Using a Tablet Computer for EFL Positive Self-Review: Increases in Self-Determination Theory-Based Learning Motives

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Abstract

This article provides the results of a small exploratory pilot study that tested for the influence of a positive self-review intervention of the successful production of English via a tablet computer on Japanese junior high school students' EFL motives. The Language Learning Orientations Scale-Intrinsic Motivation, Extrinsic Motivation, and Amotivation Subscales survey was administered via a self-report measure before and after the intervention to an experimental and control group (N = 18). The students who were recorded successfully speaking in English (n = 9), including those who had PSR, report a higher level for Introjected Regulation (p < .05), Identified Regulation (Ideal L2 Self items; p < .10), and a higher level for the Intrinsic Motivation for Knowledge, Stimulation, and Accomplishment (p < .01) compared with the control group. These results indicate that positive self-review of the successful production of EFL via a tablet computer may bolster student self-determined EFL motives.

Several research studies on the use of technology in the classroom have shown a positive impact on the motivation of learners of English as a foreign language (EFL; for an overview, see Stockwell, 2013). Yet, none have shown an improvement in motives due to the impact of positive self-review (PSR; Dowrick, 1976) via a tablet computer on self-determination theory (SDT; Ryan & Deci, 2000) motives toward EFL learning using the Language Learning Orientations Scale-Intrinsic Motivation, Extrinsic Motivation, and Amotivation instrument

(LLOS-IEA; Noels, Pelletier, Clément, & Vallerand, 2003). The results presented in this article are of a small-scale exploratory study in which Japanese EFL (JEFL) junior high school students (JHSs) successfully presented three English language quiz questions to their classmates while being recorded with an iPad tablet computer. Five of these same students later viewed their successful use of English via the tablet computer, i.e., PSR. The other recorded students also viewed their classmates successfully speaking in English. The results of the post-PSR survey are compared with the pre-PSR survey results and are quite compelling.

In previous research in the JEFL environment, studies show that motivational intensity to learn English leads to higher proficiency (Yashima, 2000). In addition, Yashima and her colleagues have reported on the influence of other affective variables on JEFL learning outcomes, including: international posture, confidence, and foreign language willingness to communicate (FL WTC). They have demonstrated that anxiety and SDT intrinsic motives for language learning vary by gender (Yashima, 2002; Yashima, Zenuk-Nishide, & Shimizu, 2004; Yashima et al., 2009). Additional research focused on the relationships amongst motivation, psychological needs, FL WTC, and *Can-Do* statements of English language learning based on SDT (Nakahira, Yashima, & Maekawa, 2010). In addition, Hiromori's (2006) research has shown that an intervention which stimulated autonomy, competence, and the need for relatedness improved student SDT-based motives to learn English. Also, Fukada, Fukada, Falout, and Murphey (2011) demonstrated that *possible selves* (Markus & Nurius, 1986) can be used to increase motivation in university students. Furthermore, studies show that motives not only play a role in EFL learning (Yashima, 2000) and communicative ability, but can be positively influenced by teacher interventions (e.g., Hiromori, 2006).

This article provides the results of an EFL study that used a tablet computer to record students successfully speaking English in front of their peers, and provided the same students the opportunity to view their successful use of English via the tablet computer as an intervention in the hopes of improving their SDT-based motives for studying EFL. The article builds on previously reported research on the use of a tablet computer for PSR (for reference, please see Ockert, 2014a, 2014b, 2015), yet provides additional statistical analysis that is not only unique to this article, but supports the previously reported results. The research presented herein shows that increases in EFL motives occurred as a result of tablet computer PSR of successful English use. The results are examined in light of SDT-based research with digital technologies by showing the extent of the effect sizes and statistical power for the increases in SDT-based motives for EFL learners. The author believes that PSR with tablet computers is a simple and convenient method that can benefit students of EFL; it also provides a permanent record, and gives past-present comparisons, etc.

1.   Motivation and Technology-Enhanced Language Learning

Regarding the use of tech-devices in the classroom in FL learning contexts, Stockwell (2013) has reported on the "[i]nherent motivational effects of technology" (p. 157). His view is based on the belief that the introduction of new technologies into language learning environments has the potential to boost learner motivation. He has written that, besides the unique experience of engaging with new technologies, students may feel empowered as a result of the quick, non-judgmental feedback that technology offers second language (L2) learners. However, Ushioda (2013) wrote about how digital technologies may play a role in shaping learners' motivation and student identity, since motivation in L2 learning has been reconceptualized via contemporary theories of self and identity. She further commented on the importance of recognizing the pedagogical need to support students' underlying personal motivations, since individual motivation is always necessary for language learning. This article adds to the literature on self and identity by first examining student SDT-based motives regarding EFL learning, and second, by reporting the changes of these motives as the result of a tablet computer (iPad) PSR intervention.

2.   Self-Determination Theory

Deci and Ryan's SDT motives for competence, relatedness, and autonomy (Deci, Vallerand, Pelletier, & Ryan, 1991; Ryan & Deci, 2000) organizes motivated behaviors along a continuum of self-determination (see Figure 1). According to Dörnyei (2001) regarding SDT in educational contexts, there are three distinctions on the SDT continuum. First, there is *Amotivation* (having no desire to perform a task or engage in an activity). Next is *Extrinsic Motivation* (EM; engaging in an activity in order to achieve an external reward such as good grades, a raise in salary, or to please others). Furthermore, EM has been subdivided into three categories: *External Regulation* (i.e., motivation coming entirely from external sources such as rewards or threats), *Introjected Regulation* (i.e., externally imposed rules that students accept as norms they should follow in order not to feel guilty), and *Identified Regulation* (i.e., activity involving chosen behaviors that is fully assimilated with the individual's other values, needs, and identity). In this research, all of the Identified Regulation items refer to the future use of English and are therefore referred to as Ideal L2 Self items (for examples, see the Appendix and Ryan, 2009, p. 143).

Finally, there is *Intrinsic Motivation* (IM) – the motivation to engage in a task for the inherent satisfaction of the activity itself rather than a separate outcome or reward (Ryan & Deci, 2000). IM in language learning is divided into

three subcategories: for *Knowledge* (i.e., doing an activity for the feelings asso-
ciated with exploring new ideas and developing knowledge), *Accomplishment*
(i.e., for the sensations related to attempting to master a task or achieve a goal),
and *Stimulation* (i.e., for the sensations stimulated by performing the task, such
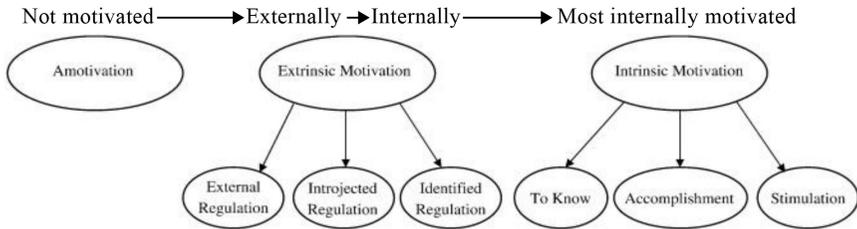as aesthetic appreciation or fun and excitement; from Noels et al., 2003).

Figure 1. The SDT-based motives for learning (Vallerand, 1997).

In L2 learning research, SDT-based research results point to the importance
of *motivation from within*, aka IM (Deci & Flaste, 1996). This "motivation
from within" is believed to sustain the learning process more effectively than
motivation that is externally regulated or controlled by the teacher, and the
research evidence thus far supports this view (e.g., Deci et al., 1991; Pintrich &
Schunk, 2002; Ryan & Deci, 2000). Such research shows that, in order to help
our students, educators need to find ways of finding, supporting, and main-
taining students' own motivation to learn (Ushioda, 2006).

2.1 SDT and Language Learning Motivation Studies

Noels and her associates (Noels, Clément, & Pelletier, 1999; Noels et al., 2003)
have used SDT-based surveys in L2 studies, and their work has helped to sys-
tematically organize several of the reasons for learning an L2 (Noels et al., 1999).
This article expands on their research by attempting to influence student motives
for learning EFL with the use of a tablet computer intervention to record stu-
dents' successful production of quiz questions in English and subsequent PSR.

In the JEFL context, Yashima and her associates (Yashima, 2000, 2002; Yas-
hima et al., 2004) have conducted research on the influence of affective vari-
ables on EFL learners using a Japanese language version of the LLOS-IEA
survey instrument, originally developed by Noels et al. (1999). In addition,
Yashima (2000) has reported on the direct relationships between English lan-
guage learning orientations, motivation, and proficiency of Japanese college
students. In addition, the influence of attitudes and affect on WTC (Yashima,
2002) and second language communication has also been reported on in the
literature (Yashima et al., 2004). Therefore, since motivation is consistently

shown to be a predictor of L2 proficiency and use, the present study examined to see to what extent an iPad video intervention influences motives to learn English based on SDT theory.

3.   Video Self-Modeling to Improve Performance

Video recorded instances of ideal behavior are making a comeback with the use of tablet computers. For clarification, in a small-scale study involving four participants, Montgomerie, Little, and Akin-Little (2014) state that "Video Self-Modeling (VSM) is an intervention that allows individuals to observe exemplary instances of their own behavior on video in order to increase the probability of that behavior occurring again" (p. 18). There are two types of VSM (Dowrick, 1976). The first, Feed Forward, "refers to video images of adaptive behavior that has not yet been achieved. These are created by editing together components of skills already available … these elements can be videotaped separately and edited together into a novel, competent video image" (Video Futures Project, *n.d.*, p. 5). Dowrick (1977, in Markus & Nurius, 1986, pp. 961–962) used this type of video recording as an intervention in which students with severe psychomotor impairments were asked to perform a task that was beyond their ability level. Participant errors were removed during the editing process. The viewing of the successful completion of the tasks was shown to enhance the future performance of the participants.

Another variation of VSM is known as PSR (Video Futures Project, *n.d.*). In PSR, the participants view themselves successfully completing a target behavior with the goal of reinforcing that behavior (Dowrick, 1991, 1999; Dowrick, Kim-Rupnow, & Power, 2006). This type of self-modeling is done to increase positive behaviors/actions that may be intermixed with negative and/or improper behaviors. The results presented in this article are amongst the first to report the use of a tablet computer (an iPad) as an intervening PSR stimulus to positively influence student SDT-based motives to study EFL.

3.1 Video Self-Modeling/PSR in EFL Studies

As mentioned above, Dowrick (1977, in Markus & Nurius, 1986) introduced an approach using video as an intervention to influence affect and the desired outcome. In his studies, students with severe psychomotor impairments were asked to perform a task beyond their ability level. Later these students were shown a videotape of themselves performing the task with their mistakes removed. The viewing of the successful completion of the tasks was shown to enhance future performance; i.e., the videotape provided positive possible *selves* that bolstered their performance. Ockert (2013, 2014b) has shown that a tablet computer PSR video intervention not only promoted student WTC and confidence, but also lowered their anxiety. For the present study, the use of

video involved recording students on task with an iPad and allowing them to view their successful performance, aka PSR. Markus and Nurius's (1986) study has shown that doing so created and fortified "specific positive possible selves for children that functioned as powerful incentives and standards for future successful task performance" (p. 962).

Self-modeling has been used and well documented in communication fields such as public speaking, stuttering, assertiveness, social skills, and interviewing (Dowrick, 1991). In short, self-modeling and related interventions have been used in a wide variety of fields with consistent positive results (see Dowrick, 1999). An additional use of video in the classroom can come via tablet computers such as an iPad. This study adds to this line of PSR research.

4. Background to the Study

In a small-scale exploratory study involving student engagement with language via video games, Reinders and Wattana (2011; $N = 16$, $n = 8$) found that second language students who communicated in English to play computer games improved their L2 WTC as analyzed via a self-report measure. The descriptive statistics were calculated for the mean and frequency of the responses to Likert scale items on the questionnaire data, revealing to what extent students accept each statement in mean scores and percentage points. The average number of turns per student in session 3 ($M = 75.88$, $SD = 20.518$) was greater than the average number of turns per student in session 1 ($M = 66$, $SD = 18.174$). The results are statistically significant ($t = 3.837$, $p = .006$; $p < .05$) with a medium effect size ($d = 0.49$; p. 14).

In addition, a previous study by Ockert (2013, 2014b) has shown that an iPad intervention not only promoted EFL WTC and confidence to speak English, but also lowered participant anxiety toward EFL use according to the results on the self-report measures. The instrument asks the respondents to rank the items from 1 to 6. The confidence scale asks the students to rank from 1 (*I absolutely don't think I could do that*) to 6 (*I think I could do that easily*). The second scale, for anxiety, asks the students to rank the items from 1 (*I would definitely not be nervous*) to 6 (*I'd be extremely nervous*). The third scale, for WTC, asks the respondents to rank the items from 1 (*If I could, I'd run away!*) to 6 (*I would absolutely want to try that!*). The mean change for confidence is from 2.55 to 2.96 (+0.41, $p < .01$), anxiety decreased from 3.84 to 3.50 (−0.34, $p < .01$), and WTC increased from 2.24 to 2.49 (+0.25, $p < .05$). These are desirable results, and the present research study attempts to clarify the implications by examining the outcome of a similar PSR iPad intervention on SDT motives. The results show a strong and significant positive influence of the PSR intervention and FL WTC and confidence. There was also a statistically significant negative influence of PSR on anxiety, i.e., PSR appears

to lower their anxiety. The students answered three questions regarding the influence on their confidence, anxiety, and desire (WTC) to speak in English as a result of PSR. The results, on a scale of 1 (*No influence*) to 6 (*A lot of influence*), are in Table 1 (Ockert, 2014a).

Table 1
The Results of Being Recorded on Confidence, Anxiety, and WTC ($n = 9$)

The three iPad-related items	M	SD
(a) Did being video recorded increase your confidence to speak in English?	4.22	1.56
(b) Did being video recorded increase your desire to speak in English?	5.00	1.32
(c) Did being video recorded reduce your nervousness to speak in English?	4.11	1.36

Obviously, these are desirable results. Question (a) relates to student competence and feelings of mastery – i.e. feelings of knowledge and accomplishment associated with EFL learning –one of the three pillars of SDT IM, while question (b) focuses on the SDT feelings of relatedness and desire to engage in EFL with others (i.e. FL WTC). Question (c) relates to feelings of Amotivation in SDT and the associated anxiety associated with EFL learning and use.

5. Objectives of the Present Study

The purposes of the present study are to examine the changes in the mean and standard deviations among the LLOS-IEA instrument subsections by comparing the responses from before and after the PSR intervention with the iPad. Therefore, two research questions motivate this study:

5.1 Research Questions

1. Is the use of PSR related to students' SDT motives as reported on the LLOS-IEA?
2. Does the use of PSR have a positive influence on student Identified Regulation (Ideal L2 Selves) as reported on the LLOS-IEA?

Both questions are answered with the use of a self-report measure of SDT, the LLOS-IEA, administered before and after the PSR intervention.

5.2 Hypotheses

1. The use of PSR will positively influence student intrinsic motives. This will be determined by comparing the mean scores for the scales of the SDT instrument of the experimental and control groups after the PSR intervention.

2. Using a tablet computer to video record the students and providing them PSR of their successful use of English will strengthen their Ideal L2 Selves, as determined by an increase in the mean for the three Identified Regulation items. This can be determined by comparing the mean scores for these items after the intervention for the PSR students with the pre-intervention mean for the results.

6. Methods

6.1 Participants

The first iteration of the survey was completed by students in a single class of students who were at the end of their second year in JHS (February; $N = 18$; age 14 years old; approximately 50% male : female ratio), in a single school in Nagano City, Japan. The surveys were filled out during regular class time with the consent of the homeroom teacher; however, student participation was voluntary and none of the students present chose to opt out.

6.2 Materials

The LLOS-IEA consists of seven scales of three items each for a total of 21 (Yashima et al., 2009). The reliability measure for this iteration is acceptable ($\alpha = .89$). Noels et al. (2003) confirmed the internal validity of the English language version of the instrument using an exploratory factor analysis; Yashima et al. (2009) confirmed the Japanese version. The instrument was adapted to be at a suitable reading level for Japanese JHS students by the EFL Japanese staff. It uses a six-point Likert-like scale with values from 1 (*That is not applicable to me at all*) to 6 (*That absolutely applies to me*). Please see the Appendix for the seven scales' Cronbach's *alpha* values and the individual items.

6.3 Project Outline

The surveys were both filled out in pencil during regular class time. The SDT survey instrument was administered to the students two weeks before the iPad intervention. The students had in-class video recording in late January, and the students who were recorded engaged in PSR in February. The class was divided into groups, and in their groups the students made three quiz hint statements. Students had to give three hints in front of the class, with one using the simile *as ~ as*; a second question using a relative clause such as *that* or *which*, and a third statement of the student's choice. For example, one student used the following three sentences: *It is as big as a horse. It is something that makes meat. It is a thing that is the color(s) black and white.* These three sentences are examples of the successful (positive) use of English for communicative purposes because their classmates understood the speaker and were able to answer the riddle.

6.4 Procedures

Each student would have to stand in front of the class and read their three sentences. Each group of students had a small whiteboard to write their answer (*cow*). The students who presented their quiz statements were recorded with an iPad tablet computer. This occurred in front of the other students. On February 28, five of the nine students who presented and were recorded had PSR via the tablet computer. However, several of the other students who were recorded also viewed the video of the students who were recorded. Subsequently, both groups of students completed the LLOS-IEA again within one week after the intervention. Due to the fact that nine students (*n* = 9) responded positively to the items presented in Table 1, they were included in the analysis, since it is not known which five of the nine students had PSR, and also because it appears that the simple fact of having been recorded had a positive influence (see Results, below).

7.   Results

The postintervention descriptive statistics and correlations of the LLOS-IEA scales for the PSR students are provided in Table 2. As can be seen, the post-PSR mean scores for the iPad Influence and EM Identified Regulation—the Ideal Self items—are both nearly 4.50 on a scale from 1 to 6. In addition, the strong correlations between the iPad Influence variables between External Regulation, EM Identified Regulation, IM Knowledge, and IM Stimulation indicate that iPad use for PSR may have a strong, positive influence on these variables.

Table 2
The SDT Scale and iPad Descriptive Statistics and Correlation Matrix

	M	*SD*	Amot.	EM Ext. Reg.	EM Intro. Reg.	EM Ident. Reg.	IM Know.	IM Accom.	IM Stim.
Amotivation	2.63	1.42							
EM Ext. Reg.	2.78	1.65	-0.55*						
EM Intro. Reg.	3.19	1.82	-0.72*	0.80*					
EM Ident. Reg.	4.41	1.60	-0.48*	0.91*	0.91*				
IM Knowledge	3.41	1.76	-0.42*	0.90*	0.83*	0.94*			
IM Accomplish	3.85	1.61	-0.20	0.61*	0.81*	0.81*	0.83*		
IM Stimulation	3.41	1.65	-0.22	0.77*	0.75*	0.88*	0.94*	0.89*	
iPad Influence	4.44	1.42	0.07	0.43*	0.12	0.33*	0.35*	0.06	0.44*

Note: *$p < .01$

Comparing the postintervention mean scores for the seven subscales for the students who had PSR with those who did not allows readers to assess the veracity of the intervention. These results are presented in Table 3. The level of significance was set at .10, which is appropriate for an exploratory study (Cohen, 1992a). As can be seen, statistically significant differences exist between PSR and non-PSR mean scores for all of the IM subscales.

The effect sized analysis compares the statistically significant differences between the mean scores for the PSR students and the non-PSR student scores after the PSR intervention. Cohen (1992a) has provided suggestions about what constitutes a small or large effect for differences in mean scores as a result of an experiment:

$d = 0.20$ (small effect): There is a .2 difference in the SD between the groups.
$d = 0.50$ (medium effect): There is a .5 difference in the SD between the groups.
$d = 0.80$ (large effect): There is a .8 difference in the SD between the groups.

For example, an effect size of 1.0 indicates that the mean of one group is 1.0 standard deviation higher than that of the other group. Furthermore, since this is an intervention with a pre-post control (PPC; Morris, 2008) group, Morris describes a PPC effect size as "the mean pre-post change in the treatment group minus the mean pre-post change in the control group, divided by the pooled pretest standard deviation" (p. 64), i.e. the difference between the standardized mean change for the treatment and control groups. This is because the use of a standardized scale allows the researcher to assess the practical influence of the intervention. Therefore, this data was analyzed using Morris's delta (Morris's dppc) calculation on the Psychometrica website (2017).

Table 3
Experimental vs Control Differences, Morris's d_{ppc}, and Statistical Power

	EM Intro. Reg.	EM Ident. Reg.	IM Know.	IM Accom.	IM Stim.
With iPad Recording	3.19 (1.82)	4.41 (1.60)	3.41 (1.76)	3.85 (1.61)	3.41 (1.65)
W/o iPad Recording	2.21 (1.14)	3.58 (1.23)	2.45 (0.87)	2.52 (0.76)	2.42 (0.66)
Difference	0.98**	0.83*	0.96***	1.33***	0.99***
Morris's d_{ppc}	0.79	0.69	0.96	1.28	0.86
Statistical Power	.48	.56	.32	.56	.25

Note: M (SD); ***$p < .01$, **$p < .05$, *$p < .10$

An additional method of explaining the results calculates the statistical power of the experiment's results. Statistical power is a method of assigning a

numerical value which indicates the probability that a study will obtain a statistically significant result consistently. For example, a statistical power of 0.80 means that a study is likely to produce a statistically significant effect eight out of ten times when repeated. The statistical power (Cohen, 1992b; Soper, 2016b) of the PSR intervention results is also provided in Table 3.

Further analysis compares the statistically significant differences between the mean scores for the PSR students before and after the intervention. The effect sizes were calculated using Cohen's *d* (Cohen, 1992a; Soper, 2016a) and are provided in Table 4.

Table 4
The PSR Student Result Differences, Cohen's *d*, and Statistical Power

	EM Identified Regulation	IM Accomplishment	IM Stimulation
Before PSR	3.63 (1.19)	2.57 (1.02)	2.67 (1.13)
After PSR	4.41 (1.60)	3.85 (1.61)	3.41 (1.65)
Difference	0.78*	1.28**	0.74*
Cohen's *d*	0.58	1.03	0.56
Statistical Power	.42	.56	.40

Note: *M* (*SD*); **$p < .01$, *$p < .05$

For this research, the effect size for the EM Identified Regulation scale is 0.58, for IM Accomplishment the result is 1.03, and for IM Stimulation the result is 0.56 when comparing the students before and after the PSR intervention. The result for the EM Identified Regulation scale is 0.42, and for IM Accomplishment the result is 0.56. Finally, for IM Stimulation, the result is 0.40.

8.   Discussion

For the purposes of this research, a decrease in the EM External Regulation and Introjected Regulation motives are desirable. Furthermore, the increases in EM Identified Regulation and the three IM subsections are all positive outcomes. Additionally, the mean scores for the three Identified Regulation items are the highest of all the items—similar to the results in Yashima et al. (2009). This indicates that these three statements are perceived to be the most relevant reasons for learning English by the JHS students surveyed for this research project.

Hypothesis 1 stated: *The use of PSR will positively influence student IMs. This will be determined by comparing the mean scores for the scales of the SDT instrument of the experimental and control groups after the PSR intervention.* The PSR students report a rather large increase in IM Accomplishment

and Stimulation. They also had a statistically significant increase in Identified Regulation (Ideal L2 Selves). Based on the results presented in this article, it appears that the iPad PSR intervention had a positive effect on student SDT-based motives to study English, particularly the Identified Regulation (Ideal L2 Self) items, and the IM for Stimulation and Accomplishment. As can be seen in Table 3, there are statistically significant differences between the students who had PSR and those who did not. Furthermore, the results in Table 3 demonstrate that these results are both meaningful and likely to show similar results if the experiment were repeated.

Hypothesis 2 stated: *Using a tablet computer to video record the students and providing them PSR of their successful use of English will strengthen their Ideal L2 Selves, as determined by an increase in the mean for the three Identified Regulation items.* The EM Identified Regulation scale item results before / after PSR are: *Because I want to be a person who can speak a foreign language* has the highest mean score (4.00 / 5.00), followed by *Because I think it is important for my personal development* (3.33 / 4.56), and third is *Because I want to be a person who can speak English* (3.56 / 3.67). Also, on the EM Introjected Regulation, *Because if I can speak English, I will be aware that I am an internationally minded person* has a mean score of 3.50. Clearly, these young EFL learners have a desire to learn English and the long-term success of this goal will need to be fortified and maintained in the upcoming high school and university years to insure L2 success. This indicates that Dörnyei's Ideal L2 Self System may be the appropriate framework within which to educate JEFL learners.

The PSR effect size results are also revealing. The effect sizes for the statistically significant differences reported in Table 3 for the PSR and no-PSR students indicate that the experimental groups' increases are indeed meaningful. These results are most intriguing—especially the rather large difference on the IM Accomplishment scale—clearly indicating that the students who had the PSR intervention felt that they had indeed accomplished something positive.

Additionally, the statistical power results tell us the probability of achieving similar results with a different group using the same experimental method, i.e., using a tablet computer for PSR with EFL students. Even more importantly, the influence on IM Accomplishment indicates that PSR can help in the short term and long term by providing a means for students to notice their skill development. Furthermore, a library of PSR videos can provide snapshots of student progress over time, allowing students and educators/researchers to review student progress. In the case of students, this would almost certainly be motivating. The large and statistically significant result on the difference of IM Accomplishment is interesting considering that the results of the correlation analysis show a very low correlation with the questions for the iPad (0.06).

The SDT Scale result differences for the PPC intervention data in Table 4 are especially enlightening. For example, all of the scale results in the intervention group have a higher average than the control group. There are dramatic differences for the students who had PSR compared to the pre-intervention class average. For example, the increases in the Identified Regulation (Ideal L2 Self) items and the IM Stimulation items show a statistically significant ($p <$ .05) increase of more than .70 each. Perhaps more interesting is the increase of 1.28 points on the IM Accomplishment scale, which is statistically significant at the $p < .01$ level. Additionally, the results of the statistical analysis show several statistically significant results. In addition, the effect sizes are also high enough to demonstrate that the differences are in fact meaningful.

It appears that the students in this research project felt that being engaged in the iPad recording and PSR was a rewarding experience. These students had an overall increase in EM Identified Regulation. However, the PSR group had an increase in IM Accomplishment, IM Stimulation, and Identified Regulation. Reflecting on the previously referenced studies, which used PSR, it appears that the act of viewing oneself successfully engaged in a target activity—in this case successfully speaking English so as to be understood by classmates—helps alleviate the self-consciousness associated with public speaking (Ockert, 2013). This then leads to a stronger self-image as a speaker of English. This results in an increase in the EM Identified Regulation items, which are of an Ideal L2 Self who can speak a foreign language. In other words, PSR strengthens student SDT-based Ideal-Self orientations/motives regarding EFL learning.

9. Conclusions

As noted above, Stockwell (2013) pointed out that there may be inherent motivational effects on language learners as a result of using technology. Based on the results presented herein, this appears to be the case with these young Japanese EFL learners as well, in regards to the use of an iPad tablet computer for PSR.

One limitation to the present study is the low number of participants. However, in initial empirical exploratory studies involving innovative uses of technology, this is not uncommon (e.g., see Reinders & Wattana, 2011). However, it should be noted that the results should not be generalized to learners in other contexts. On another note, this study has several positive implications for teachers. The data results indicate that the PSR via the iPad not only increased the participants' EM Identified Regulation (Ideal L2 Self) items, but had a rather strong influence on the student IM Confidence as well. As stated above, the teachers did not indicate on a per instrument basis the gender of the participants for the first iteration. While a direct pre- and post-intervention

comparison cannot be made at this time, future research can take this into consideration.

In addition, the students received only one PSR intervention. A more carefully structured study involving more students, opportunities for recording and PSR, both male and female students, students tracked pre- and post-intervention on a case-by-case basis for direct observation of changes within groups and differences between groups over an extended period of time would be an excellent research project and source of information. The author believes that future, longitudinal studies which track student progress based on gender, orientations/motives to study EFL, confidence, anxiety, FL WTC, and their effort / desire to learn English would be beneficial.

There are several questions that future research can help answer. For example: Is PSR an intrinsically motivating means to support students' successful acquisition of EFL in the long term?

A more carefully controlled empirical study with follow-up qualitative questions to specifically ask the students how they felt being recorded with the tablet computer while speaking in English, and also their thoughts on the use of PSR. Longer-term studies with more experimental groups which receive different amounts of PSR would be most welcome. This article has shown the results of a one-time, exploratory study—the author welcomes larger, more global studies of a similar nature.

Acknowledgments

About the Author

David Ockert's teaching interests are in critical thinking, reading comprehension, and academic writing. He researches on the influence of technology on affect, specifically motivation, confidence, anxiety, and willingness to communicate.

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Appendix: The LLOS-IEA Scales' Cronbach's alpha and Items

Amotivation (α = .75)
I don't know why I must study English. Plainly speaking, I'd rather do anything other than study English.
Honestly, I don't know, I truly have the impression of wasting my time in studying English.
As for studying English, I cannot come to see why I study English.

External Regulation (α = .68)
As for studying English, I do so in order to get a more prestigious job later on.
As for studying English, I do so because I have the impression that it is expected of me.
As for studying English, I do so in order to have a better salary later on.

Introjected Regulation (α = .69)
Because I would feel ashamed if I couldn't speak to my friends from the English-speaking community in English.
Because if I can speak English, I will be aware that I am an internationally minded person.
Because I would feel guilty if I didn't know English.

Identified Regulation (α = .75)
Because I want to be a person who can speak a foreign language.
Because I think it is important for my personal development.
Because I want to be a person who can speak English.

Intrinsic Motivation (Knowledge) (α = .81)
For the pleasure that I experience in knowing more about English literature.
For the satisfied feeling I get in finding out new things.
Because I enjoy the feeling of acquiring knowledge about the English-speaking community and their way of life.

Intrinsic Motivation (Accomplishment) (α = .81)
For the pleasure I experience when surpassing myself in my English studies.
For the enjoyment I experience when I grasp a difficult construct in English.
For the satisfaction I feel when I am in the process of accomplishing difficult exercises in English.

Intrinsic Motivation (Stimulation) (α = .83)
For the "high" I feel when hearing foreign languages spoken.
For the "high" that I experience while speaking English.
For the pleasure I get from hearing English spoken by native speakers.

Adapted from Yashima et al. (2009), which was adapted from Noels et al. (1999).

Assessment Across Online Language Education

Edited by Stephanie Link and Jinrong Li
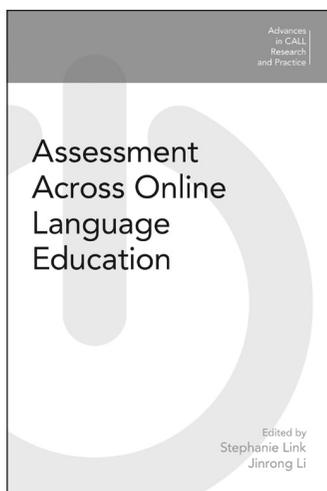
With the expansion of online language learning opportunities, language teachers and learners are presented with an increasingly diverse range of tools to facilitate language learning in various contexts. However, CALL researchers and practitioners often have limited knowledge about the effectiveness of online language learning on pro ciency gains, primarily due to a lack of empirical studies. Despite the challenges in assessing language learning online, the editors of this volume believe the range of online language learning opportunities has brought new tools and methods to both strengthen assessment and inform pedagogical decisions in online language teaching. Technologies offer various ways to complement achievement and pro ciency measures of language learning outcomes while allowing the assessment to be incorporated for the purpose of more effective learning (e.g., adaptive learning) and teaching (e.g., technology mediated dynamic assessment and teacher intervention). more effectively, and such developments can motivate researchers and practitioners to re-conceptualize the role of assessment in online language education.

Assessment Across Online Language Education examines these challenges that have emerged in online language teaching and learning, explores the new opportunities for language teachers and learners, and provides suggestions for future research on assessment and learning in online language education.

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