An Extensive Reading Program as an Educational Intervention in an EFL Classroom

Akira Iwata
Hokkaido Musashi Women's Junior College
Japan

Abstract

This study aims to investigate the influence of an English as a foreign language college extensive reading program on different types of motivation to study English within the framework of Self-Determination Theory in order to identify and clarify students' motivational changes. Identical questionnaires were administered to a group of non-English major learners before and after the program to identify changes in their general motivation, four motivational regulatory styles (intrinsic, identification, introjection, and external), and three psychological needs (autonomy, competence, and relatedness). Another questionnaire elicited students' perceptions of their experience of the course. The questionnaire results indicate that extensive reading is effective in enhancing identification and intrinsic motivation to study English. The results of the other questionnaire are also discussed to provide a fuller understanding of the benefits of extensive reading and to assist practitioners who teach students of a wide age range.

Keywords: extensive reading, self-determination theory, motivation, classroom practice, graded readers, teaching methodology, EFL

Motivation in the EFL Context

It is undeniable that motivation plays a crucial role in education; for example, both learners and teachers are interested in how to develop, improve, and sustain motivation in everyday classroom practices. Dörnyei and Ushioda (2011) define motivation as what determines why people decide to do something, how long they are willing to sustain the activity, and how they are going to pursue it. Among numerous theories, Self-Determination Theory (SDT) (Deci & Ryan, 1985) has often been applied in research, and its potential usefulness in assessing second language (L2) motivation has been demonstrated (Dörnyei, 1998). However, there remains a paucity of research on actual educational interventions in classrooms that might enhance learner motivation in the Japanese English as a foreign language (EFL) context. Therefore, more research is needed

that would help teachers and researchers understand how to improve EFL learners' motivation to study English along with determining what to use and how and why it works. This study adopted a two-semester long extensive reading program as an educational intervention to examine its effect on EFL learners' motivation to study English.

Literature Review

Motivation from a SDT Perspective

SDT assumes that people inherently seek psychological growth and integration to satisfy basic psychological needs, namely, autonomy, competence, and relatedness (Ryan & Deci, 2017, 2020). Ryan and Deci (2020) define these three psychological needs as follows: Autonomy involves showing initiative in one's actions supported by one's own interest, not by rewards or punishments. Competence involves a feeling that one can succeed and grow, supported by a well-structured environment with optimal challenges, positive feedback, and opportunities for growth. Relatedness involves a sense of belonging and connection supported by respect and caring. Therefore, the extent to which these basic psychological needs are met in the classroom environment is crucial in SDT, as they enhance or thwart intrinsic motivation.

Intrinsic motivation concerns activities performed for their inherent interest and enjoyment, that is, because they bring about satisfaction and joy, not because of external incentives or pressure (Ryan & Deci, 2020). Extrinsic motivation, on the other hand, concerns activities performed not because of their inherent interest, enjoyment, or satisfaction, but for external rewards. There are four major subtypes: external regulation, introjection, identification, and integration, as illustrated in Figure 1 (Ryan & Deci, 2020). Ryan and Deci (2017) define these subtypes as follows: External regulation and introjection are considered to be phenomenally controlled by external entities or persons, and they both represent controlled motives instead of autonomous ones. However, external regulation is mostly affected by ambient factors such as reward and punishment, whereas introjection is more internally driven and associated with internal pressure, tension, and conflict, such as guilt, shame, or contingent self-esteem. Identification is more autonomously motivated and is an acceptance of the value of the extrinsic behavior. Integration is the most autonomous form of extrinsic motivation, whereas identification or identified regulation is where the activity is integrated with one's values and beliefs. In this study, extrinsic motivation was subdivided into three regulations, external regulation, introjection, and identification, from lower to higher levels of self-determination. Integration was excluded because it is quite difficult to distinguish from other types of regulation (Noels et al., 2000), and it also shares many qualities with intrinsic motivation (Ryan & Deci, 2000).

Figure 1

Self-Determination Theory's Taxonomy of Motivation (Ryan & Deci, 2020: modified by the author)

Motivation	EXTRINSIC MOTIVATION				INTRINSIC MOTIVATION
Regulatory Styles	External Regulation	Introjection	Identification	Integration	
	Internalization →				
Attributes	· External rewards or punishments · Lack of value, or · Nonrelevance	· Ego involvement · Focus on approval from self and others	· Personal importance · Conscious valuing of activity · Self-endorsement of goals	· Congruence · Synthesis and consistency of identifications	· Interest · Enjoyment · Inherent satisfaction
Perceived Locus of Causality	External	Somewhat External	Somewhat Internal	Internal	Internal

SDT in EFL Classrooms in Japan

Considering Japan's EFL context, in many instances English classes present the only opportunity for learners to gain access to English without much effort. Accordingly, activities or interventions during class time could play a crucial role in learners' learning experience. Nevertheless, there is a paucity of research on actual educational interventions in classrooms that might enhance learner motivation within the framework of SDT in the Japanese EFL context (Hiromori, 2003, 2006; Hiromori & Tanaka, 2006; Tanaka, 2010; Tanaka & Hiromori, 2007).

The different types of interventions in these studies included teacher feedback and group work, which yielded positive results. Two studies by Hiromori (2003, 2006) examined a writing course for secondary and tertiary students, respectively. In the second, Hiromori (2006) provided a 12-week educational intervention in a writing course for 100 first-year university students. He gave

the participants a wide range of choices to meet their need for autonomy, and provided written feedback on their works regarding grammar, usage, and content to meet their need for competence. He also gave them opportunities for pair and group work, such as peer review and group assignments (writing a summary), to meet their need for relatedness. A questionnaire survey was administered before and after the intervention and the responses were compared. The results suggest that fulfilling the three psychological needs could maintain the level of motivation of the intrinsically motivated group, while the unmotivated group significantly improved their intrinsic motivation. However, these studies dealt with EFL writing pedagogy.

Hiromori and Tanaka (2006) and Tanaka and Hiromori (2007) devoted five weeks to group presentations. Hiromori and Tanaka (2006) investigated 113 second-year university students' motivation to learn English. They conducted a pre- and post-questionnaire survey and analyzed the changes. The results suggest that the status of the three psychological needs significantly improved due to the intervention, which positively affected learner motivation. Specifically, they concluded that the need for autonomy and competence could strongly affect the improvement of intrinsic motivation. They argued that it is important to clarify the sources of mistakes and give learners constructive and informative feedback as educational practice. In Tanaka and Hiromori (2007), a total of 78 second-year university students with a variety of English proficiency and motivation levels participated. The researchers used the same questionnaires as pre- and post-tests, finding that group presentations significantly improved learners' intrinsic motivation. In addition, they divided participants into three groups, highly motivated, moderately motivated, and low motivated, to analyze the relationship between the three psychological needs and the improvement of intrinsic motivation. They suggested that the need for autonomy could be closely connected with intrinsic motivation in learners with high motivation. They also suggested that the need for autonomy and competence could be closely related to intrinsic motivation for learners with moderate motivation, and that all three psychological needs could be closely related to the intrinsic motivation of learners with low motivation. However, if these classes were intended to teach students how to make a group presentation, these interventions perfectly suited the classes, but if these classes had other purposes, the interventions might have taken too much class time without enough practical benefit. The activity or intervention should be in line with the purpose of the class and should not be too time-consuming. Further, while they examined external, introjected, identified, and intrinsic motivation, they did not investigate the relationship between these regulatory styles and the three basic psychological needs.

A few studies exemplify the importance of intrinsic motivation within formal education; however, from the perspective of SDT, intrinsic and extrinsic motivation, including the four regulatory styles, are viewed as a continuum, and most intentional behaviors are simultaneously motivated intrinsically and extrinsically (Ryan & Deci, 2020). For instance, learners may read a book mainly because of their interest (intrinsically motivated), but also partly because of personal importance (identification), to gain approval from self and others (introjection), or to avoid punishments (external regulation). Therefore, it is worth investigating the relationship between the three psychological needs and the different regulatory styles of extrinsic motivation as well. This will provide more information and a clearer image of learners' motivational state, which could enable teachers to conduct more effective classroom interventions.

Furthermore, Tanaka (2010) introduced foreign dramas and movies and developed speaking and listening activities in a 15-week English class to ascertain whether these activities could improve the intrinsic motivation of learners at different proficiency levels. The participants were 138 university students, who were assigned to three groups by proficiency level based on their TOEIC scores, which were below 500, 500–600, and over 600. They administered a seven-point Likert-scale questionnaire survey three times and compared the scores. The results indicated that the groups with TOEIC scores of 500–600 and over 600 significantly improved their intrinsic motivation toward speaking, listening, and English class. However, the below-500 group significantly improved their intrinsic motivation only toward speaking. He argued that the effects differed depending upon learners' proficiency levels and the type of activity, but that the three psychological needs play the same role regardless of language proficiency. Therefore, we should accumulate data on the results of different activities with learners with different levels of proficiency and motivation.

Extensive Reading and Reading Motivation

The positive impacts of extensive reading on affective domains such as attitude and motivation toward reading are widely recognized (Day & Bamford, 1998), and there are various factors that motivate extensive reading (Day & Bamford, 1998; Mikami, 2017; Mori, 2002; Ro, 2013; Yamashita, 2013). In Day and Bamford's (1998) expectancy value model, learners' motivation to read comprises materials, L2 reading ability, L2 reading attitudes, and sociocultural environment. They argue that L2 reading attitudes and materials are more influential than the others in enhancing motivation to read in L2. Yamashita (2013) investigated the effect of a 15-week extensive reading course for 61 Japanese university students on their L2 reading attitudes using a pre- and post-questionnaire survey. She concluded that the course reduced anxiety and increased comfort and intellectual value, but did not increase practical value. Drawing upon Wigfield and Guthrie's (1997) first language (L1) research, Mori (2002) investigated L2 reading motivation for 447 Japanese university students using a questionnaire and specified four sub-components: intrinsic value, attainment value, extrinsic value, and expectancy for success. They argued that the immediate task of reading or the instructor can affect motivation to read in EFL classrooms. Mikami (2017) studied the relationships between goal attributes, intrinsic motivation, and self-efficacy in a 12-week extensive reading course for 130 Japanese university students that drew upon goal-setting theory (Locke & Latham, 1990). She concluded that among the three goal attributes (goal specificity, difficulty, and commitment), goal commitment was the most influential in enhancing intrinsic motivation and self-efficacy. She argued that goal difficulty also influenced intrinsic motivation. Ro (2013) conducted a case study of an eight-week extensive reading course for an L2 adult learner and reported that it decreased anxiety and increased L2 reading motivation. It was concluded that confidence, comfort or ease, and enjoyment contributed to anxiety reduction, and convenience or accessibility, satisfaction, comfort or ease, enjoyment, and usefulness contributed to enhanced reading motivation.

Several studies of this topic have been conducted with various age groups in the Japanese EFL context as well (Fujita & Noro, 2009; Karlin & Romanko, 2010; Matsui & Noro, 2010; Mikami, 2017, 2020; Mori, 2002; Nishino, 2007; Ro, 2013; Takase, 2007; Tanemura, 2020; Yamashita, 2013). For secondary school education, Tanemura (2020) studied the effects of extensive reading on L2 reading attitude in 205 first year Japanese high school students. After 10 weeks of

extensive reading instruction, two factors in affective domain, comfort and anxiety, were positively enhanced. Matsui and Noro (2010) conducted 10-minute extensive readings in class for 122 junior high school students in Japan and concluded that easy and interesting materials and enjoyable reading experiences in the course improved their reading fluency and intrinsic motivation to read English. Nishino (2007) reported a 2.5-year longitudinal case study of two junior high school students. She found a variety of factors that influence motivational changes, such as achievement, pleasure, confidence, reading materials, and entrance exams. She concluded that a self-determined, autonomous, and enjoyable extensive reading experience can enhance intrinsic motivation. Fujita and Noro (2009) conducted a 10-minute extensive reading course for 76 high school students. Based on a questionnaire survey, they argued that students with higher ability showed enhanced intrinsic motivation and those with lower ability sustained their reading through extrinsic motivation. Takase (2007) explored L2 reading motivation in 219 Japanese high school students in a one-academic-year extensive reading program and concluded that intrinsic motivation was the strongest factor in motivating learners to read in both L1 and L2, followed by parents, family, and entrance-exam-related extrinsic motivation. She also suggested that several factors, including the freedom to choose books, accomplishment, and self-confidence, could enhance intrinsic motivation. These studies on secondary school students reached similar conclusions; however, regarding motivation to learn English (not just reading motivation), it is quite difficult to eliminate the influence of the entrance-exam-related motivation found by almost all studies of that age group in the Japanese context.

For tertiary education, Mikami (2020) conducted qualitative research on the processes of motivational changes through goal setting in extensive reading in which 23 Japanese university students participated in a one-year extensive reading course. Semi-structured interviews with four students revealed that effective goal setting brought them a sense of achievement, which in turn enhances intrinsic motivation to read and self-efficacy, forming a virtuous cycle toward new goal settings. Karlin and Romanko (2010) examined 110 Japanese university students' affect, vocabulary, and reading fluency in an extensive reading program, and reported that only affect substantially improved.

Nation and Waring (2020) summarized the major motivational factors from different studies into five factors and suggested ways to enhance them. They argued that having learners experience the following would increase their willingness to read extensively: the pleasure of reading, the reward of success in reading, the satisfaction of obvious progress, the virtuous feeling of doing something of value, and the power of independence and control. However, none of these studies used SDT as their framework and none of them explained why extensive reading leads to enhanced intrinsic motivation to read in relation to the three psychological needs. In other words, these past studies did not reveal the relationship between the three psychological needs and intrinsic motivation.

Furthermore, although these studies identified which components contribute to building and enhancing reading motivation and what is needed for a successful extensive reading program, they did not focus on students' general motivation as English as a second language or EFL learners, even though reading motivation exists within general motivation. At present, there is a lack of research examining how extensive reading programs influence motivation to study English in EFL learners and what types of motivation they influence through actual class

instruction. Therefore, it is crucial to investigate the relationship between extensive reading and motivation to study English in relation to the three psychological needs within the framework of SDT. Different age groups and learning environments can yield different outcomes. Therefore, individual studies should be conducted in this area. This study targets a group of non-English-major college students, who were free from worries arising from facing entrance examinations, by means of a questionnaire, including free response comments on the course.

Study Purpose

The current study aims to investigate how a college extensive reading program as a practical educational intervention affects the different types of motivation of EFL learners within the framework of Self-Determination Theory. Specifying the type of motivation and regulatory styles this extensive reading program affects would provide educators and administrators with vital information to work on later classroom practices. Understanding how extensive reading fulfills the need for autonomy, competence, and relatedness would also be useful. To fulfill this aim, the following research questions were addressed in this study.

RQ1: How does extensive reading experience affect the four regulatory styles of motivation and the three basic psychological needs?
RQ2: What is the relationship between the three psychological needs and the four regulatory styles of motivation?
RQ3: What is their perception of the course and how does the course influence their general motivation for studying English?

Method

Participants

A total of 92 first-year female college non-English major students from two different majors participated in this study (liberal arts: 49, economics: 43). However, two of them missed the post-questionnaire and their data were excluded from analysis, leaving a total of 90 final participants (liberal arts: 49, economics: 41). All participants were first language Japanese speakers. There were only two English-related subjects they could take and the study was conducted in general English, a compulsory subject. The other subject, business English, was an elective and 63.33 percent of the participants took it. The result of the reading section (250 points) of the Global Test of English Communication (as a placement test) showed that the scores ranged from 29 to 99 (*M*: 65.30, *SD*: 18.01), and their English proficiency levels were mostly A1 to B1 in the Common European Framework of Reference for Languages (CEFR). A1 is categorized as a basic user, who can understand and use familiar everyday expressions. B1 is categorized as an independent user, who can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. (Council of Europe, 2001).

Materials

Extensive Reading Instruction. All the classes were 90 minutes long, and two different Japanese lecturers of English taught each group. The first class of the first semester included class orientation. Following a general introduction to the course by each lecturer, the author introduced extensive reading. It started with an explanation of what extensive reading was, how to tackle it, and its possible benefits for their English learning. After they answered a pre-questionnaire, they were led to the institutional library to borrow a graded reader and receive instruction on how to use the M-Reader system. The remaining 20 minutes or so were spent on extensive reading. From the second class onwards, they had in-class extensive reading for 30 minutes, followed by a 10-minute book report session as paired work, where they exchanged partners and reported on books they had read or were currently reading in English. Nation and Waring (2020) argue that extensive reading should be a part of a well-balanced language course. Therefore, it should fit into a wider curriculum that would provide learners with opportunities for learning across four equal strands of meaning-focused input, meaning-focused output, language-focused learning, and fluency development. The book report session was set to fulfill this because in the paired work, one person's speaking was another person's listening. This would also promote relatedness, which is one of the three psychological needs. The minimum requirement for all participants was 20,000 words for each semester (40,000 words in this course). They were strongly encouraged to read outside the class period to fulfill the minimum required number of words, which accounted for 20 percent of the final grade. In addition, they were encouraged to read beyond the quota for additional points as an added incentive.

Questionnaires. Two questionnaires were administered during the course. The pre-questionnaire consisted of two parts. The first part asked participants about their English learning, including their general attitude toward learning English. The second part was developed based on Tanaka and Hiromori (2007), and was designed to ask participants how strong their intrinsic and extrinsic motivations were. The questionnaire also inquired about the strength of participants' three basic psychological needs: autonomy, competence, and relatedness. The items assessing these motivations included five items for each extrinsic motivation type and intrinsic motivation (Appendix), for example, "Because of English tests" for external regulation ($\alpha = .81$), "Because I feel embarrassed if I am not good at English" for introjection ($\alpha = .72$), "Because I think it is good for my personal development" for identification ($\alpha = .84$), and "Because I feel happy when I understand the words and phrases I did not know" for intrinsic motivation ($\alpha = .77$). The items assessing the three psychological needs included four items for each need, for example, "We have some degree of choice for the materials, class procedures, and learning content" for autonomy ($\alpha = .71$), "I think this English class gives me a sense of fulfillment" for competence ($\alpha = .88$), and "I get along well with my classmates in this English class" for relatedness ($\alpha = .89$). The post-questionnaire also consisted of two parts. The first part asked the participants about their extensive reading experiences in the course as well as their English learning, including their general attitude toward learning English. The second was the same as on the pre-questionnaire asking about their motivation toward English learning and the three psychological needs. All of these items were rated on 5-point Likert scales ranging from 5 (*strongly agree*) to 1 (*strongly disagree*). The questionnaire included free response comments on the class experience, mainly concerning the extensive reading experience, including using the library and the M-Reader system.

M-Reader System. The M-Reader system adopted in this study is a widely used online management program for extensive reading courses. Once the instructor enrolls the students and chooses all the settings, the system automatically records participants' reading information, including the total number of words, when and which book they read, and whether they passed the quizzes. The students only need to log on to the system, choose the book they read, and answer short timed online quizzes. If they pass the instructor's preset percentage of correct answers, the number of words in the book is automatically added. The participants had to correctly answer 6 out of 10 questions to pass the quizzes. Although Anderson (2008) argues that adequate comprehension should be set at 70 percent, the author set the pass rate at 60 percent because of past experience. Non-English major students, especially those whose proficiency levels were not high enough, struggled to comprehend the questions themselves. Even for questions they could correctly answer when asked in their native language, they often missed them due to a lack of understanding of the questions. To avoid this burden and demotivating the participants due to successive unsuccessful attempts, 60 percent was considered an appropriate pass rate. The quizzes are not considered to have a negative influence on reading attitude (Stoeckel et al., 2012).

Procedure and Data Collection Sessions

Following the general course orientation, the pre-questionnaire was administered through Google Forms in the first week. The participants used their own smartphone to answer the questionnaire. The orientation included an explanation of the nature, purpose, and possible benefits of extensive reading. After the pre-questionnaire, they were assigned one book to borrow, given their user names and passwords, and instructed on how to use the M-Reader system using their smartphones. Normal classes continued until the 14th week, followed by a month of summer break. The course resumed in the 15th week, and the first week of the second semester followed the next week. The post-questionnaire was conducted online in the 12th week of the second semester, along with the confirmation of the total words read by the participants through the M-Reader system. Informal interviews were conducted a week after the post-questionnaire to confirm some free response comments. The author chose three students in each of four classes based on the questionnaire response, talked to them during working pairs in the book report sessions, and took notes on the spot, totaling 12 pairs (24 students). The author resolved any problems the participants had during the course regarding extensive reading, including the M-Reader system, by seeing them directly or using emails.

Data Analysis

The first source of data came from the results of the pre- and post-questionnaires. The first parts of both the pre- and post-questionnaires were identical; they were analyzed using paired-samples *t*-tests to determine whether there were any changes in their perception of English learning. Moreover, the average scores of the five items used to assess each regulatory style and psychological need were compared using paired-samples *t*-tests to ascertain whether there were any differences in regulatory styles and psychological needs. To determine the relationship between the three psychological needs and each regulatory style, correlation coefficients were also calculated. The final questionnaire included additional items and a free response section to ascertain their class experience. This part was analyzed to understand their perception of their

experience of extensive reading, which included free response comments and informal interview data. The second source of data was the number of words the participants read, which was collected using the M-Reader. However, it was used only to make sure that the participants fulfilled the course requirements.

Results

Extensive Reading Data

Table 1 shows the number of words read, the average number of quizzes taken (the number of books they read), the number of quizzes they failed, whose number of words were not counted, and the pass rate under the criterion of 6 correct answers out of 10. The pass rate and the number of words read varied greatly among students.

Table 1

Data from the M-Reader

	N=90			
	M	*SD*	Max	Min
The number of words read	42614.76	20949.01	162671	20101
The number of quizzes they took	38.54	21.35	131.00	9.00
The number of quizzes they passed	35.58	19.85	131.00	9.00
The number of quizzes they failed	2.97	4.06	25.00	0.00
The passing rate of the quizzes (pct)	92.78		100.00	62.12

General Attitude Toward English Learning and Reading

Table 2 shows the changes in the scores of the first part of the questionnaires asking about the general attitude toward English learning and reading. As it is clearly shown, the mean scores on the 5-point Likert scales were quite low, indicating that the students do not have much self-confidence or enjoy studying or reading in English. Two items, "Do you like reading English books?" and "Are you confident about reading English?" significantly improved with small and medium effect sizes, respectively, $t(89) = -2.38$, $p = .02$, $r = .25$; $t(89) = -2.88$, $p = .01$, $r = .30$.

Table 2

Changes in the Scores of Each Questionnaire Item before and after Extensive Reading

| | *M* (*SD*) | | | | | *N* = 90 | |
Item	Pre	Post	Change	95% CI	*t*	*p* (two-tailed)	Effect Size (*r*)
Do you like studying English?	2.74 (1.09)	2.77 (0.85)	0.03	[-.29, .24]	-0.17	.868	.018
Are you good at English?	1.79 (0.81)	1.88 (0.70)	0.09	[-.23, .06]	-1.21	.230	.128
Do you like reading English books?	2.74 (1.15)	2.96 (0.94)	0.22	[-.39, -.03]	-2.38	.019	.251
Are you confident about reading English?	1.84 (0.75)	2.07 (0.70)	0.23	[-.38, -.07]	-2.88	.005	.304

Note. Mean (Standard Deviation)

Changes in Scores for Each Regulation and Psychological Need

The means and standard deviations of the pre- and post-questionnaire scores for the four regulatory styles and three psychological needs are shown in Table 3, while Figures 2 and 3 highlight the mean scores of the four regulatory styles and three psychological needs, respectively. A paired-samples *t*-test was conducted on the pre- and the post-questionnaire measurements of the four regulatory styles. The results showed a significant increase in intrinsic motivation with a medium effect size, $t(89) = -2.80$, $p = .006$, $r = .295$, and a significant increase in identification with a medium effect size, $t(89) = -2.97$, $p = .004$, $r = .314$. There was also a significant decrease in external regulation with a small effect size, $t(89) = 2.18$, $p = .032$, $r = .230$. However, no significant difference was found in introjection, $t(89) = 0.06$, $p = .957$, *n.s.*, $r = .006$. Before the intervention, introjection had the highest mean scores among the four regulatory types; however, identification had the highest mean scores after the intervention. All the three psychological needs showed significant improvements, autonomy with a medium effect size, $t(89) = -3.49$, $p = .001$, $r = .367$, competence with a small effect size, $t(89) = -2.31$, $p = .023$, $r = .244$, and relatedness with a medium effect size, $t(89) = 3.06$, $p = .003$, $r = .323$. Relatedness had the highest mean scores among the three psychological needs before and after the intervention.

Table 3

*Changes in Scores for Each Regulation and Psychological Need before and after Extensive
Reading*

	M (SD)					N = 90	
Regulation	Pre	Post	Change	95 % CI	t	p (two-tailed)	Effect Size (r)
External	3.28 (0.79)	3.09 (1.12)	-0.19	[.02, .37]	2.18	.032	.230
Introjection	3.77 (0.63)	3.76 (0.54)	-0.01	[-.16, .17]	0.06	.957	.006
Identification	3.64 (0.70)	3.91 (0.71)	0.27	[-.46, -.09]	-2.97	.004	.314
Intrinsic	3.65 (0.53)	3.88 (0.59)	0.23	[-.40, -.07]	-2.80	.006	.295
Autonomy	3.27 (0.77)	3.57 (0.63)	0.30	[-.47, -.13]	-3.49	.001	.367
Competence	3.50 (0.86)	3.70 (0.58)	0.20	[-.38, -.03]	-2.31	.023	.244
Relatedness	3.59 (0.90)	3.94 (0.81)	0.35	[-.56, -.12]	-3.06	.003	.323

Note. Mean (Standard Deviation)

Figure 2

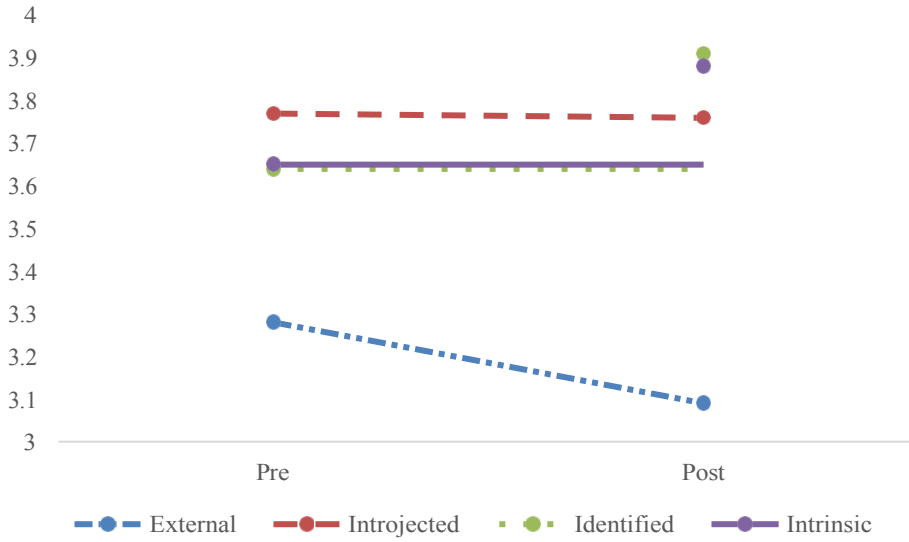*The mean scores of the four regulatory styles*

Figure 3

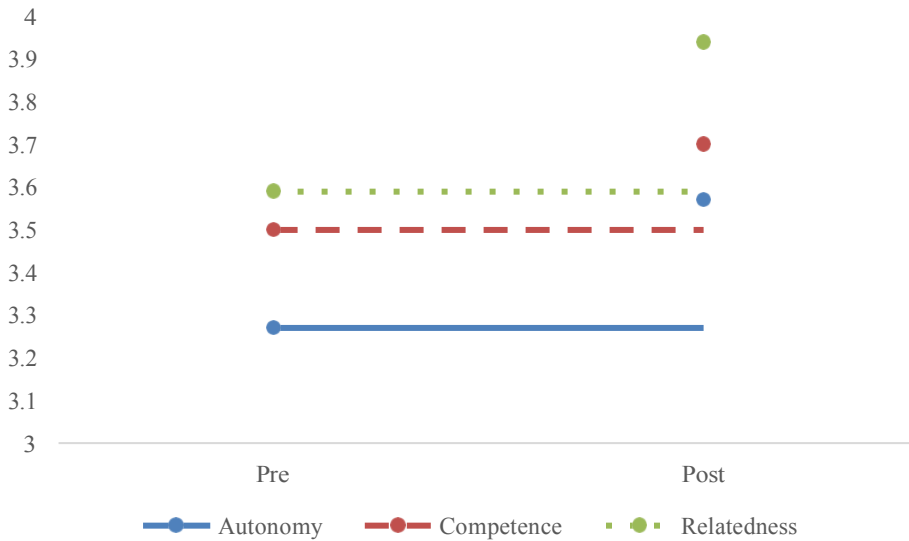*The mean scores of the three psychological needs*

Correlation Coefficient Between the Psychological Needs and the Regulatory Styles

Table 4 shows the correlation between each regulatory style and the three psychological needs. Autonomy was moderately correlated with intrinsic motivation and identification; competence was moderately correlated with intrinsic motivation and weakly correlated with identification; and relatedness was weakly correlated with intrinsic motivation and identification. No significant correlation was found between the three psychological needs and introjection or external regulation.

Table 4

Correlation coefficient between the psychological needs and the regulatory styles

	Intrinsic	Identification	Introjection	External	Autonomy	Competence	Relatedness
Intrinsic	-						
Identification	.30**	-					
Introjection	.05	.15	-				
External	-.27*	-.21*	-.08	-			
Autonomy	.43**	.32**	.08	.01	-		
Competence	.44**	.25*	.10	-.21	.50**	-	
Relatedness	.26*	-.22*	.11	-.12	.07	.15	-

**. < .01,   *. < .05

The Post-Questionnaire

Table 5 shows the results for the post-questionnaire, concerning how the students felt about their extensive reading experiences, English studies, and the course. The mean score of only one item, "I would like to read extensively if it would not be a requirement for the class," was below 3.00, meaning the participants had a relatively positive attitude toward their extensive reading experience. A feeling of fulfillment after extensive reading had by far the highest mean score and enjoyment and the improvement of reading ability followed.

Table 5

Results of the post-questionnaire

Item	Score*	Freq	*M*	*SD*
			N=90	
I read books extensively.	5	11	3.23	1.16
	4	35		
	3	13		
	2	26		
	1	5		
		19	3.79	1.01
Extensive reading was interesting.	5			
	4	48		
	3	12		
	2	7		
	1	4		
I felt fulfilled after I finished reading books.	5	42	4.29	0.85
	4	38		
	3	5		
	2	4		
	1	1		
	5	18		

I feel my reading ability has improved through extensive reading.	4	37	3.69	0.96
	3	26		
	2	7		
	1	2		
I can read faster through extensive reading.	5	11	3.53	0.93
	4	40		
	3	27		
	2	10		
	1	2		
I would like to read extensively if it would not be a requirement for the class.	5	4	2.90	1.03
	4	25		
	3	25		
	2	30		
	1	4		
I feel that it is enjoyable to read English books because of extensive reading.	5	18	3.60	1.07
	4	37		
	3	19		
	2	13		
	1	3		
I came to like English through extensive reading.	5	16	3.46	1.06
	4	30		
	3	25		
	2	17		
	1	2		

Note. *5: Strongly agree, 4: Somewhat agree, 3: Neutral, 2: Somewhat disagree, 1: Strongly disagree

Discussion

RQ1 asked how extensive reading experience affects the four regulatory styles of motivation (intrinsic, identification, introjection, and external) and the three basic psychological needs of autonomy, competence, and relatedness. The results (Table 3) indicated that intrinsic motivation and identification significantly increased and external regulation significantly decreased, but introjection remained unchanged. These changes could show qualitative changes in motivation in relation to the fulfillment of the three psychological needs. Before the extensive reading experience, it was introjection, which is somewhat external (Figure 1), that had the highest mean scores; however, identification, which is somewhat internal, had the highest mean scores after the intervention. Along with a significant decrease in external regulation, it is strongly assumed that the participants felt extensive reading more personally important, fulfilling, or enjoyable, which made them more intrinsically motivated (Table 5). Furthermore, the three psychological needs of autonomy, competence, and relatedness showed significant increases (Table 3). Therefore, these results are possibly consistent with the principle of SDT (Ryan & Deci, 2020), meaning that fulfilling the three psychological needs could lead to an improvement in intrinsic motivation. Based on the post-questionnaire (Table 5) including free-response items, many students enjoyed reading extensively (e.g., "Extensive reading was interesting," $M = 3.79$) and were happy that they chose the books according to their own interests and preferences, which could affect autonomy. Enjoying reading leads to autonomy (Ro, 2013), and a self-determined, autonomous, and enjoyable activity enhances intrinsic motivation (Nishino, 2007). Moreover, the students were relatively positive about their reading skills improving (e.g., "I feel my reading ability has improved through extensive reading," $M = 3.69$; "I can read faster through extensive reading," $M = 3.53$), which could affect competence. Several participants indicated that they wanted to know the correct answers to the quizzes; this suggests that it is important to reveal the source of failure and give constructive and informative feedback, which would lead to an improvement in the sense of competence (Hiromori & Tanaka, 2006). Extensive reading is generally an individual activity where each reader silently reads a book of their own choice. Therefore, there is very little activity that requires cooperation with other students. However, some free response comments revealed that they enjoyed reporting on their books to their peers in class or talking with other students who read the same book series, which might affect relatedness. Non-English majors in this study can be considered a relatively low motivated group of learners, which can also be seen from the questionnaires (Table 2). Therefore, a sense of relatedness should be taken into consideration along with the other two needs, autonomy and competence (Tanaka & Hiromori, 2007). To confirm the relationship between each regulatory style and the three psychological needs, RQ2 needs to be more closely examined.

RQ2 asked about the relationship between the three psychological needs and the four regulatory styles of motivation (Table 4). For intrinsic motivation, all three psychological needs showed a significant positive correlation. More specifically, autonomy ($r = .43$) and competence ($r = .44$) showed a medium correlation, and relatedness ($r = .26$) had a weak correlation. Therefore, autonomy and competence can be regarded as major contributors to the changes in intrinsic motivation, which is in line with a previous study (Hiromori & Tanaka, 2006). While the results of the questionnaire (Table 2) indicate that the participants did not have much self-confidence or enjoy studying or reading in English with no prior experience of extensive reading, the results of

the questionnaires (Table 2 and 5) also suggest that they had positive feeling about their reading and competence that led to the increase of intrinsic motivation. Several students mentioned that they wanted to read more when they encountered an interesting book series. The reason that relatedness had a weak correlation could be that the purpose of reading books was stronger for individual enjoyment rather than for communicating with other students. It is surmised that relatedness was scored the highest of the three psychological needs (Table 3) because their Japanese high school classes were generally teacher-centered, using a uniform textbook and affording them relatively little autonomy. Also, the questionnaire results suggest that many of the participants felt that they were not good at English, which might have reduced their feeling of competence. As a result, their relatedness scores were the highest. Regarding the fact that of the three psychological needs, relatedness showed the greatest increase (Table 3), this could reflect the fact that the questionnaire was not exclusively about extensive reading but asked about the course, which included pair-work book report sessions. Therefore, the high score despite the weaker correlation with motivation might reflect the participants' positive feelings of relatedness with peers. For identification, autonomy ($r = .32$) and competence ($r = .25$) showed a weak but significant positive correlation, and relatedness ($r = -.22$) showed a significant weak negative correlation. Autonomy could have a relatively strong influence on identification, probably because identification is close to intrinsic motivation in the SDT continuum. Therefore, it could be considered that it showed somewhat similar traits to intrinsic motivation, except that relatedness showed a weak negative correlation. Introjection had very little change, and there was almost no correlation with any psychological needs. This could be because class requirements were announced in the beginning of the course and did not change during the course. Therefore, the students understood them and did not feel suddenly pressured. Although external regulation significantly decreased, there was almost no significant correlation with any of the three psychological needs. Judging by the result of the questionnaire (Table 2), many of the study participants were neither intrinsically highly motivated nor confident (e.g., "Do you like studying English?," $M = 2.74$, "Are you good at English?," $M = 1.79$). However, they did not seem greatly pressured to read the required number of words in English. Given that some learners responded freely, the requirement was not as hard to meet as they had expected because they were able to choose easy books and had fun. External regulation significantly decreased because the requirement might have been too easy; thus, the quota should have been set a little harder. Mikami (2017) asserted that goal setting is important and that it should be enjoyably challenging. This result could thus be interpreted as indicating that intrinsic motivation (arising from the freedom to choose books and have fun) played as much of a role in the decreased external regulation, as did the easiness of the requirement set for the students.

RQ3 asked about their perception of the course and the influence on their general motivation for studying English. The mean score of their answers to all the items except one in the post-questionnaire (Table 5) was greater than 3 out of 5, which means their perception of these items was relatively positive. Generally, they felt that they worked hard (i.e., "I read books extensively," $M = 3.23$) on extensive reading and enjoyed the experience (i.e., "Extensive reading was interesting," $M = 3.79$), with a feeling of fulfillment (i.e., "I felt fulfilled after I finished reading books," $M = 4.29$), and they felt that their reading skills improved (i.e., "I feel my reading ability has improved through extensive reading," $M = 3.69$; "I can read faster through extensive reading," $M = 3.53$). It is extrapolated that the course contributed to the improvement of their three psychological needs, which led to the improvement of intrinsic motivation and identification. However, given that the score for one item was less than 3 (i.e., "I would like to

read extensively if it were not a requirement for the class," $M = 2.90$), the course was not always successful in motivating students intrinsically. Another possible piece of evidence for this is the fact that the number of words read greatly varied among participants. Some participants were more intrinsically motivated and read far beyond the requirement, but others remained below the requirement when they answered the post-questionnaire, meaning that extensive reading is not a remedy. Moreover, although scores for the questionnaire reading items (i.e., "Do you like reading English?," "Are you confident about reading English?") significantly improved, those for items on general motivation for studying English ("Do you like studying English?," "Are you good at English?") did not show any significant improvement (Table 2). This suggests that the extensive reading experience might not have been strong enough to improve their motivation to study English. This could be similar to coming to like baseball through the experience of playing or watching it, but it would not necessarily get one to like all sports. Some students pointed out that books in popular series were often under loan and thus were difficult to borrow. This showed that the insufficient number of books could negatively affect their motivation to read. The success of the course was largely dependent on the abundant number of accessible beginning-level books (Day & Bamford, 2002). Therefore, it is important to secure adequate funding or adopt online resources, which some pointed out as a possible solution.

Besides the RQs, there are some points to note here based on the free written responses and informal interviews. At first, there are two points that might have led to demotivation. One concerns the necessity of more guidance or information on the books. Some pointed out that they often borrowed 10 books, which was the limit of the number of books they could borrow at a time, and when they encountered two or three books they did not find interesting, they often lost interest in reading. The other is that some learners found it troublesome to go to the library to borrow books especially after they discovered that the books they wanted to borrow were on loan, which was different from the results of a previous study (Takase, 2007). Again, ensuring access to enough books or using online resources might be a possible solution. Young people are generally good learners of technology; thus, they did not experience any trouble using the M-Reader system. Even though the quizzes might not have motivated them to read, they did not demotivate them from reading either (Stoeckel et al., 2012). The system is surely helpful and convenient for teachers. While one positive point to be mentioned is that several students reported that they realized they did not know some English words that are considered very basic and that even a small English-speaking child knows, such as the names of plants, animals, and bugs, or ordinary things that every household has. They said they did not have a chance to learn them from their school textbooks even though these words are very common, and they felt that they should know them in order to live or communicate with people in that culture. This means they understand the value of extensive reading, which could lead to general motivation to study English.

Educational Implications

This study revealed what types of motivational regulatory styles an extensive reading program could affect. The program surely helped to fulfill the three psychological needs of autonomy, competence, and relatedness, although it seems that the feeling of competence of non-English major EFL students could not be significantly improved. Providing opportunities to work with other students along with the sustained silent reading time could help improve the needs of relatedness. The fulfillment of these psychological needs would boost intrinsic motivation. An important implication is that students can feel fulfilled and enjoy extensive reading, which in

turn increases intrinsic motivation. With an improvement in identification, they come to understand the importance and effects of extensive reading on their English learning. Using a part of class time is important regardless of the target language (de Burgh-Hirabe & Feryok, 2013) because it not only provides students with time to read, but also provides teachers with the time and opportunity to give their students guidance on which books to read. If they have enough time to read and enjoy reading, identification could lead to intrinsic motivation. In this course, introjection did not change, probably because extensive reading is largely an individual activity and students are not often compared with their peers. Therefore, they do not feel embarrassed during class. It is generally favorable for reducing external regulation; however, if the first priority is to have them read extensively, the requirement should be high because they may not tackle extensive reading willingly if it is not a part of the curriculum (Bibby, 2018; Stoeckel, et al., 2012). Furthermore, the balance between autonomy and coercion is important. If students are given the initiative to decide how much time should be allocated to extensive reading in class and how many words should be the minimum requirement for the course, their sense of autonomy would increase. However, too much freedom might not work because the questionnaire showed that students would likely not read extensively if it is not a course requirement. The most important things are that the institutions should provide enough funds to ensure enough books at an appropriate level (Day & Bamford, 2002; de Burgh-Hirabe & Feryok, 2013) and an instructional model to support instructors. If teachers understand that conducting an extensive reading course is effective and not difficult, more of them will adopt it. The points mentioned here are not new findings; however, they are too important to leave out when extensive reading programs are conducted in an EFL context.

Limitations

The number of words required for each semester was 20,000 words. The course was two semesters long, thus totaling 40,000 words. However, the post-questionnaire was conducted on the 12th week of the second semester, and the number of words in this study was counted at that time. Therefore, many students did not meet the requirement. Moreover, although the number of words read was beyond the scope of this research, it might be argued that the mean word count, 42,614.76, is sufficient for their reading to be considered extensive reading. However, the amount is respectable for non-English major EFL students with low proficiency levels and without any prior experience of extensive reading. This study was conducted with a particular group of students in a particular culture, which might make it difficult to readily generalize the results. However, as there should be many EFL classrooms with similar motivational problems, extensive reading programs as in this study might be a practical solution.

Conclusions and Future Research

This study aimed to investigate the influence of a college extensive reading program on different types of motivation to study English within the framework of Self-Determination Theory. The results indicated that the program effectively fulfilled the three psychological needs and led to an improvement in identified regulation and intrinsic motivation to study English in learners with relatively low motivation (non-English majors). The results supported those of previous studies that used different types of intervention (Tanaka, 2010). Although the rate of the positive response to the direct question of whether they like learning English did not show significant improvement, extensive reading experience certainly motivated learners. Reading motivation and

L2 learning motivation are not mutually exclusive (Mori, 2002). Therefore, more practical studies and classroom models are needed to help make EFL classrooms places full of the motivation to learn.

Acknowledgements

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Appendix

The Four Regulatory Styles

(Intrinsic)
1. While I am studying English, I discover things that make me feel, "Oh, that's why" or "I see."
2. I am happy when I notice something for the first time through studying English.
3. It is interesting to learn about people in English-speaking countries and their way of life.
4. When I improve my English, I can see a new side of myself.
5. Through studying English, I feel happy when I understand words and phrases that I did not know.

(External)
6. I am studying English because it is necessary for my classes and higher education.
7. I am studying English because I want to get a good job in the future.
8. I am studying English because I want to get a good salary and other benefits after I get a job.
9. I am studying English because of English tests (exams, term exams, entrance exams, etc.).
10. I am studying English because it is necessary for English qualification exams such as TOEIC.

(Introjection)
11. I am studying English because I think I will be in trouble if I cannot use English.
12. I think it is cool to be able to converse in English.
13. I think it is cool to be able to write fluently in English.
14. I feel uneasy when I cannot use English.
15. I sometimes feel embarrassed at not being good at English.

(Identification)
16. English is important for my future.
17. Studying English is a good way to train myself.
18. I am studying English because I want to be able to use it.
19. I am studying English because I think it is important for me to acquire English speaking and writing skills.
20. I think that learning English is good for my personal development.

The Three Psychological Needs

(Autonomy)
1. I think that in this English class, we have some degree of choice for materials, class procedures, and learning content.
2. In this English class, the teacher respects our opinions about the class.
3. In this English class, I think we are given the opportunity to tell the teacher how we want the class to be conducted.
4. I think I can study English without feeling pressured in this class.

(Competence)
5. I think this English class gives me a sense of accomplishment as "I did it."
6. I think that in this English class, I will receive good evaluations from my teachers and peers, saying "Good job."
7. I think this English class gives me a sense of satisfaction that I did my best.
8. I think this English class gives me a sense of fulfillment that my efforts have paid off.

(Relatedness)

9. I think I get along well with my classmates in this English class.
10. I think there is an atmosphere of cooperation in the group and pair work activities in this
    English class.
11. I think there is a friendly atmosphere in this English class.
12. I think there is an atmosphere of mutual learning among peers in this English class.

English Learning Attitudes (Pre- and Post-Questionnaires)

1. Do you like studying English?

2. Are you good at English?

3. Do you like reading English?

4. Are you confident about reading English?

Extensive Reading Experiences (Post-Questionnaire)

1. I read books extensively.

2. Extensive reading was interesting.

3. I felt fulfilled after I finished reading books.

4. I feel my reading ability has improved through extensive reading.

5. I can read faster through extensive reading.

6. I would like to read extensively if it were not a requirement for the class.

7. I feel that it is enjoyable to read English books because of extensive reading.

8. I came to like English through extensive reading.

9. Please freely comment on the course.

About the Author

Akira Iwata is a professor at Hokkaido Musashi Women's Junior College, Japan. He holds a
Master of Education in TESOL from the University of Wollongong, Australia. His research
interests include EFL classroom practices, particularly EFL pedagogy, such as reading, writing,
and vocabulary learning instructions.
E-mail: iwata@hmjc.ac.jp