
[Article]

A Voluntary Vocabulary Test Viewed through Self-Determination Theory

自己決定理論による
自発的ボキャブラリー・テスト利用の評価

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Abstract

In second language learning contexts, instructors push and support learners' vocabulary study. At a regional university where freshman students were studying vocabulary at different levels, an opportunity to take a 'level up test' was given. The test was voluntary and would not influence course grades. However, 23% of students registered for the test and did some independent vocabulary study. What factors influenced these students to choose to register for the level up test and do unrequired vocabulary study? Self-Determination Theory ideas about types of motivations and importance of choice were used to reflect on the level up test. The level up test seems to have prompted engagement in vocabulary study because it could increase their self-esteem and offered a challenge that aligned with students' goals.

〈Keywords〉 Self-Determination Theory, vocabulary, motivation

Introduction

In second language learning contexts, instructors push and support learners' vocabulary study. At The University of Nagano, English courses with a focus on fluency include independent study of vocabulary using a list of the most commonly used English words. In the beginning of the 2022 academic year, student's vocabulary knowledge was assessed to determine the level that each student would begin to study. Then students studied their assigned level independently and were tested on

that level at the end of each term. Mid-way through the year, students were told of a 'level up test'; an opportunity to take an end-of-term test and possibly rise up to the next level. The test was voluntary and would not influence course grades. Registration for the test was required; 63 of 266 students registered. What factors influenced these students to choose to register for the level up test and do unrequired vocabulary study?

Self-Determination Theory is an approach to understanding motivation which suggests that choice may be a factor in students' autonomous motivation (Deci & Ryan, 2000). This paper will describe Self-Determination Theory and the role of choice in motivation. Then, data collected from students who registered for the level up test will be explained. Finally, the role of choice in student motivation and engagement will be discussed.

Self-Determination Theory and Choice

Self-Determination Theory is a metatheory of human motivation and well-being which is frequently applied to the field of education and student motivation. In this theory, motivations for behavior are viewed from the perspective that people tend to move toward actions that are pleasant and align with their own values and identity. Intrinsic motivation arises from the fulfillment of three psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2000). The need for autonomy refers to a desire to initiate and choose activities that align with one's interests and values. The need for competence refers to a desire to do well and master a skill. The need for relatedness refers to a desire for supportive relationships within one's learning environment. When these fundamental needs are satisfied, a person's behavior originates from self (self-determined) and is intrinsically motivated. An educational environment that includes, "choice, acknowledgment of feelings, and opportunities for self-direction were found to enhance intrinsic motivation because they allow people a greater feeling of autonomy" (Ryan & Deci, 2000, p. 70). A long line of research suggests that when learners' needs for autonomy, competence and relatedness are satisfied, there are positive educational outcomes (Deci, E. L. & Ryan, R. M. 2000; Guay, 2022; Howard et al. 2021, Jang, Reeve & Halusic, 2016; Reeve, 2016). Self-Determination Theory describes various types of motivations, and how they affect behavior and well-being.

Motivation can be viewed on a continuum from amotivation (a lack of self-determination) to intrinsic motivation (high self-determination, see Figure 1). Types of motivation are described as being controlled by external forces or autonomous and

initiated by self (Guay, 2022). External regulation (extrinsic motivation) occurs when a person does a task only to receive a reward or avoid punishment which is controlled by others. Similarly, introjected regulation occurs when a person understands the value of a task controlled by others and does the task out of obligation or a desire to protect their self-esteem (ego) in the eyes of others. Next, moving toward autonomy, identified regulation occurs when a person sees that a task has value because it aligns with their own goal. Integration motivation is when a person sees a task as personally important and aligning with their own identity. In this type of motivation, a task which originated as external has become internalized as their own. Therefore, the degree to which students view a task to align with their values and needs determines the level of integration (into autonomous motivation) of a task.

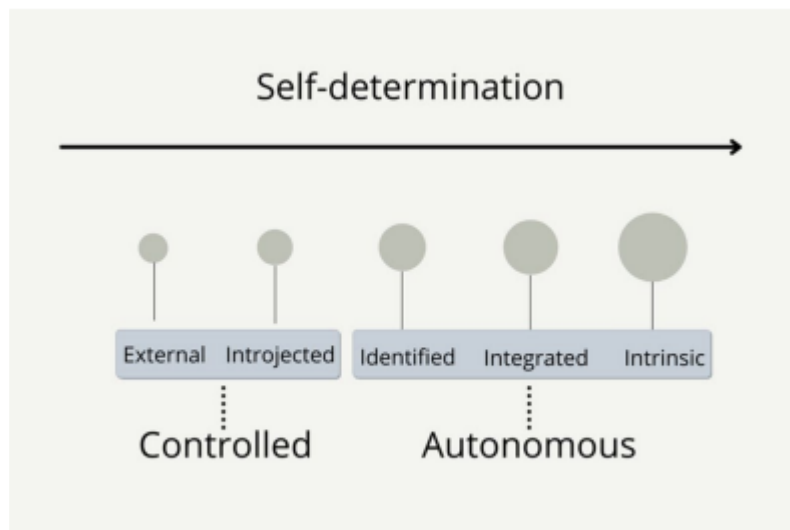


Figure 1. Self-determination continuum (Guay, 2022)

A distinguishing element of Self-Determination Theory is the focus on autonomy. Autonomy in Self-Determination Theory should not be confused with independence or individualism, but with a feeling of volition to do an activity (Ryan & Deci, 2000). Reeve defines autonomy as “the need to be the origin of one’s behavior. The inner endorsement of one’s thoughts (goals), feelings and behaviors” (Reeve, 2016, p. 140). Autonomy was described as having three qualities, 1) perceived locus of causality in which individuals feel that they initiate and regulate their action, 2) volition in which individuals feel free to continue an action without being forced, and 3) perceived choice in which there are opportunities to choose among options (Reeve, Nix & Hamm, 2003). The inclusion of choice led educators to wonder if providing options

to students would increase their motivation to do a task.

These three qualities of autonomy were tested with university students who read classroom-like scenarios (Reeve, Nix and Hamm, 2003). Autonomy of each scenario was evaluated by the degree that students felt pleasure and interest in the activity described in the scenarios. Perceived locus of causality was described as “what I wanted to do” and volition was described as “felt free” and “unpressured” in the scenario (2003, p. 379). When examining perceived choice, two kinds of choices were involved, *action choices and option choices* (2003, p. 387). Action choices include opportunities for learners to suggest how to do a task, for example, how to use their time. Whereas option choices did not allow learners to suggest their own ideas, they would only pick among options which were already prepared. The action choices gave students a sense of autonomy, however an option choice had little effect on students’ enjoyment or sense of self-determination. Thus, the feeling of initiating an activity and/or being able to do it freely is a key for feeling autonomy. Choice in itself was not a source of self-determination.

The relationship between choice and self-determination was further analyzed in a study that overviewed previous research on the effect of choice on student motivation (Katz & Assor, 2006). Choices that align with students’ desires and goals were found to lead to a sense of self-determination and intrinsic motivation. For example, a choice that was an appropriate challenge for student abilities and led to growth in competence, aligned with students’ goals, and thus was a choice that supported self-determination. On the other hand, inappropriate choices that were too easy or too difficult decreased motivation. Likewise, merely picking a random choice of unknown consequences did not stimulate motivation due to the lack of connection to students’ goals. Katz and Assor suggested that a choice may threaten learners’ needs for relatedness to peers and thus have a negative effect. They summarize, “In order for choice to be motivating, it has to be based on a careful match between the various options and the students’ needs, interests, goals, abilities, and cultural background” (p. 439).

The effect of choice on learners has also been explored in relation to learner engagement in the classroom. The concept of engagement, although similar to motivation, includes action on a task in a particular environment. Thus, motivation is the “intent and desire to learn” and engagement is “tangible efforts” overtly made by the learner (Hiver, Mercer & Al-Hoorie, 2021, p. 280). While Self-Determination Theory and motivation research aim to measure inner thoughts and desires of learners, engagement research aims to measure behavior on a task. Engagement in

second language learning is particularly important because long-term effort is needed for success. The effect of choice on engagement in L2 speaking tasks has been explored by Phung, Nakamura & Reinders (2021). Their studies suggest that when students can choose their own discussion topics, they experience more enjoyment and autonomy. Thus, choice options with self-expression may be a key to supporting engagement in classroom activities.

Research Context

At the University of Nagano, English courses with a focus on fluency, include vocabulary study. Vocabulary in the New General Service List (NGSL), a list of the most frequent 2801 words of English, is used (Browne, C., Culligan, B. & Phillips, J. 2013). At the University of Nagano, the list is divided into 5 levels from Level 1 (most frequent) to Level 5 (less frequent). From 2018 to 2021 all students studied the same level, beginning with Level 1, and then studying the next level the next quarter. There was a test at the end of each quarter on the level for that quarter. However, instructors noticed that some students who did not need to study words in Level 1 and 2, failed to engage in learning vocabulary at higher levels. In 2022, instructors decided to measure students' levels of vocabulary knowledge, and allow those who proved knowledge of lower levels to begin NGSL study at a higher level. A test was given in the beginning of the academic year to assess students' vocabulary knowledge. Results of this test led to some students beginning vocabulary study at NGSL Level 4 or Level 3, and many students beginning at Level 2 or Level 1. There were NGSL tests for 4 levels at the end of the first quarter. Students who passed their test advanced to a higher level, and students who did not pass continued to study the same level of vocabulary in the next quarter.

Instructors sensed that some students may want a chance to raise their level, so a NGSL Level Up test was planned. The test was announced to students before summer vacation, and the test was held at the beginning of the fall term. As written above, 63 students registered to take the Level Up Test. Among the registrants there were students who still had not passed Level 1 and students studying higher levels.

Why did these students make effort to register and study for a vocabulary test that would not influence their grade? Could there be a stimulus for students to study vocabulary that could be expanded in the future? Thus, the research questions are,

RQ 1: What factors influenced these students to choose to register for the Level up Test?

RQ 2: In the future, could the Level up Test lead more students to engage in

vocabulary study?

NGSL Level up Tests

The NGSL Level up Tests (Levels 1-5) were the same format as the end-of-quarter NGSL tests. NGSL Tests have 40 multiple choice items (1 point each), and 20 complete a target word in a sentence items (2 points each). The 25-minute test is 80 points; 80% (64 points) is needed to pass. The level up test date was two weeks after students returned from summer vacation. Sixty-three students registered for the Level-up Test, however, 51 actually took the test. Twelve students withdrew; their reasons for withdrawing are reported later in the paper.

Level up Test Results

There were students who took the Level up Test at all 5 levels (see Table 1). Students who took the Level 1 and Level 2 tests had experienced failing a test in Quarter 1 or Quarter 2. Students who took the Level 3-5 tests may or may not have experienced failing a test. Of the 51 students who tried to raise their level through this test, 23 passed and 28 did not pass. Six students took the Level 1 test, and all 6 did not pass. At Level 2 half of the 12 students passed. At Level 3, 11 of 13 students passed. Only 2 of 10 students passed Level 4 and 4 of 10 students passed Level 5.

Table 1 Level up Test Results

<i>Test Level</i>	<i>Test takers</i>	<i>Pass</i>	<i>Fail</i>
Level 1	6	0	6
Level 2	12	6	6
Level 3	13	11	2
Level 4	10	2	8
Level 5	10	4	6
Totals	51	23	28

Reported Reasons for Level up Test on Questionnaires

An email message reporting results of the NGSL Level up Test (Levels 2~5) included a request for students to complete a questionnaire about the level up test. The aim of the questionnaire was to learn about students' reasons for choosing to take the NGSL Level up Test. The questionnaire was not offered to the students who took and failed the Level 1 Test. The questionnaire was written in Japanese and had two questions: 1) asking for reasons they chose to take the NGSL Level up Test, and 2) if they would participate in an interview about the test. The first question gave 9

possible reasons (Table 2). Respondents could choose more than one reason. The questionnaire was answered by 31 students (Table 2).

When asked, 'Why did you decide to take the NGSL Level up Test?', the reason most often chosen by the respondents was, c) I wanted to take a challenge (20). Eleven respondents answered that they b) wanted to study a higher NGSL level like friends; and three students wanted to surpass classmates, d) study a higher NGSL level than a classmate. Failure on a previous NGSL test led 10 students to f) want revenge, and 5 students wanted g) to overcome my weakness. Eight respondents agreed that they a) wanted to improve their vocabulary knowledge, and five e) wanted to use summer vacation to improve their English. Finally, ten students agreed that they h) wanted to take a chance that I might be able to pass easily.

Table 2 Reasons for deciding to take the NGSL Level up Test

<i>Reason</i>	<i>Frequency</i>
a) I wanted to improve vocabulary knowledge	8
b) I wanted to study a higher NGSL level like my friends	11
c) I wanted to take a challenge	20
d) I wanted to study a higher NGSL level than my classmates	3
e) I wanted to use summer vacation to improve my English	5
f) I failed a NGSL test and wanted revenge	10
g) I failed a NGSL test and wanted to overcome my weakness	5
h) I wanted to take a chance that I might be able to pass easily	10
i) other	2

A similar questionnaire was offered to students who registered for the NGSL Level up Test and did not attend the test. These students were asked their reason for registering for the test and their reason for not taking the test. These students also chose that c) they wanted to take a challenge most frequently, and h) wanted to take a chance that I might be able to pass easily. Their reasons for not taking the test given in cancellation messages and the questionnaire were varied: poor health, the NGSL words were difficult, losing confidence in ability to learn words, and schedule conflicts.

Interviews of test takers

The interviews intended to get a fuller description of students' reasons to take the NGSL Level up Test and learn how they studied. Five interviews were conducted online in Japanese and recorded. The writer viewed the recordings repeatedly and transcribed students' reasons in English.

Three interviewees took a high-level test (4 or 5). These students each had

personal goals to improve their English. All three plan to live overseas and understand the need for a high level of English vocabulary. One has a plan to work overseas and aims to learn 8,000 English words. Another will study abroad next year and had a goal to finish learning the NGSL quickly. The third is a foreign student who plans to work internationally. The influence of peers was mentioned by one student who said friends around her were studying at a high level, so she didn't want to be passed up by them. These students understood that passing the next level would involve serious study, they each had planned a way to study, and were disciplined to do it. They used word lists and quiz software introduced in class. One student put words to review on Post-its, and stuck them on the wall, a mirror and in textbooks.

Two students who had failed Level 2 in Quarter 2 were interviewed. Both students were concerned that their level was low compared to other classmates. They were also aware that other students knew many more words than they knew, and that other friends passed (Quarter 2 test), but they didn't.

The NGSL Level up Test results revealed that students who took the Level 1 Test and did not pass, needed assistance. NGSL Level 1 words are the most common 700 words of English. The author met these students individually and enquired about their vocabulary study. All six of these students had taken the level up test out of a feeling of obligation, knowing that their level was low. They had weaknesses in studying English, didn't know how to study, and had given up. The author gave them advice, encouragement and showed them how to use NGSL study resources.

Discussion: When choice leads to engagement

The NGSL Level up Test prompted many university students to attempt vocabulary study apart from their coursework. This kind of engagement in independent study is beneficial to the English program. Examining the factors that appear to have led these students to choose to register for the Level up Test may further improve English education in the future.

Researchers of Self-Determination Theory have examined the effects of learning environments on motivation and noted differences in “autonomy versus control” (Ryan & Deci, 2000, p. 70). The learning environment of this study was one of control in which all students in a university had vocabulary study goals for freshman English courses. The NGSL vocabulary list was likely unknown to students before entering the university, so mastering this list of words was not a goal students had. For many students, studying a long list of words holds little inherent pleasure or

interest. Thus, at the beginning of the academic year studying the NGSL words was an extrinsic goal for students. The extent that students integrated NGSL study into their own goals can be seen in different motivations for taking the NGSL Level up Test.

Types of Extrinsic Motivation

Students who took the Level 1 and Level 2 level up test explained their reason for taking the test in terms of inner pressure to adopt the NGSL study goals, an introjected regulation motivation. Students who took the Level 1 test were aware that they should try to raise their level. They disliked vocabulary study, yet also disliked being in the lowest level as classmates were moving on to higher levels.

The students who took the Level 2 Test and were interviewed, also explained inner pressure related to adopted goals of NGSL study as their reason for taking the level up test. These students had failed the Level 2 test previously and were conscious of their standing among others. They were motivated to take and pass the level up test to avoid shame and to lift their self-esteem. Similarly, 11 respondents to the questionnaire indicated that a reason for taking the level up test was wanting to study a higher NGSL level like their friends. The students interviewed also viewed the level up test as a way to overcome their known weakness. Introjected motivations for action have been shown to relate positively with persistence and high anxiety (Howard et al., 2021).

In contrast to the students described above, students who took Levels 3, 4 and 5 of the level up test most likely had moved from control motivations to more autonomous motivations for taking the level up test. These students identified with the goal of NGSL study and made a choice to try to raise their level. The voluntary test was attractive because it was an autonomous decision to take a challenge to pursue one of their personal goals.

Integration, a high level of self-determination for an extrinsic task is often not found in adolescents. Integration occurs when a task is understood to align with not only a persons' goals, but also their identity. This level of integration requires a "coherent identity, such that they can identify with the importance of the behavior and reciprocally assimilate that identification with other aspects of their life" (Guay, 2022, 77). Two of the high-level students who were interviewed expressed this integrated identity and full acceptance of NGSL study goal as a part of their lives.

Although Self-Determination Theory describes various kinds of motivations, some of the students in this study described having multiple types of motivations. For

example, a student who took a high-level test expressed integrated motivation, wanting to study NGSL words for her goal of study abroad, and also expressed an introjected motivation idea of not wanting to be passed up by her friends.

RQ 1: What factors influenced these students to choose to register for the Level up Test?

1. Feeling autonomy with a voluntary test

Within a curriculum-wide vocabulary study program, the voluntary level up test offered students an unusual chance to make a choice that would influence their actions, knowledge and status. If students thought that English vocabulary study agreed with their personal goals, then taking the level up test may have supported their needs for autonomy and provided the feeling of “This is what I want to do.”

2. Pursuing competence in a challenge

The need for feeling competent in one’s environment motivates people to take challenges, exert effort, and master skills (Reeve, 2016). Twenty respondents to the questionnaire noted that a reason they took the level up test was that it was a “challenge.” A challenge, like autonomy, is an action initiated by self and continued freely without being forced. Those who chose to take the test prepared for it on their own. The challenge to study for a test on the next level of NGSL words was a task which students understood. The test seemed to be an appropriate and possible task for the students who took the test. However, some students found the higher level of words difficult and withdrew from the test or gave up on studying and did not pass the test.

3. Trying to improve self-esteem

The NGSL Level up Test was a way for students to prove competence in their learning environment. For many students, competence related to comparing themselves with their peers. The questionnaire results show that at least a third of respondents took the level up test because they wanted to raise their level *like their friends* and a few respondents wanted to raise their level *higher than their peers*. Students studying levels 1 and 2 reported in interviews that they knew they were studying a lower level than most of their peers and felt a need to improve their level. Similarly, the NGSL Level up Test seems to have provided an opportunity for students who had previously failed a test to improve their ego by ‘taking revenge,’ passing and overcoming a weakness. For these students, the NGSL Level up Test

was a way to improve their competence and self-worth within their learning environment.

RQ 2: In the future, could the Level up Test lead more students to engage in vocabulary study?

In 2022, 23% of students chose to take the test. In order to raise this percentage, students who did not attempt the test need to be considered. Self-Determination Theory has been used by Assor to analyze students who lack autonomous motivation, exhibit low levels of engagement, or avoid challenging tasks. She posits that “the major reason many students avoid coping with challenging tasks is that they experience these tasks as threatening their need for competence” (Assor, 2016, p. 154). Assor suggests that two factors lead to avoidance of challenging tasks: a failure in the past, and a fixed mindset that they lack the ability to learn. If a student believes that they cannot learn they are likely to avoid investing effort in an academic challenge because they fear the outcome will enforce the belief that they lack ability to learn. Students with this experience or idea about their learning ability would most likely not choose to take the NGSL Level up Test.

In light of these factors that cause students to avoid challenging tasks, Assor conducted a pilot study that aimed to strengthen autonomous motivation for handling challenging tasks. Instructors taught students that success and failure are due to knowledge, appropriate study strategies and/or effort. Individual attention was given to those who failed in order to assist them in locating their weakness and to support them with knowledge or strategies that they needed. Interviews of students who failed the NGSL Level 1 test revealed that these students were similar to Assor’s students; they needed individual guidance to discern their weaknesses and find appropriate study strategies. After receiving this support 5 of the 6 were able to pass the Level 1 test in Quarter 3.

Thus, in order to increase the percentage of students who choose to take the challenge to study for the NGSL Level up Test and engage in independent study of vocabulary, the following suggestions can be made. First, explanations of NGSL study and testing should mention the importance of increasing vocabulary knowledge to improving overall English ability in hopes of helping more students to see how NGSL study aligns with their goals to improve English ability. Second, more opportunities for students to learn NGSL study skills and resources should be planned. Instructors can introduce the resources and then give students lesson time to begin using the resources. They can also help students become more effective and

efficient learners who can make progress outside the classroom (Webb & Nation, 2017).

Conclusion

Changes to vocabulary study in 2022, in particular allowing students to begin NGSL study at their own level, may have improved high-level students' engagement in NGSL study. The NGSL Level up Test added an opportunity for students to feel autonomous and resulted in students engaging in independent vocabulary study. Some students with ambitions to attain a high level of English viewed the NGSL Level up Test as a challenge that aligned with their personal goals. The challenge also offered a way for students to try to raise their sense of competence in their own eyes and the eyes of their peers. In the future, attention needs to be given to students who do not have the confidence to take the challenge of the Level up Test. Instructor assistance in vocabulary study methods could be added to lessons. Reeve emphasizes that "Teachers can certainly facilitate students' intrinsic motivation, but the way to do that is to vitalize and support students' psychological needs for autonomy, competence and relatedness" (2016 p. 140). In conclusion, the NGSL Level up Test was attempted by 23% of students because it was a voluntary challenge, it aligned with student desires to increase their competence, and was viewed as an attainable goal.

Acknowledgement: Gratitude to the reviewer who gave very constructive feedback.

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