulation. In addition to demonstrating that more self-determined motivation is highly correlated with better linguistic performance and increased use of the target language (Noels, 2001a), L2 SDT research focused primarily on how classroom environmental variables such as teachers' communication (Noels et al., 1999; Noels, 2001b) or teaching style (Pae & Shin, 2011; Wu, 2003) affect learners' motivational

dynamics. The findings have suggested that the integration of autonomy-supportive components, such as encouraging independent thinking or freedom to choose instructional materials, can facilitate students' engagement in the L2 learning process. So far, L2 motivation research through the SDT lens has typically looked into the influence of overall social contexts on motivation orientation rather than examining autonomy and motivation within a task-based framework.

Independent L2 Vocabulary Learning and L2 Motivation

It has been estimated that an English-language learner will need to know 2,000 words in order to maintain conversations and up to 10,000 to comprehend academic texts (Schmitt, 2008). The process of knowing a word is incremental and involves many different aspects of knowledge (Nation, 2001, 2005). L2 vocabulary learning is also an individualized process because exposure to new and partially familiar words depends on the different contexts in which individual learners are situated (Schmitt, 2008). All these characteristics of L2 vocabulary learning suggest that learners have to learn vocabulary independently and outside the language classroom in most instances (Nation, 2008, 2012). As independent L2 vocabulary learning is not only a complex task but also a time-consuming process that requires determination, it is of interest to understand whether autonomy-supportive vocabulary tasks can encourage learners to experience a sense of personal agency and self-determination, which is vital to the development of long-term motivation in vocabulary learning.

Keeping vocabulary notebooks is commonly advocated as an effective learning strategy that encourages students to independently organize and manage their own learning (Fowle, 2002; Lewis, 2000; McCarthy, 1990; Nation, 2001; Schmitt & Schmitt, 1995). A vocabulary notebook is an individualized dictionary in which learners record the words they encounter, along with their meanings and any other aspects of the word deemed important, such as parts of speech, word forms, collocates, synonyms, and sample sentences (Schmitt & Schmitt, 1995). Words included in vocabulary notebooks can be unknown words or partially familiar words. For unknown words, learners may record the words for initial form and meaning mapping. For partially familiar words, information recorded may include different senses of meaning, collocation, register, or other aspects of word knowledge that learners

consider worth learning. Past research has investigated the effectiveness of teaching students the strategy of keeping vocabulary notebooks on L2 vocabulary acquisition (McCrostie, 2007; Walters & Bozkurt, 2009) and learner autonomy (Fowle, 2002).

When it comes to implementing vocabulary notebook tasks, researchers have held different opinions about providing choices in the selection of target words. While some suggested that learners should choose independently the words for their notebooks (McCarthy, 1990; Schmitt &Schmitt, 1995), others argued for a more prescriptive approach in target word selection (Nation, 2001). The distinction in the freedom of target word selection during vocabulary notebook tasks has so far yielded interesting findings worthy of further exploration. Fowle (2002) reported learners' enhanced independence in language learning after introducing vocabulary notebook tasks. The secondary students in the study were given the chance to choose their own target words. The benefit of learner independence, however, was absent in Walters and Bozhurt's (2009) research. With eighty pre-assigned target words in a four-week vocabulary notebook session, lower-intermediate college learners in a study by Walters and Bozhurt (2009) demonstrated increased vocabulary learning, but showed a lack of autonomy and motivation in follow-up interviews. Joyce and Sippel (2004) compared learner attitude and engagement between students who chose their target words in vocabulary notebook tasks with those who received pre-assigned target words from their teachers. The 267 students in the study, regardless of whether they had freedom in choosing target words in the vocabulary notebook tasks, overwhelmingly preferred target words to be chosen by teachers. Moreover, those who independently selected the target words spent less time studying the words and felt that their vocabulary size did not expand as much as their counterparts who received target words from teachers. Beyond the scope of the vocabulary notebook research, D'Ailly (2004) investigated the effect of choice on children's learning of words with a one-shot laboratory study. The author recruited eleven-year-old Canadian and Taiwanese children to learn the names of animals, numbers, and colors in a foreign language. Half of the participants learned words chosen by their teachers or a computer, while the other half had the freedom to choose which words to learn. D'Ailly (2004) reported that personal choice of target words had no significant impact on children's interest, effort, or learning outcome.

To date, it is unclear how the strategy of using vocabulary notebooks

may influence learner motivation or whether providing freedom in selecting target words during vocabulary notebook tasks makes a difference to motivation. In explaining the relationship of autonomy and motivation, Little (2004) argues that "if learners are involved in the management of their own learning, and are able to shape it according to their developing interest, they are also exploiting and nourishing their intrinsic motivation" (p. 105). The theoretical perspective of SDT helps to elaborate on whether circumstances that support learners' sense of autonomy can address their "psychological need to experience [their] behavior as emanating from or endorsed by the self" (Reeve, Deci, & Ryan, 2004, p. 31). This study was undertaken to examine learners' motivation while engaging in tasks which encourage autonomous vocabulary learning. By adopting the standard SDT empirical design of investigating learners' motivational differences in different task conditions, we test the utility of applying choices in target word selection during vocabulary notebook tasks.

THE PRESENT STUDY

The present study aims to investigate how the manipulation of autonomy affects learners' motivation and engagement in vocabulary learning tasks. With a 14-week, quasi-experimental design, this study also centers on examining changes in task motivation over time. Vocabulary learning tasks were designed based on findings of previous research on vocabulary notebooks. The manipulation of autonomy is operationalized as the freedom to choose target words in L2 vocabulary learning tasks. Participants in the experimental group were free to choose target words to learn in their tasks, while those in the control group had pre-selected target words. Questionnaires on task and trait motivation were administered to both groups. The data was further supplemented by conducting observations of learners' task engagement or motivational behavior while undertaking the tasks. The study addresses the following research questions:

1. How do the choices of target words (self-selected or pre-selected) affect individual learners' task motivation, task engagement, and trait motivation?
2. How does the task motivation of learners change over 14 weeks?

METHOD

Participants

Forty-eight English majors at a university in northern Taiwan volunteered to participate in the study. They were mostly freshmen and sophomores whose ages ranged from 18 to 20. At the time of research, the participants had on average 11 years of formal English instruction. A widely used standardized vocabulary test, the Vocabulary Levels Test (VLT; Schmitt, Schmitt, & Clapham, 2001), was administered to determine participants' vocabulary proficiency before the research was conducted. The results showed that these students' vocabulary proficiency fell within similar levels. All of them were able to score over 90% on the most frequent 2,000, 3,000, 5,000 and academic word levels in the VLT. Their knowledge of the 10,000 word level was below 83%, indicating that they had not fully mastered words within that level. The participants were randomly assigned into either the experimental (N = 24) or the control group (N = 24).

Vocabulary Learning Tasks

One vocabulary learning task was implemented at an interval of every two weeks during the 14-week research period. The vocabulary learning tasks were adopted from Schmitt and Schmitt's (1995) vocabulary notebook activity. The participants were instructed to create their own vocabulary notebook in which they wrote down words encountered in the vocabulary learning tasks of the present study or from their regular English courses. During each task, each participant in both the control and experimental groups read a passage of about 1,000 words, checked for the meaning, usage or other information of the target words, and recorded the information into their vocabulary notebook (see Appendix A for samples of students' work).

The vocabulary learning tasks took place in a computer lab where each participant had access to a computer. The participants could choose resources such as online dictionaries, concordancers, paperback dictionaries, or thesauruses (all available in the lab) to help them learn the target words. They were instructed to write down the information they deemed important into the individualized notebooks. Following the recording of target-word information, the participants answered two comprehension questions posed at the end of the reading passage. After

reading, checking the information on the target words, and completing the vocabulary notebook, the participants left the computer lab with their own vocabulary notebooks and were reminded to review or add new words to their notebooks during off-task time. There was no time limit, and participants in both groups could confer with their peers and leave any time they felt they had completed the tasks.

The manipulation of autonomy is operationalized as the freedom to choose target words in the seven vocabulary notebook tasks. The participants in the experimental group were free to choose their own target words from the reading passages, whereas the participants in the control group were required to learn ten pre-selected target words in each of the seven vocabulary tasks. The VLT (Schmitt et al., 2001) distributed at the beginning of the study was used to select the reading passages for both groups and the target words for the control group. The seven reading passages were newspaper articles from CNN, BBC, and the *Times*. The same reading passages were prepared for the experimental group and the control group, but the pre-selected target words for the control group were highlighted. These pre-selected target words were taken from the frequency levels that had not been mastered by the participants (i.e. words from the 10,000-word level or not included in the most frequent 2,000, 3,000, 5,000 and academic word lists.[1]) The pre-selected target words were piloted with four students from the same institute as the participants. The four students were instructed to use the vocabulary notebooks for all seven reading passages containing the highlighted target words. Words which were considered familiar by all four students were removed from the final list (see Appendix D for a list of pre-selected target words). In informal follow-up interviews with the participants after the vocabulary notebook tasks, the participants from the control group verified that the pre-selected target words were either unknown or unfamiliar to them. Although the control group was required to record word information for the pre-selected words, they were not forbidden to include in the notebook other words from the reading. No such attempt, however, was observed from the control group in the seven vocabulary tasks throughout the research period. The 24 participants in the control group recorded all seventy pre-selected target words from the seven vocabulary notebook sessions.

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[1] We followed Walters and Bozkurt (2009)'s criteria to determine pre-selected target words.

Data Collection and Research Instruments

The source of data collection included questionnaires on task motivation, observations of task engagement, and questionnaires on trait motivation. For task motivation, questionnaires based on the Intrinsic Motivation Inventory (IMI; Ryan, 1982; Ryan, Mims, & Koestner, 1983) were distributed to the participants immediately after completion of tasks on the 2nd, 8th, and 14th weeks (see Appendix B). The IMI was developed based on the motivational constructs of SDT and has been widely adopted by SDT researchers to assess individuals' subjective experiences related to a target activity in which they are engaged (e.g. Niemiec & Ryan, 2009; Przybylski, Weinstein, Murayama, Lynch, & Ryan, 2012).

From six of the subscales in IMI, we chose four which were regarded as the predictors of intrinsic motivation for an activity: perceived choice, perceived competence, interest, and pressure. According to Deci and Ryan (2007), the interest subscale is theorized to be the self-report measure of intrinsic motivation, the perceived choice and perceived competence concepts are positive predictors of both self-report and behavioral measures of intrinsic motivation, and pressure is a negative predictor of intrinsic motivation. The subscales in IMI have been shown to be "factor analytically coherent and stable across a variety of tasks, conditions, and settings" (www.psych.rochester.edu/SDT; see the website for detailed information on general loadings of factor analyses).The standardized version of the IMI, containing a total of 22 items, was used for the present study. All of these items were rated on a seven-point scale ranging from 1 (not at all true) to 7 (very true).

Following Dörnyei and Kormos (2000), task engagement, or learners' motivated behaviors during tasks, was considered as a central criteria variable in this study for two reasons. First, engagement in language tasks is a prerequisite to any learning during the tasks. Without demonstration of a certain amount of motivated language learning behavior and involvement during the tasks, it is unlikely that these tasks are effective in facilitating the learning process. In the present study, for example, successful completion of the vocabulary tasks requires learners to read the texts, notice/identify target words, and actively search for information of target word knowledge using various resources. The learning behaviors demonstrated during the tasks can be seen as an indicator of the level of student engagement. Second, examining actual and observable learner behaviors demonstrated in language tasks may

provide a more valid measure of the significance of motivation in L2 learning than examining motivation-learning outcome relationships. The relationship between motivation and learning outcome is indirect and "motivation as a psychological term is used to refer to the antecedent of action rather than achievement" (Dörnyei & Kormos, 2000, p. 281). Motivated learners usually demonstrate more effort and persistence in their task behaviors, but the devoted learning effort may or may not translate to better learning. Learning outcome is also influenced by a variety of other factors such as learners' ability, styles, or learner-teacher interaction (Dörnyei & Kormos, 2000). In this study, for example, students can have increased vocabulary learning not because of their motivation towards the vocabulary tasks but because they happen to meet the target words outside this research. Therefore, rather than assuming a straightforward relationship between motivation and learning performance, we limit our scope of inquiry to motivation and engagement during vocabulary notebook tasks.[2]

In the present study, observations by four trained raters were conducted to assess participants' task engagement or motivational behaviors during the vocabulary tasks in weeks 2, 8, and 14. An observation sheet was developed as a criterion for trained raters to assess participants' task engagement (see Appendix C). The observation form was developed from previous research on task engagement (e.g. Guilloteaux & Dörnyei, 2008). Three subscales were included in the observation form: attention, participation, and interaction with others. The observation form included 17 items which describe the learners' motivated behaviors during the tasks. The raters rated individual learners based on the observation form with a five-point scale ranging from 1 (never) to 5 (always). Four experienced English teachers were recruited and underwent training. The rater training sessions started with an explanation of the motivated behaviors listed on the observation form. Then, the four raters tried out the observation by rating four students who were invited to carry out a vocabulary learning task in a pilot study. After this first tryout, the raters discussed the experience of rating and

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[2] Instead of learning outcome or course achievement, task engagement has been taken as the dependent variable in recent L2 task motivation studies (i.e. d' Alley, 2004; de Burgh-Hirabe & Feryok, 2013; Freiermuth & Huang, 2012; Wu, Richards, & Saw, 2014). Task engagement is also often used in research of educational psychology (e.g. Furrer & Skinner, 2003; Reeve et al., 2004).

further revised problematic items on the observation form. The revised observation form was again piloted with another vocabulary learning task. The inter-rater reliability reached over 96% in the training sessions. In the formal experiment, one rater was assigned to observe one participant.

Lastly, the participants' trait motivation was measured through the Language Learning Orientation Scale (LLOS; Noels et. al., 2000) questionnaire distributed in the 1st and 14th week. While the task motivation questionnaire asks about learners' experiences with the vocabulary notebook tasks, the LLOS, based on SDT, assesses participants' trait motivation toward English learning. The 21 questionnaire items ask participants why they are learning English and to rate each item with a seven-point scale from completely disagree (1 point) to completely agree (7 points).

RESULTS

The Impact of Autonomy on Motivation and Engagement

To examine the impact of autonomy, one-way MANOVAs were conducted to compare learners' responses in the task motivation questionnaire, raters' observations of task engagement, and participants' responses to LLOS (Noels et al., 2000). Before this statistical procedure, subscales and items were checked for validity and reliability. Cronbach alpha values of each subscale in the task questionnaire and LLOS are shown in Table 1. Except for intrinsic motivation – achievement and intrinsic motivation – knowledge, Cronbach's alpha values were all above .7, achieving the acceptable level for further analysis. Tests of normality showed that no assumption of normality was violated (Shapiro-Wilk of task motivation = .92; Shapiro-Wilk of trait motivation = .89; Shapiro-Wilk of task engagement = .29).

Table 1

Reliability Analysis of Task Motivation Questionnaire and LLOS

Motivational variables	Cronbach's Alpha
Task motivation questionnaire	
Interest	.94
Perceived choice	.85
Perceived competence	.88
Pressure	.88
LLOS	
Amotivation	.81
External regulation	.70
Introjected regulation	.58
Identified regulation	.73
Intrinsic motivation – achievement	.65
Intrinsic motivation – knowledge	.65
Intrinsic motivation – stimulation	.83

Table 2 shows the means and standard deviations of all the dependent variables in the task motivation questionnaire, raters' observation of task engagement, and LLOS. As shown in Table 2, in task motivation, the experimental group exhibited higher mean scores in interest (E group = 5.1; C group = 4.53), perceived choice (E group = 5.92; C group = 5.25), and perceived competence (E group = 4.54; C group = 3.99). Also, the mean score of pressure in the experimental

group was lower than that of the control group (E group = 2.34; C group = 2.58).

Table 2

Descriptive Statistics of Task Motivation, Task Engagement, and Trait Motivation

Dependent variable	Control group (n=24) (pre-selected target words)		Experimental group (n=24) (self-selected target words)	
Task motivation	Mean	SD	Mean	SD
Interest	4.53	.54	5.10	.89
Perceived choice	5.25	.57	5.92	.63
Perceived competence	3.99	.57	4.54	.72
Pressure	2.58	.91	2.34	.84
Task engagement				
Attention	4.56	.11	4.69	.22
Participation	1.24	.29	1.31	.31
Interaction	2.80	.46	3.10	.39
Trait motivation (1st week)				
Amotivation	1.64	.73	1.46	.95
ER	5.31	.98	5.04	.75
InR	3.80	1.41	3.25	1.06
IdR	5.94	.77	5.75	1.07
IMA	5.39	.59	4.91	1.04
IMK	5.49	.86	5.39	.97
IMS	5.20	1.08	5.22	1.23

Table 2

Descriptive Statistics of Task Motivation, Task Engagement, and Trait Motivation (continued)

Trait motivation (14th week)				
Amotivation	1.71	.47	1.49	.60
ER	5.24	.69	5.31	.54
InR	3.72	1.03	3.36	.73
IdR	5.82	.61	5.86	.83
IMA	5.60	.62	5.29	.64
IMK	5.38	.64	5.60	.79
IMS	5.10	.58	5.36	1.03

Note: ER = external regulation, InR = introjected regulation, IdR= identified regulation, IMA = intrinsic motivation – achievement, IMK = intrinsic motivation – knowledge, IMS = intrinsic motivation – stimulation

A one-way MANOVA was conducted to examine the overall effect of group (i.e. provision of autonomy). Table 3 demonstrates that there was a significant multivariate main effect of autonomy on task motivation, $F_{(4, 43)} = 3.48$, $p = .011$, Pillai's Trace = .29, partial eta squared = .29, power to detect the effect is .79. The results suggest that approximately 29% of the variance in the subscales of task motivation can be accounted for by group differences. Using a Bonferroni adjusted alpha level of .025, a significant difference was observed between the experimental and the control group based on the linear combination of the four dependent variables investigated. The effect sizes of interest, perceived choice, and perceived competence can be considered large (partial eta square values ranging from .14 to .24), whereas only a small effect was detected for pressure (partial eta square = .02). Given the significance of the overall test, univariate main effects were examined to identify where the significant difference lies. A significant univariate main effect of group

(autonomy) was found in interest ($p < .01$), perceived choice (p < .001), and perceived competence ($p < .01$), but not in pressure ($p = .34$). The statistical analysis of data from task motivation questionnaires indicated that the participants who were provided with the freedom to choose their own target words during the vocabulary learning tasks demonstrated a significantly higher level of task motivation. They showed greater interest toward the task, and perceived a greater sense of choice and competence. This outcome implies that provision of target word choices may be one of the major positive reinforcements of learners' task motivation.[3]

Table 3

One-Way MANOVA for the Effect of Autonomy on Task Motivation

Dependent variable	Type III sum of squares	Df	Mean square	F	Sig.	Partial eta squared
Interest (k=7)	3.91	1	3.91	7.16	.010**	.14
Perceived choice (k=5)	5.31	1	5.31	14.39	.000***	.24
Perceived competence (k=5)	3.70	1	3.70	8.74	.005**	.16
Pressure (k=5)	.71	1	.71	.92	.34	.02

Note: *** $p < .001$, ** $p < .01$

Task engagement, or individual learners' motivational behavior, was considered one of the positive indicators of task motivation. The

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[3] In regards to the possible reasons contributing to the non-significance of perceived pressure between the two groups, learners from both groups expressed that they felt stressed when their peers completed the tasks faster than they did in informal follow-up interviews. It seems that the worry of being the last to finish the tasks created pressure for the learners in both groups.

measures of task engagement in the present study included three subcategories: attention, participation, and interaction. Table 2 shows that the experimental group demonstrated higher mean scores in attention (E group = 4.69; C group = 4.56), participation (E group = 1.31; C group = 1.24), and interaction (E group = 3.10; C group = 2.80). A one-way MANOVA further revealed a significant multivariate main effect of autonomy, $F (3, 44) = 4.78$, $p = .006$, Pillai's Trace = .25, partial eta squared = .25, power to detect the effect is .80. With a Bonferroni adjusted alpha level of .025, the calculation showed that there was a significant difference between the experimental and the control group among these three variables of task engagement (see Table 4). Medium effect sizes were observed for attention, participation, and interaction (partial eta square values ranging from .02 to .12). Table 4 shows that a significant univariate main effect of group (autonomy) was found in attention ($p < .05$) and interaction ($p < .05$), but not in participation ($p = .40$), indicating that the scores of attention and interaction in the experimental group were significantly higher than those in the control group. Although the experimental group was also rated higher in participation, the difference was not significant.[4] The statistical analysis showed that in general, the participants in the experimental group displayed a higher level of task engagement than those in the control group. With the provided freedom to choose target words, the learners showed a significantly higher level of attention and interaction during the vocabulary notebook tasks.

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[4] The two groups did not differ significantly in their participation. This outcome may be attributed to the defining construct of participation in the classroom observation form. Some of the items in the participation section look into students' eagerness to ask and answer questions as well as their intention in discussing with others. As participants grew more familiar with the tasks in later sessions, they stopped asking questions and did very little discussion. For both groups of learners, the vocabulary notebook tasks seem to become more and more individualized.

Table 4

One-Way MANOVA for the effect of autonomy on task engagement

Dependent variable	Type III sum of squares	df	Mean Square	F	Sig.	Partial eta squared
Attention	.18	1	.18	6.13	.017*	.12
Participation	.07	1	.07	.71	.404	.02
Interaction	1.07	1	1.07	5.96	.019*	.12

Note: * p < .05

LLOS results collected in the 1st week of the research showed no significant difference in the trait motivation of the experimental or the control group. The results of a one-way MANOVA revealed that there was no significant multivariate main effect of group (autonomy), F (7, 40) = 1.90, p = .09, Pillai's Trace = .28, partial eta squared = .28, power to detect the effect is .71. Medium effect sizes were observed from amotivation, identified regulation, and intrinsic motivation – knowledge (partial eta square ranging from .02 to .08; see Table 5). External regulation, introjected regulation, intrinsic motivation – achievement, and intrinsic motivation – stimulation were found to have small effect sizes (partial eta square values equal or less than .01, see Table 5).

Table 5

One-Way MANOVA of Trait Motivation in the 1st Week

Dependent variable	Type III sum of squares	Df	Mean square	F	Sig.	Partial eta squared
Amotivation	.96	1	.96	3.47	.07	.07
ER	.39	1	.39	.55	.46	.01

Table 5

One-Way MANOVA of Trait Motivation in the 1ˢᵗ Week (continued)

InR	.005	1	.005	.004	.95	.00
IdR	.84	1	.84	1.11	.30	.02
IMA	.46	1	.46	.53	.47	.01
IMK	2.68	1	2.68	3.76	.06	.08
IMS	.11	1	.11	.13	.72	.003

Note: ER = external regulation, InR = introjected regulation, IdR= identified regulation, IMA = intrinsic motivation – achievement, IMK = intrinsic motivation – knowledge, IMS = intrinsic motivation - stimulation

In order to inspect the impact of autonomy on trait motivation, a one-way MANOVA was further administered to examine the LLOS results collected in the 14ᵗʰ week. The outcome showed that there was no multivariate main effect of group (autonomy), $F (7, 40) = 2.13$, $p = .062$, Pillai's Trace = .27, partial eta squared = .27, power to detect the effect is .62. Medium effect size values were found for amotivation, introjected regulation, intrinsic motivation – achievement, knowledge, and stimulation (partial eta square values ranging from .02 to .06), while small effect sizes were observed for external regulation and identified regulation (partial eta square less than .01, see Table 6). The absence of the multivariate main effect of group (autonomy) implies that the provision of freedom to choose target words during the vocabulary notebook tasks did not create significant group differences in learners' general attitude and motivation towards English learning.

Table 6

One-Way MANOVA of Trait Motivation in the 14th Week

Dependent variable	Type III sum of squares	df	Mean square	F	Sig.	Partial eta squared
Amotivation	.67	1	.67	2.30	.14	.05
ER	.06	1	.06	.15	.70	.003
InR	1.62	1	1.62	2.00	.16	.04
IdR	.02	1	.02	.04	.84	.001
IMA	1.12	1	1.12	2.80	.10	.06
IMK	.59	1	.59	1.14	.29	.02
IMS	.82	1	.82	1.18	.28	.03

Note: ER = external regulation, IdR= identified regulation, InR = introjected regulation, IMA = intrinsic motivation – achievement, IMK = intrinsic motivation – knowledge, IMS = intrinsic motivation – stimulation

Changes of Task Motivation and Engagement over 14 Weeks

To answer the question of how learners' task motivation fluctuated over time, quantitative data obtained from task motivation questionnaires and observation of task engagement were analyzed separately by using two-way mixed-model ANOVAs for examining the main effect of week (time), group (autonomy), and the interaction between the two.

The means and standard deviations of task motivation in each group at the 2nd, 8th, and 14th week are presented in Figure 1. As shown in Figure 1, task motivation in both groups declined from the 2nd week to the 8th week, but climbed back to a level similar to that of the initial week at the 14th week.
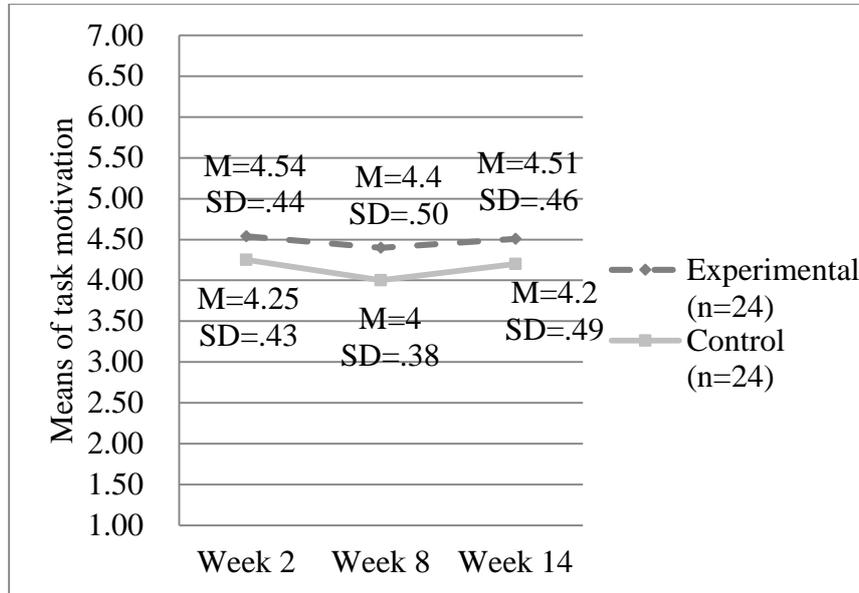
Figure 1. Task motivation over 14 weeks

A two-way mixed-model ANOVA with group (control/experimental) as the between-participants factor and week (2nd, 8th, 14th) as the within-participants factor was conducted to test the effects of time and group as well as their interaction. Table 7 reveals a main effect of week ($F = 5.66$, p < .01), indicating that there was a significant difference in task motivation in the 2nd, 8th, and 14th weeks. The analysis also showed a main effect of group ($F = 7.70$, p < .01), with task motivation in the experimental group significantly higher than that of the control group at the 2nd, 8th, and 14th week.

Table 7

Repeated Measures Two-Way ANOVA for Task Motivation

	df	MS	*F*	Sig.	Partial eta squared
Week	2	.459	5.66	.005**	.127
Group	1	3.40	7.70	.009**	.165
Week * group	2	.034	.42	.655	.011

** $p < .01$

A pairwise comparison was run to examine which week was significantly different from others. The results shows that task motivation in the 2nd week was significantly higher than in the 8th week (MD = .20, $p < .01$), and task motivation in the 14th week was also significantly higher than in the 8th week (MD = .16, $p < .01$). It seems that there was a significant declination of task motivation from the 2nd week to the 8th week. After this drop, there was a significant gain of task motivation from the 8th week to the 14th week. Despite the same settings and procedures of the vocabulary learning activities, learners' task motivation did not remain stable and unchanged over time.

The data of task engagement was collected through three observations. The means and standard deviations of task engagement in the experimental and control group at the 2nd, 8th, and 14th week are presented in Figure 2. The level of task engagement declined from the 2nd to the 8th week, and continued to decrease from the 8th to the 14th week.
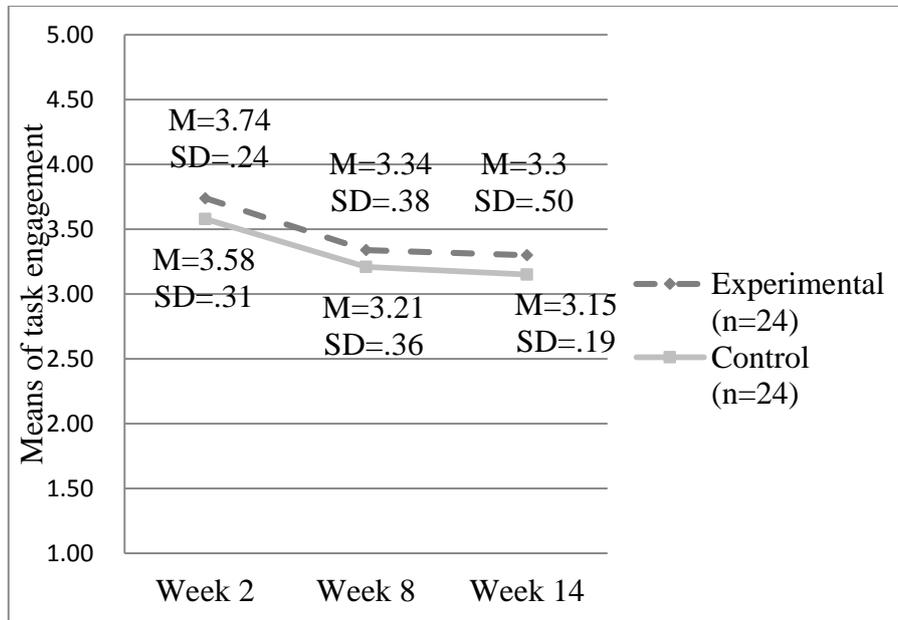
Figure 2. *Task engagement over 14 weeks*

A two-way mixed-model ANOVA with group (control/experimental) as the between-subject factor and week (2nd, 8th, 14th) as the within-subject factor was conducted to test the effects of time and group as well as their interaction. As shown in Table 8, there are main effects of week ($F = 16.33$, $p < .001$) and group ($F = 4.31$, $p < .05$) on task engagement, but no interaction between these two variables. These results indicate that there was a significant difference in task engagement at the 2nd, 8th, and 14th weeks, and task engagement in the experimental group was significantly higher than in the control group at the 2nd, 8th, and 14th weeks.

Table 8

Repeated Measures Two-Way ANOVA for Task Engagement

	df	MS	*F*	Sig.	Partial eta squared
Week	2	1.80	16.33	.000***	.318
Group	1	.632	4.31	.043*	.110
Week * group	2	.018	.17	.847	.005

Note: *** $p < .001$, * $p < .05$

A follow-up pairwise comparison shows that the participants' task engagement in the 2nd week was significantly higher than that in the 8th week (MD = .388, $p < .001$) and in the 14th week (MD = .429, $p < .001$), but the difference between the 8th and 14th week was not significant (MD = .041, $p = .579$). In other words, the participants' task engagement dropped significantly from week 2 to week 8, and their task engagement continued to decrease from week 8 to week 14, but the decline was milder during this period.

Interestingly, as observed in Figure 1 and Figure 2, the participants' task motivation and task engagement both dropped from week 2 to week 8, but their task motivation and engagement diverged from week 8 to week 14. Their task motivation increased from week 8 to week 14, while their task engagement continued to decline.

DISCUSSION

The current study investigates EFL college learners' motivation and engagement with English vocabulary learning tasks. By adopting self-determination theory (SDT) (Deci & Ryan, 1985, 2000), the study looked into the impact of autonomy on college students' motivation and engagement with vocabulary notebook tasks. The results demonstrate that the participants who were given the freedom to choose their own target words showed higher task motivation and task engagement than

those who were required to learn pre-selected target words. Learners' general attitude toward L2 (i.e. trait motivation), however, was not influenced by the provision of choice in the vocabulary learning tasks. The 14-week experimental research also depicts the fluctuation of task motivation and engagement over time. Even with the same settings and task procedures, learners' task motivation and engagement did not stay stable and unchanged.

While previous L2 motivation research has investigated through SDT the combinative effects of learning contexts such as teachers' teaching and communicative styles (Noels et al., 1999; Pae & Shin, 2011; Wu, 2003), the present study examines how pedagogical designs which support learner autonomy could encourage motivation. Our findings support the facilitative effect of autonomy on individuals' task motivation and are consistent with previous educational and L2 motivation studies based on SDT (Bao & Lam, 2008; Cordova & Lepper, 1996; Pae & Shin, 2011; Patall et al., 2008; Patall et al., 2010; Reeve, Jang, Carrell, Jeon, & Barch, 2004; Wu, 2003).

SDT perspectives emphasize the importance of providing the freedom to make personal choices. Providing choice is regarded as the most direct and obvious means of supporting students' need for autonomy (Patall et al., 2010). Our findings suggest that having the freedom to choose target words in the vocabulary learning tasks can satisfy learners' perceived sense of autonomy and enhance their task motivation. Freedom to choose target words can give students the accurate impression that they are respected by their instructors as independent learners. For more advanced learners who are encountering novel words from diverse resources both inside and outside the classroom, vocabulary tasks that involve choice may be particularly facilitative of their task motivation.

The motivation of participants from the control group is also noteworthy. Participation in the present study was voluntary and the drop-out rate was surprisingly low for both the experimental and control groups, considering that this was a 14-week study. Although the participants in the control group exhibited a lower level of task motivation and engagement throughout the research, all learners in the control group completed the seven vocabulary learning tasks within the 14 weeks. One possible explanation as to why the control group was able to sustain their motivation could be that the tasks gave learners the freedom to select the resources and tools to help them learn pre-selected

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target words. Moreover, the learners were free to write down any information they deemed important in their vocabulary notebooks. Despite the fact that the target words in the notebook activities were pre-selected, presenting learners with decision-making opportunities at different stages of the tasks somewhat supported their sense of autonomy.

It should be noted, however, that simply providing choices is not itself motivating (Katz & Assor, 2007). The nature of the choices provided during instruction must be consistent with students' interests, values, and goals so that the choices can be perceived as meaningful to have motivational effects. In the present study, students in both the control and experimental groups did not have the freedom to choose reading texts. At the same time, they all had the freedom in selecting resources to use for checking word information as well as the kind of information to be included in their vocabulary notebooks. At the end of the research period, it was the students from the experimental group, the ones who made choices in target word selection, that had a more intrinsically motivated experience in doing the vocabulary notebook tasks. Compared with other choices offered throughout the notebook tasks, target word selection seems to have a relatively stronger impact on learners' sense of psychological freedom and volition. While past studies have reported contradictory results as to whether vocabulary notebooks can facilitate learner autonomy or motivation, findings from the present study underscore the importance of providing choice in target word selection during vocabulary notebook tasks.

The 14-week research also documented the dynamicity of task motivation (Dörnyei, 2001; Shoaib & Dörnyei, 2005; Ushioda, 1996; 2001). Even with the same task design, learners' task motivation and task engagement did not remain consistent. In both the experimental and control groups, there was a significant drop in task motivation and task engagement from week 2 to week 8, followed by a significant recovery in task motivation and a continuous decrease in task engagement from week 8 to week 14. The difference between task motivation and task engagement on week 14 is interesting. We suspect that this difference might be related to the nature of the two variables and how the data were collected. First, the measure of task motivation focused on participants' psychological states (interestedness, autonomy in having choice, pressure) and ability (competence), while the measure of task engagement focused on the participants' actual learning behaviors.

Second, the level of task motivation was self-evaluated (self-reported data), whereas the level of task engagement was judged by trained raters. It is possible that while the participants think that their level of task motivation at the 14th week was similar to that at the 2nd week, their outward behaviors observed by the raters were not comparable and seemed to decline. Task motivation is increasingly being depicted as continuous evolution, influenced by the interaction between various contextual and internal factors. Further qualitative investigation is needed to identify the internal and contextual variables that may work together to contribute to the drop and rise in task motivation and engagement.

While the present study found that task motivation is dynamic in nature, the elevation of task motivation through manipulation of personal choices in vocabulary learning tasks did not generate group differences in learners' general motivation toward English learning. It seems that trait motivation cannot easily be influenced by implementing a few well-designed pedagogical tasks or with a couple of hours' positive learning experience in the classroom. Fostering learners' trait motivation may require not only a prolonged period of positive learning experiences but also a variety of pedagogical tasks. Task motivation encouraged by different tasks may collaboratively react upon one's trait motivation for overall English learning. The combinative function of task motivation and how such motivation influences trait motivation in the long term could be a fruitful future research direction in L2 motivation.

CONCLUSION

This study has discussed the impact of autonomy on EFL college learners' task motivation and engagement with vocabulary learning tasks. The main findings were: (1) in accordance with SDT (Deci & Ryan, 1985, 2000), when provided with the freedom to choose their own target words, learners showed higher task motivation and task engagement; (2) learners' trait motivation was not influenced by the provision of choice in the vocabulary learning tasks; and (3) learners' task motivation fluctuated and exhibited dynamicity.

The following limitations need to be addressed. First, the acquisition of target words from the two groups was not investigated. With the incremental, multidimensional, and individualized nature of L2 vocabulary learning, longitudinal case studies designed to capture the

interaction of individual learners' motivational changes and word acquisition could provide insights into both L2 motivation and L2 vocabulary development. Further studies could be conducted to track whether provision of choice in target word selection influence vocabulary acquisition. Second, we only used questionnaires and observations to quantitatively measure task motivation. Incorporation of qualitative inspection such as retrospective interviews or think-aloud protocols would provide more understanding into learners' engagement with vocabulary learning tasks and help identify potential variables that generate the rise and fall of task motivation. Third, this study only lasted for 14 weeks. A longer research span could incorporate the complexity and interaction of task and trait motivation over time. Lastly, this investigation used only vocabulary learning tasks. The impact of autonomy on task motivation was significant probably due to the individualized nature of vocabulary learning. For oral argumentative tasks, which rely heavily on cooperation among different learners, other essential components in SDT such as relatedness may play a more crucial role. L2 motivation research should explore task motivation with different pedagogical tasks in future studies.

Despite the limitations, the study offers valuable pedagogical suggestions. If supported, learners' autonomy can greatly enhance their motivation in completing vocabulary learning tasks. The freedom of choice in target word selection is particularly motivating for vocabulary notebook tasks. In addition to the selection of target words, decision-making opportunities can be implemented at various stages of vocabulary learning to enhance autonomy. Providing learners with a choice of reading texts, tools, and resources for vocabulary learning or the freedom to decide the means of assessing the learning outcome can contribute to creating an autonomy-supportive vocabulary learning task. In fact, the notebook tasks used in the present study, which trained learners to independently collect, record, organize and review target words in their vocabulary notebooks, go hand in hand with the concept of autonomy proposed by SDT. Instruction of this autonomous vocabulary learning strategy can be implemented with a scheduled plan moving from limited autonomy to full independence in order to encourage long-term vocabulary learning motivation.

REFERENCES

Bao, X., & Lam, S. (2008). Who makes the choice? Rethinking the role of autonomy and relatedness in Chinese children's motivation. *Child Development, 79*, 269–283.

Bernaus, M., Moore, E., & Azevedo, A. C. (2007). Affective factors influencing plurilingual students' acquisition of Catalan in a Catalan-Spanish bilingual context. *Modern Language Journal, 91*, 235–246.

Boekaerts, M. (2002). The on-line motivation questionnaire: A self-report instrument to assess students' context sensitivity. In P. R. Pintrich & M. L. Maehr (Eds.), *Advances in motivation and achievement: Vol. 12. New directions in measures and methods* (pp. 77–120). Amsterdam, the Netherlands: JAI Press.

Cordova, D. I., & Lepper, M. R. (1996). Intrinsic motivation and the process of learning: Beneficial effects of contextualization, personalization, and choice. *Journal of Educational Psychology, 88*, 715–730.

Crookes, G., & Gass, S. M. (Eds.). (1993). *Tasks in a pedagogical context: Integrating theory and practice*. Clevedon: Multilingual Matters.

Crookes, G., & Schmidt, R. (1991). Motivation: Reopening the research agenda. *Language Learning, 41*, 469–512.

D'Ailly, H. (2004). The role of choice in children's learning: A distinctive cultural and gender difference in efficacy, interest, and effort. *Canadian Journal of Behavioral Science*, *36*(1), 17-29.

de Burgh-Hirabe, R., & Feryok, A. (2013). A model of motivation for extensive reading in Japanese as a foreign language. *Reading in a Foreign Language*, *25*(1), 72–93.

Deci, E. L., & Ryan, R. M. (Eds.). (1985). *Intrinsic motivation and self-determination in human behavior*. NY: Plenum Press.

Deci, E. L., & Ryan, R. M. (2000). The "What" and "Why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227-268.

Deci, E. L., & Ryan, R. M. (2007). *SDT: Questionnaires: Intrinsic motivation inventory (IMI)*. Retrieved from http://www.psych.rochester.edu/ SDT/measures/intrins.html

Dörnyei, Z. (2000). Motivation in action: Towards a process-oriented conceptualisation of student motivation. *British Journal of Educational Psychology, 70*, 519–538.

Dörnyei, Z. (2001). New themes and approaches in L2 motivation research. *Annual Review of Applied Linguistics, 21*, 43–59.

Dörnyei, Z. (2003). Attitudes, orientations, and motivations in language learning: Advances in theory, research, and applications. *Language Learning, 53*(1), 3–32.

Dörnyei, Z. (Ed.). (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Mahwah, NJ: Lawrence Erlbaum.

Dörnyei, Z., & Kormos, J. (2000). The role of individual and social variables in oral task performance. *Language Teaching Research, 4*, 275–300.

Dörnyei, Z., & Ottó, I. (1998). Motivation in action: A process model of L2 motivation. *Working Papers in Applied Linguistics, 4*, 43-69.

Dörnyei, Z., & Tseng, W. T. (2009). Motivational processing in interactional tasks. In A. Mackey & C. Polio (Eds.), *Multiple perspectives on interaction: Second language research in honor of Susan M. Gass* (pp. 117–134). Mahwah, NJ: Lawrence Erlbaum.

Fowle, C. (2002). Vocabulary notebooks: Implementation and outcomes. *English Language Teaching Journal, 56*, 380–388.

Freiermuth, M. R., & Huang, H. C. (2012). Bridging Japan and Taiwan closer electronically: A look at an intercultural online synchronic chat task and its effect on motivation. *Language Teaching Research, 16* (1), 61-88.

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of educational psychology, 95*(1), 148-162.

Gardner, R., & Lambert, W. E. (1972). *Attitudes and motivation in second language learning.* Rowley, MA: Newbury House.

Gardner, R. C., Masgoret, A. M., Tennant, J., & Mihic, L. (2004). Integrative motivation: Changes during a year-long intermediate-level language course. *Language Learning, 54*(1), 1–34.

Guilloteaux, M. J., & Dörnyei, Z. (2008). Motivating language learners: A classroom-oriented investigation of the effects of motivational strategies on student motivation. *TESOL Quarterly, 42*(1), 55–77.

Iyengar, S. S., & Lepper, M. R. (1999). Rethinking the value of choice: A cultural perspective on intrinsic motivation. *Journal of Personality and Social Psychology, 76*, 349–366.

Iyengar, S. S., & Lepper, M. R. (2000). When choice is demotivating: Can one desire too much of a good thing?. *Journal of Personality and Social Psychology, 79*(6), 995-1006.

Joyce, P., & Sippel, C. (2004). Broadening students' lexicon: An investigation into learning methodologies. *Working Papers in Language Education, Research Institute of Language Studies and Language Education*, *Kanda University of International Studies, 1*, 137-152.

Julkunen, K. (1989). *Situation- and task-specific motivation in foreign language learning.* Joensuu, Finland: University of Joensuu.

Katz, I., & Assor, A. (2007). When choice motivates and when it does not. *Educational Psychology Review, 19*, 429-442.

Lewis, M. (2000). *Teaching collocation.* London: Thomson Heinle.

Little, D. (2004). Democracy, discourse and learner autonomy in the foreign language classroom. *Utbildning & Demokrati, 13*(3), 105–126.

McCarthy, M. (1990). *Vocabulary.* Oxford: Oxford University Press.

McCrostie, J. (2007). Examining learner vocabulary notebooks. ELT Journal, *61*, 246-255.

McGroarty, M. (2001). Situating second language motivation. In Z. Dörnyei & R. Schmidt (Eds.), *Motivation and second language learning* (pp.69-90). Honolulu, HI: University of Hawaii Press.

Nation, I. S. P. (2001). *Learning vocabulary in another language.* Cambridge, England:

Cambridge University Press.

Nation, I. S. P (2005). Teaching and learning vocabulary. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (pp. 581–595). Mahwah, NJ: Lawrence Erlbaum.

Nation, I. S. P (2008)*. Teaching vocabulary: Strategies and techniques.* Boston: Heinle Cengage Learning.

Nation, I. S. P. (2012) Teaching language in use: Vocabulary. In M. Eisenmann & T. Summer (Eds.) *Basic issues in EFL teaching and learning* (pp. 103-116). Heidelberg: University Winter Verlag.

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education, 7*, 133–144.

Noels, K. A. (2001a). New orientations in language learning motivation: Towards a model of intrinsic, extrinsic and integrated orientations. In Z. Dörnyei & R. Schmidt (Eds.), *Motivation and second language acquisition* (pp. 43–68). Honolulu, HI: University of Hawaii Press.

Noels, K. A. (2001b). Learning Spanish as a second language: Learners' orientations and perceptions of their teachers' communication style. *Language Learning*, *51*(1), 107–144.

Noels, K. A., Clement, R., & Pelletier, L. G. (1999). Perceptions of teacher communicative style and students' intrinsic and extrinsic motivation. *Modern Language Journal, 83*, 23–34.

Noels, K., Clément, R., & Pelletier, L. (2001). Intrinsic, extrinsic, and integrative orientations of French Canadian learners of English. *Canadian Modern Language Review*, *57*, 424-442.

Noels, K. A., Pelletier, L. G., Clement, R., & Vallerand, R. J. (2000). Why are you learning a second language? Motivational orientations and self-determination theory. *Language Learning, 50*(1), 57–85.

Oxford, R. (1996). New pathways of language learning motivation. In R. L. Oxford (Ed.), *Language learning motivation: Pathways to the new century* (pp. 1–8). Honolulu, HI: University of Hawaii Press.

Pae, T. I., & Shin, S. K. (2011). Examining the effects of differential instructional methods on the model of foreign language achievement. *Learning and Individual Differences, 21*, 215–222. doi: 10.1016/j.lindif.2010.11.023

Patall, E. A., Cooper, H., & Robinson, J. C. (2008). The effects of choice on intrinsic motivation and related outcomes: A meta-analysis of research findings. *Psychological Bulletin, 134*, 270–300.

Patall, E. A., Cooper, H., & Wynn, S. R. (2010). The effectiveness and relative importance of choice in the classroom. *Journal of Educational Psychology, 102*, 896–915.

Poupore, G. (2013). Task motivation in process: A complex systems perspective. *The Canadian Modern Language Review*, *69*(1), 91–116.

Przybylski, A., Weinstein, N., Murayama, N., Lynch, M., & Ryan, M. (2012). The ideal

self at play: The appeal of video games that let you be all you can be. *Psychological Science, 23*(1), 69–76.

Reeve, J., Deci, E. L., & Ryan, R. M. (2004). Self-determination theory: A dialectical framework for understanding sociocultural influences on student motivation. In D. M. McInerney & S. V. Etten (Eds.), *Big theories revisited*: Vol. *4 in: Research on sociocultural influences on motivation and learning* (pp.31-60). USA: Information Age Publishing.

Reeve, J., Jang, H., Carrell, D., Jeon, S., & Barch, J. (2004). Enhancing students' engagement by increasing teachers' autonomy support. *Motivation and Emotion, 28*, 147–169.

Robinson, P. (1995). Task complexity and second language narrative discourse. *Language Learning, 45*(1), 99–140.

Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology, 43*, 450–461.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54–67.

Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will? *Journal of Personality, 74,* 1557-1585.

Ryan, R. M., Mims, V., & Koestner, R. (1983). Relation of reward contingency and interpersonal context to intrinsic motivation: A review and test using cognitive evaluation theory. *Journal of Personality and Social Psychology*, *45*, 736-750

Skehan, P. (1998). Task-based instruction. *Annual Review of Applied Linguistics, 18*, 268–286.

Schmitt, N. (2008). Instructed second language vocabulary learning. *Language Teaching Research, 12*, 329–363.

Schmitt, N., & Schmitt, D. (1995). Vocabulary notebooks: Theoretical underpinnings and practical suggestions. *ELT Journal, 49*, 133–143.

Schmitt, N., Schmitt, D., & Clapham, C. (2001). Developing and exploring the behavior of two new versions of the Vocabulary Levels Test. *Language Testing, 18*(1), 55–88.

Shoaib, A., & Dörnyei, Z. (2005). Affect in life-long learning: Exploring L2 motivation as a dynamic process. In P. Benson & D. Nunan (Eds.), *Learners' stories: differences and diversity in language learning* (pp. 22–41). Cambridge, England: Cambridge University Press.

Ushioda, E. (1996). Developing a dynamic concept of L2 motivation. In T. Hickey & J. Williams (Eds.), *Language, education and society in a changing world* (pp. 239–245). Clevedon: Multilingual Matters.

Ushioda, E. (2001). Language learning at university: Exploring the role of motivational thinking. In Z. Dörnyei & R. Schmitt (Eds.), *Motivation and second language acquisition* (pp. 93–125). Honolulu, HI: University of Hawaii.

Walters, J., & Bozkurt, N. (2009). The effect of keeping vocabulary notebooks on vocabulary acquisition. *Language Teaching Research, 13*, 403–423.

Han-Chung Wang, Hung-Tzu Huang, & Chun-Chieh Hsu

Williams, M., Burden, R., & Lanvers, U. (2002). "French is the language of love and stuff": Student perceptions of issues related to motivation in learning a foreign language. *British Educational Research Journal*, *28*, 504–528.

Wu, M. L., Richards, K., & Saw, G. K. (2014). Examining a massive multiplayer online role-playing game as a digital game-based learning platform. *Computers in the Schools, 31*(1/2), 65-83.

Wu, X. (2003). Intrinsic motivation and young language learners: The impact of the classroom environment. *System, 31*, 501–551.

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CORRESPONDENCE

Han-Chung Wang, Department of Foreign Languages and Literature, National Cheng Kung University, Taiwan
Email: shark49212042@gmail.com

Hung-Tzu Huang, Department of Foreign Languages and Literature, National Tsing Hua University, Taiwan
E-mail: hthuang@mx.nthu.edu.tw

Chun-Chieh Hsu, Department of Foreign Languages and Literature, National Tsing Hua University, Taiwan
Email: cchsu@mx.nthu.edu.tw

PUBLISHING RECORD

APPENDIX

Appendix A. Samples of students' vocabulary notebooks

Appendix A. Samples of students' vocabulary notebooks (continued)

_____'s Vocabulary Notebook

The target word:	The times you use, revise or add new information on the log
Stigma 恥辱、污名 (n.)	/// 下

Word information:

1. A mark on skin
2. a symbol of disgrace of infamy
3.

Similar words
1. disgrace
2. mark
3. shame
4.

Appendix B. Task motivation questionnaire (adopted from Ryan, 1982)

Interest/Enjoyment
a. While I was working on the task I was thinking about how much I enjoyed it.
b. I found the task very interesting.
c. Doing the task was fun.
d. I enjoyed doing the task very much.
e. I thought the task was very boring.
f. I thought the task was very interesting.
g. I would describe the task as very enjoyable.
Perceived Competence
a. I think I am pretty good at this task.
b. I think I did pretty well at this activity, compared to other students.
c. I am satisfied with my performance at this task.
d. I felt pretty skilled at this task.
e. After working at this task for a while, I felt pretty competent.
Perceived Choice
a. I felt that it was my choice to do the task.
b. I didn't really have a choice about doing the task. (reverse item)
c. I felt like I was doing what I wanted to do while I was working on the task.
d. I felt like I had to do the task. (reverse item)
e. I did the task because I had no choice. (reverse item)
Pressure/Tension
a. I did not feel at all nervous about doing the task.
b. I felt tense while doing the task. (reverse item)
c. I felt relaxed while doing the task.
d. I was anxious while doing the task. (reverse item)
e. I felt pressured while doing the task. (reverse item)

Appendix C. Task engagement observation form

Attention
a. The participants do not display any disruptive behaviors such as checking cellphones or chatting with peers when the instructor gives instructions.
b. The participants focus on listening to the instructions and looking at the handouts or the blackboard when the instructor gives instructions.
c. The participants keep looking at the reading passages, vocabulary notebook, or the computer screen when doing the vocabulary learning tasks.
d. The participants do not randomly walk around the classroom or leave the class before completing the vocabulary learning tasks.
e. While using the computer, the participants do not check websites which are not related to the vocabulary learning tasks.
f. The participants do not chat with their friends about irrelevant topics when doing the vocabulary learning tasks.
g. The participants do not display passive attitudes such as nodding off when doing the vocabulary learning task.
Participation
a. The participants actively raise questions when the instructor gives instructions.
b. The participants discuss with their peers or the instructor about the tasks when they do not understand what to do.
c. The participants actively work on the task. They efficiently check target word information and write down information into the notebook.
d. The participants try different resources during the task to learn target words (ex. online websites, paperback dictionaries, thesauruses, etc.).
e. The participants plan and organize the information to be written in the notebook.
f. The participants double-check what they wrote down in the notebook.
g. The participants review/study the target words after writing down target word information into the notebook.
h. The participants write a lot of information in the notebook.
Interaction
a. The participants discuss target word information with the instructor or peers during the task.
b. The participants ask for the instructor's feedback during the task.

Appendix D. Pre-selected target words

Task 1				
marginalize	dissonance	stint	fetching	stigma
authenticity	thrift	rudimentary	allotted	hurdle
Task 2				
obesity	verdict	gist	ambiguity	impending
cardiac	coincide	mutation	sedentary	frontier
Task 3				
empathy	prowess	cornerstone	posture	conservatism
collating	toddler	primate	sapping	ominous
Task 4				
delve	contrive	excerpt	impersonating	auctioneer
plethora	deception	guru	hypnotize	hone
Task 5				
saddle	shun	knottier	bureau	androgynous
vigilant	succumb	pluck	emblazon	ilk
Task 6				
hospitality	ledge	defects	chronic	geriatrician
off-shored	agriculture	fledged	patent	overhaul
Task 7				
booze	attorney	chugging	dehydrate	patron
intoxicate	purport	touting	irreversible	nauseous

Han-Chung Wang, Hung-Tzu Huang, & Chun-Chieh Hsu

選擇權對於英文單字學習動機及活動參與度之影響

王瀚中
國立成功大學外國語文學系
黃虹慈
國立清華大學外國語文學系
許淳潔
國立清華大學外國語文學系

根據自我決定理論，本研究調查自主性對於台灣大學生在英文單字學習活動的動機及參與度之影響。從問卷和教室觀察發現，可自由選擇目標單字的學生比不能自由選擇目標單字的學生表現出較高的動機和參與度，但學生對英文的整體學習態度並未受到自主性提供與否而改變。另外，本研究也描述了學生在進行為期十四週的單字學習活動時學習動機和活動參與度的波動變化。研究結果顯示提供自主性的單字學習活動可提高學習動機。

關鍵詞： 自我決定理論、學習動機、字彙學習、自主性