

# **MOTIVATIONAL EFFECTS OF DIGITAL STORYTELLING ON JAPANESE EFL LEARNERS**

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## **Abstract**

This paper explores the effect of a Project-based learning (PBL) approach to making academic digital stories in a Japanese EFL presentation course and show the effectiveness under ‘one-to-one’ computer-assisted language learning (CALL) settings. Foreign language anxiety in the classroom, especially which in speaking, deprives learners, especially less proficient learners, of their learning attitude and development. Making digital stories has been shown to have an effect on cognitive development, self-authoring and other academic as well as linguistic skills. The purpose of this paper is to show the effectiveness of PBL movie presentation in ‘one-to-one’ computer-assisted language learning (CALL) settings. Data from two groups with different proficiency levels, following the same syllabus, are dynamically compared in terms of foreign language anxiety and awareness of PBL skills. The data includes pre- and post- test scores of questionnaire research on PBL skills and foreign language anxiety, in addition to open-ended feedback. These results encourage us to suggest that our PBL approach presented in this study to digital movie presentation is naturally incorporated in an EFL presentation course for two distinct purposes: to reduce foreign language anxiety for less proficient learners and to foster PBL skills like deeper thinking and reflection for learners with higher proficiency.

## **1 Introduction**

It is generally accepted that when language learning is conducted in meaningful contexts with activities connected to learners’ lives, students attain competency for real-world communication (Brown, 2007; Castaneda, 2013; Hadley, 2001; Ono, Ishihara & Yamashiro, 2012; Shrum & Glisan, 2010). Task-based, project-based, and content-based approaches have sought to integrate learners in authentic environments (Ellis, 2003; Warschauer & Healey, 1998). Modern technology in the field of computer-assisted language learning (CALL) has incorporated such sociocultural approaches into a computer-assisted learning environment, providing various supporting tools and scaffoldings for such learning styles, and has been enhancing the authenticity of communication (Zhao, 2003). In Japan, a typical English as a Foreign Language (EFL) country, an increasing number of classrooms have been changed into wired settings, which means that ‘one-computer-to-one-learner, or one-to-one’ environments are becoming more common. This is an encouraging situation for language instructors because such learning environment enables instructors to implement a collaborative teaching method which encourages learners to have more communication or interaction with the help of contemporary CALL. However, it must be said that very few new CALL-based teaching methods have been devised so far to provide more opportunities for authentic interaction to Japanese learners.

In spite of the expected effectiveness of authentic communication, there is a common situation observed in Japan, which appears to be challenging to such teaching methods using CALL. The situation is that some less motivated EFL learners hesitate to use English for authentic communication due to foreign language anxiety (Horwitz, Horwitz & Cope, 1986; Young, 1986). Presentation is considered to be of paramount importance to students (Vitasari et al., 2010). But speaking in public produces high level of anxiety (Young, 1999) and presentation anxiety is a difficult part among the student's experiences and can unsettle or even frighten some student (Vitasari et al., 2010). Moreover, face-to-face presentation with the use of presentation software sometimes leads them to panic in front of the audience (Brenda & Tillson, 2007; Ono et al., 2012). On the other hand, creating a digital movie has a favourable effect on knowledge construction and promotes motivation (Hung, Hwang & Huang, 2012; Lowenthal, 2009). Burmark (2004) reported that digital storytelling is an effective approach for helping students collect information, create new ideas, and organize their knowledge, which can improve the students' comprehension of the learning content. This method has been naturally applied to the field of foreign language teaching and is considered as one valuable opportunity for authentic foreign language learning (Castaneda, 2013). There is, however, an important issue in applying the method of movie creation to foreign language teaching: whether avoiding public speech and making a digital movie is really a motivating approach for learners who have potential anxiety to speak in a foreign language in public.

Research (e.g. AbuSeileek, 2007; Fitz, 2006) indicates there is usually a positive relationship between cooperative language learning tasks in computer-based environments, and reducing anxiety and developing communication skills. Greenfield (2003) points out that computer-assisted learning reduces students' anxiety, fear, discomfort, or lack of confidence. However, the relationship between making a digital movie and foreign language anxiety has not been studied so far.

Another favourable aspect of making a digital story is that this method is easily conducted in a Project-based learning (PBL) context. PBL is an instructional strategy that, via participating in a project, appeals to students because they learn by way of problem solving, data collection, and discussion, as well as the presentation of the results as reports (Hung et al., 2012; Koh, Herring & Hew, 2010; Polman, 2000; Wolk, 1994). The impact of technology on PBL led to research on computer-assisted learning environments (Bottino & Robotti, 2007), and there are several studies, reviewed in Hung et al. (2012), indicating positive effects of computer-mediated PBL in science education. The effect of a computer-mediated PBL approach on learners' PBL skills, however, has not been studied so far; specifically, PBL skills including computer use, data collection, problem solving, discussion and presentation in the field of foreign language teaching.

This paper starts with a review of the merits of digital movie presentation, its effect on PBL skills, and 'one-to-one' CALL model. This paper then shows that the present study focuses on the effects of computer-mediated PBL approach to digital movie production on Japanese EFL learners' foreign language anxiety and improvement of PBL skills. We will show that the project reduced foreign language anxiety of less-proficient learners, and that it provided proficient learners with various kinds of opportunities to reflect on their progress in terms of PBL skills.

## **2 Backgrounds**

### ***2.1 Merits of movie presentation***

The activity of creating a movie is sometimes called ‘Digital storytelling’ (Castaneda, 2013; Lambert, 2006, 2007). Digital storytelling is sometimes associated with the idea of reflecting on one’s life with images and one’s own recorded narratives. The present study is not restricted to narrative story but expands to exposition, argumentation, and description. Storytelling and learning are inextricably tied because the process of composing a story is also one of meaning-making.

The activity referred to as movie presentation in this project can be summarized as follows: (1) Learners prepare slides for presentations using presentation software such as PowerPoint, which is common software for oral presentations. (2) Narration or speech is digitally recorded. (3) Slides and recorded sounds are edited by using a movie-editing software.

A general evaluation of introducing digital storytelling to foreign language classrooms is summarized in Castaneda (2013). This method has also been utilized in the L1 classroom (Banaszewski, 2002; Davis, 2004; Kajder, 2004). Sadik (2008) reported the use of digital stories in various EFL fields. Cloud, Lakin and Leininger (2011) and Vinogradova, Linville and Bickel (2011) documented the use of digital storytelling with adolescent and adult English language learners. These studies suggested that digital stories can advance cognitive development, self-authoring, and identity construction (Davis, 2004; Sadik, 2008). Also, digital storytelling has been shown to teach valuable technical skills, engage students, sharpen critical thinking skills, and expand the knowledge of the audience to whom learners present (Ohler, 2006; Sadik, 2008). Another merit of the use of digital stories is that teachers may use them in assessing students’ progress toward learning goals (Ono, et al., 2012).

Digital storytelling has been shown to improve linguistic skills in foreign language classrooms (Bell, 2008; Castaneda, 2013; Dal, 2010; Ono, et al., 2012). In a Japanese EFL context, some studies have indicated the positive effects of digital storytelling in regular EFL courses (Agawa, 2012; Kimura, 2010; Obari, 2009; Ono, 2008). Most studies dealt with the effect of digital storytelling on learners’ motivation and linguistic proficiency. Ono (2008) and Ono, et al. (2012) pointed out positive effects on less confident Japanese learners’ motivation for the task of creating a movie as project work. It is often observed that less-confident learners in the classroom, who had previously reported never wanting to speak up in the classroom, exerted considerable effort in improving their English in recording sessions. The situation becomes more serious for such learners when they have to work on academic English, since the vocabulary used becomes more difficult and complex. In digital storytelling, however, even less-motivated students can actively participate in the project, perhaps because they can play active roles in other digital PBL activities such as searching the Internet, designing a PowerPoint layout, or operating computer software. The first focus of this study is to investigate the effect of digital storytelling on learners who are less motivated to learn a foreign language and how it reduced their anxiety to use a foreign language.

Previous studies have not examined the effect of digital storytelling on high-proficiency learners who are comfortable with public speaking. Moreover, most studies on digital storytelling carried out in Japan have used group projects rather than individual ones. This

paper will be the first attempt to deal with individual projects, whereby each learner produces one movie in a ‘one-to-one’ CALL setting.

## ***2.2 Movie presentation as PBL***

### ***2.3 Technology-mediated, task-based multiliteracy project***

Castaneda (2013) provides a thorough description of why digital storytelling is a ‘technology-mediated, task-based multiliteracy project’ (p. 47). Pedagogically, the digital storytelling process is an example of a ‘multiliteracy’ approach. Because of the simultaneous use of foreign language and technology, students must not only learn to cope with an increasingly globalized society by connecting with other cultures through language but also gain competence in communicating their own thoughts with new communication technologies. Digital storytelling using a foreign language ‘marries these two aims’ (p. 47).

The project in our study consists of several aggregated tasks. According to Nunan (2004), ‘projects can be thought of as “maxi-tasks” that is a collection of sequenced and integrated tasks that all add up to a final project’ (p. 133). Digital stories consist of meaningful tasks in which students use a foreign language to convey a story to the audience. The production of a meaningful outcome, a video product, which consists of several tasks, is considered task-based learning. Further, it has also been claimed that technology-mediated tasks increase student’s motivation (Olsen, 1980; Ushida, 2005). With this in mind, Castaneda (2013) suggested that digital storytelling projects are distinctive and motivational technology-mediated tasks.

### ***2.4 One-to-one learning environment***

Since sociocultural theories of learning on constructed knowledge assume interaction (Vygotsky, 1978), a growing body of research focuses on a socio-constructivist approach based on interaction. Computer-mediated communication and its possibilities for the collaborative construction of knowledge have attracted much attention in language learning (Bueno, 2011). Creating more authentic communicative environments for interaction is highly supported in a ‘one-to-one’ CALL environment, enabling learners to have a more meaningful interaction, which includes comprehensible input (Krashen, 1988), intake (Long, 1996; Schmidt, 1990) and output (Swain, 1985). A recent CALL system has been designed in terms of the implementation of socio-constructivism as an integrative model (Bax, 2003; Takeuchi, 2008; Warschauer et al., 2000).

It was stated above that creating a movie provides some merits in terms of improving learner’s motivation and linguistic skills in Japanese EFL settings. However, it must be pointed out that most such studies have paid attention to the cases in which the project was carried out as ‘collaborative’ work; that is, members of a group created one movie collaboratively. The common issue around collaborative work is ‘equity’ among the group. Each member of the same group is rewarded with a nice final product, a movie, regardless of their level of participation.

It seems that those studies were conducted in traditional non-PC classrooms. Since there was no ‘one-to-one’ environment provided, the instructors could not but choose ‘traditional’ real

time face-to-face discussion in the classroom to enhance collaboration. Contemporary CALL components like a computer-mediated communication system resolve such limitations as equity issues and lack of interaction, and provide a learning environment with more opportunities for asynchronous and synchronous interaction.

### **3 Two factors in focus in this paper**

#### ***3.1 Foreign language anxiety for less-proficient learners***

As noted in the last section, anxiety has been shown to negatively influence foreign language learning, including academic achievement (Horwitz et al., 1986; Young, 1986). Reading, writing, as well as listening in a second language can trigger anxiety, but speaking seems to be most anxiety-provoking, perhaps because of the requisite immediacy of the response (Yashima et al., 2009). For academic oral presentations requiring the use of PowerPoint, certain unaccustomed presenters speak or even ‘read’ a difficult English script by holding a piece of paper and operating PowerPoint simultaneously, which can lead them to panic. During movie presentations, however, students avoid feeling anxiety or becoming panicked as they are offered opportunities to revise their work until they feel that it has been perfected.

#### ***3.2 Improvement of PBL skills***

Without the use of contemporary technology, there were several problems in applying a traditional PBL approach in large-sized classrooms, like the ones in Japanese university settings. These include difficulties in promoting students' motivation to learn, having students concentrate on the learning tasks, helping the students connect the new content with their prior knowledge, and conducting the cooperative learning activities efficiently (Hung et al., 2012). Recent technology has resolved some of these problems. A technology-integrated PBL environment not only provides synchronous and asynchronous interaction but also provides a real-world, constructivist, collaborative learning environment that has many advantages over the traditional PBL environment (Bottino & Robotti, 2007).

Miyaji (2012) discusses the content of PBL skills in digital storytelling related to computer use and cooperative learning in addition to critical thinking. Components of this computer skill consist of computer use and searching, collecting, sorting, and analysing information. Whether our project has an effect on awareness of these PBL skills is the other focus of this paper.

#### ***3.3 Comparison between two classes with different proficiencies***

As for foreign language anxiety, the effect is expected to be greater on learners with low proficiency level, rather than those with higher proficiency levels (Ono, 2009; Ono, Ishihara, & Ono, 2013). In terms of PBL skills, there are few studies dealing with the relationship between proficiency level and specific PBL skills. The dynamic comparative study as presented in this paper is thus worth pursuing.

## **4 Study**

### ***4.1 Research questions***

This paper attempts to validate the effect of integrative computer-mediated PBL course model involving movie presentation on Japanese EFL university students. Specifically, we would like to posit the following two research questions:

- (1) How does integrative CALL course model affect learners' foreign language anxiety and PBL skills?
- (2) How are the results different between the two proficiency levels?

### ***4.2 Participants***

The study was conducted in a regular compulsory course for first-year students: Integrated English. The class was held once a week, for 75 minutes. The course lasted a year, and the project was inserted into the course for a five-week period. The focus of this course was on cross-cultural awareness in a global age. We conducted the project for two independent classes: Class A and Class B. The project was conducted in 2011 for Class A, which consisted of 35 lower proficiency students majoring in engineering; and in 2012 for Class B, which consisted of 27 high proficiency students majoring in social and international studies. There were 11 students in Class B who had studied abroad for more than one year. All first-year students took a placement examination at the beginning of the school year and were separated into several classes according to their scores. The examination consisted of listening and reading questions, similar to TOEFL. The average scores of Classes A and B were 41.0 and 71.0, one of the lowest and the highest, respectively.

### ***4.3 Learning environment***

The course involves the use of Information and Communication technology tools in many ways under 'one-to-one' model. Using presentation software such as PowerPoint is thought to be a necessary skill for academic or other public presentations. Peer evaluation and collaborative work were essential in understanding an issue, clarifying a point and forming opinions. All of the products created in each class were collected and stored so that the students and the teacher could see and reflect on students' progress toward their goals. In this project, we utilized the Learning Management System (LMS) Moodle, which was established for the whole campus. An online bulletin-board module was installed in Moodle, which was utilized in addition to face-to-face peer communication in the classroom. This environment made it possible to encourage asynchronous and synchronous interaction among peers. Outside the classroom, the participants had access to this LMS so that they could engage in the classroom environment at home. A rough image of class environment is shown in Fig. 1.

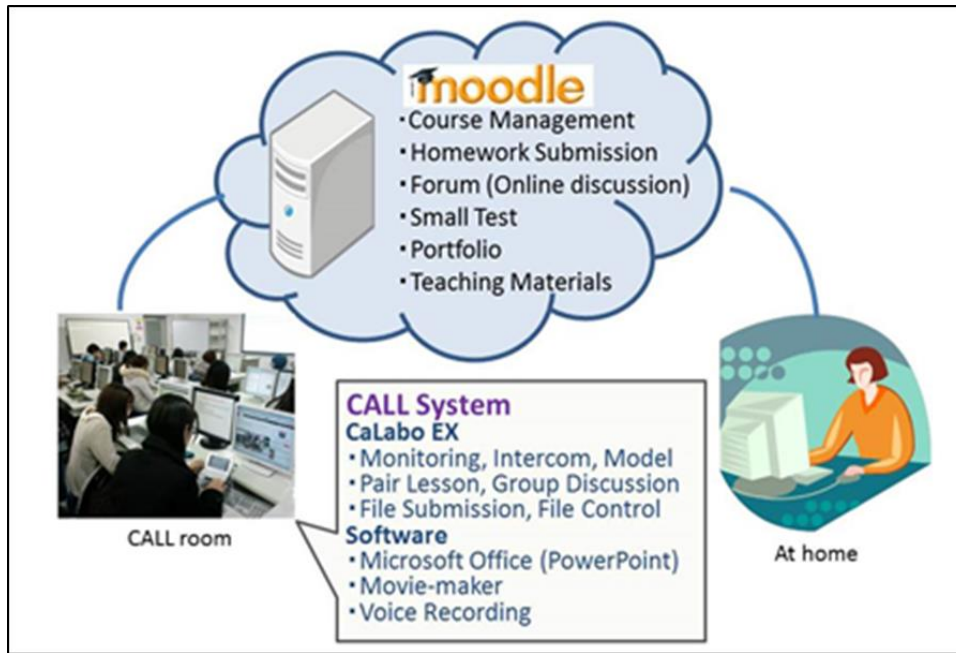


Fig. 1. Learning environment: Outline

#### 4.4 Lesson plan

The basic theme of the course was ‘awareness of cross-cultural understanding in English’. Since there was a flood disaster and the capital was greatly damaged in October 2011, we chose ‘Thailand’ as the first topic for project work for Class A, the lower-proficiency class.

Table 1. Lesson plan

Week	Lesson	Content	Activity	Technologies
1	Introduction of the project work	Understanding the background of Thailand Watching news on Youtube	Discussion on Thailand Deciding on a title	Internet browser, Online discussion, File download
2	Searching and Organization	Completion of the organization worksheet PowerPoint creation	Discussion on organization Individual work	File control/submission, Office (Excel, PowerPoint), Online discussion
3	Recording and Editing	Sound recording Movie editing	Creation of the first movie Peer evaluation of the first movie	File submission, Text-to-speech, Sound recorder, Movie maker, Online discussion
4	Evaluation 1	Evaluation	Completion of the evaluation sheet	File control/submission, Office (Excel), CALL (Income)

5	Evaluation 2	Evaluation	Completion of the evaluation sheet	File control/submission, Office (Excel), CALL (Income)
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For the higher-proficiency Class B, we chose four Asian countries, India, Philippines, and Korea, and asked them to research on their cultural, political, and economic aspects and its relationship with Japan. Both classes followed the same procedure as given in Table 1 below. Students worked on one topic or project in five weeks, including organization, editing, and peer evaluation. For the first three weeks, students discussed their own ideas or their products previously made at home in groups or pairs. After the discussion, they made revisions after receiving peer feedback. Students went through group or pair discussion every week in the classroom face-to-face and outside the classroom through Moodle. In weeks 4 and 5, we had an evaluation session of their presentations. All the participants made an evaluation of all the movies for two weeks.

#### **4.5 Instrumental tools**

In order to answer the research questions noted above, a questionnaire survey was conducted. For foreign language anxiety, we employed a Japanese version of the Foreign Language Classroom Anxiety Scale (FLCAS; Horwitz et al., 1986; Yashima et al., 2009). As the second instrument, we employed the questionnaire research used in Miyaji (2011). This questionnaire on PBL skills includes subcategories given in the previous section on the definition of PBL skills. The list of question items is listed in the Appendix. In both instruments, all the question items were written in Japanese, which were translated into English by the author of this paper. Question items 1 to 29 are about PBL skills and those of 30-64 are concerned with foreign language anxiety. Descriptive statistics of these question items are as follows:  $M=3.244$ ,  $SD=0.301$ , Cronbach  $\alpha=.870$ . The survey was conducted before and after the five-week project, and we conducted a t-test to determine whether there were any significant differences before and after the course. We then conducted factor analysis to observe the interrelationships among clustered items in each factor. At the end of the research, all participants wrote in Japanese freely about their experience making the video presentation as open-ended feedback.

#### **4.6 Results**

Table 2 shows the results. Only question items which showed significance in either group are retained. An almost symmetric relation between PBL skills and foreign language anxiety was found between the two groups. Students of Class B (Higher) seem to feel that their PBL skills, rather than foreign language, greatly improved after the project. In contrast, those of Class A (Lower) seem to feel that the course had an effect on reducing foreign language anxiety, instead of the impression that the course improved PBL skills.



**Table 2. Result of the *t* test**

		Class B (Higher)				Class A (Lower)					
		M	SD	<i>t</i> value	Significance (Two-tailed)	M	SD	<i>t</i> value	Significance (Two-tailed)		
3	I have technical computer skills.	0.33	0.71	2.78	.008	0.36	0.99	2.188	.035	+	
4	I can operate computers.	0.36	0.72	2.99	.005	**	0.19	0.85	1.363	.182	
5	I am capable of clarifying problems.	0.13	0.99	.842	.406	0.41	0.96	2.584	.014	+	
7	I am capable of deepening my understanding of knowledge.	0.33	0.75	2.64	.012	+	0.13	1.29	.646	.523	
9	I am capable of collecting information.	0.36	0.68	3.17	.003	**	0.16	1.10	.902	.373	
10	I am capable of sorting information and necessary data.	0.55	0.87	3.80	.001	**	0.38	1.12	2.068	.046	+
11	I am capable of analyzing information.	0.50	0.69	4.30	.000	**	0.25	1.02	1.464	.152	
12	I am capable of expressing myself in sentences.	0.36	0.63	3.38	.002	**	0.16	0.97	1.030	.310	
13	I am capable of expressing myself through non-verbal media.	0.52	0.97	3.26	.002	**	0.02	0.87	.190	.851	
14	I am capable of providing simple explanations.	0.55	0.80	4.12	.000	**	0.00	0.92	.000	1.00	
15	I am capable of giving presentations.	0.41	0.77	3.24	.003	**	0.13	1.07	.777	.443	
16	I am capable of understanding others' explanations.	0.33	0.75	2.64	.012	+	0.13	1.26	.657	.515	
20	I am capable of improving and correcting.	0.36	0.63	3.38	.002	**	0.33	1.14	1.745	.090	
21	I am capable of performing detailed investigations.	0.38	0.72	3.20	.003	**	0.19	0.98	1.190	.242	
27	I am capable of organizing information.	0.25	0.69	2.16	.037	+	0.36	1.09	1.971	.057	
28	I am capable of thinking independently.	0.38	0.76	3.04	.004	**	0.33	1.14	1.745	.090	
32	I am never quite sure of myself when speaking in English.	0.08	0.73	.683	.499	2.25	1.61	8.384	.000	**	
36	I wouldn't mind taking more English classes.	0.13	1.24	.669	.508	0.72	1.56	2.777	.009	**	
38	I keep thinking that other students are better at English than I am.	0.16	1.08	.924	.362	1.25	1.85	4.038	.000	**	
39	I keep myself calm in English examinations.	0.02	0.91	.183	.856	1.27	1.38	5.532	.000	**	
41	I worry about the consequences of failing my English class.	0.08	1.02	.488	.629	1.83	2.32	4.734	.000	**	
42	I don't understand why some people get so upset over English classes.	0.36	0.86	2.49	.017	+	2.25	1.91	7.039	.000	**
44	It embarrasses me to volunteer answers to	0.08	0.93	.533	.597	1.19	1.75	4.087	.000	**	

45	questions in my English class. I would not be nervous speaking English with native speakers.	0.08 3	0.90 6	.552	.585	1.33 3	1.69 0	4.733	.000	**
46	I get upset when I don't understand what the teacher is correcting about my English.	0.00 0	0.86 2	.000	1.00 0	0.55 6	0.99 8	3.339	.002	**
48	I often feel like skipping English class.	0.16 7	0.91 0	1.09 9	.279	1.33 3	1.89 7	4.216	.000	**
49	I feel confident when I speak in English class.	0.08 3	0.55 4	.902	.373	2.44 4	1.46 3	10.02 7	.000	**
51	I can feel my heart pounding when I'm going to be called on in English class.	0.05 6	1.19 4	.279	.782	0.50 0	1.36 3	2.201	.034	+
52	The more I study for an English test, the more confused I get.	0.11 1	0.82 0	.813	.422	1.16 7	1.76 5	3.967	.000	**
53	I don't feel pressured to be well prepared for English class.	0.02 8	1.34 1	.124	.902	0.66 7	1.95 7	2.044	.049	+
59	When I'm on my way to English class, I feel very relaxed and sure of myself.	0.13 9	0.79 8	1.04 4	.304	0.77 8	1.26 7	3.682	.001	**
60	I get nervous when I don't understand every word the English teacher says.	0.02 8	0.87 8	.190	.851	0.47 2	1.34 1	2.112	.042	+
64	I get nervous when the English teacher asks questions I haven't prepared for in advance.	0.22 2	0.92 9	1.43 5	.160	0.50 0	1.10 8	2.707	.010	+

\*\*\*:  $p < .001$ , \*\*:  $p < .01$ , \*:  $p < .05$ , +:  $p < .05$

Tables 3 and 4 show the results of factor analysis of the significant items for Classes A and B respectively. All the significant items were subjected to principal axis factor analysis with Promax rotation. Considering the clustered items in each factor, we assigned labels to each factor for both classes. For Class A (Lower), three factors were produced through factor analysis: Factor 1 'Reduced Anxiety in the Classroom', Factor 2 'Acquiring Information and Computer Skills', and Factor 3 'Enhanced Interest'. In contrast, two factors were abstracted for Class B (Higher). For Factor 1, the clustered items concerned the items that constituted learning of computer use and sorting and organizing information. Therefore, we named Factor 1 'Information and Computer Literacy'. Similarly, we named Factor 2 'Attitude toward Academic Thinking', because the items concern students' awareness toward more in-depth thinking and communication for an academic purpose.

**Table 3. Result of factor analysis for class A (Lower)**

	Factors		
	1	2	3
It embarrasses me to volunteer to provide answers in my English class.	-.891	-.089	.487
I can feel my heart pounding when I'm going to be called on in English class.	.727	.062	.101

I get nervous when the English teacher asks questions I haven't prepared for in advance.	.721	-.217	.411
I get upset when I don't understand what the teacher is correcting about my English.	.620	-.101	.067
I get nervous when I don't understand every word the English teacher says.	.491	.191	.125
I am capable of clarifying problems.	-.051	.805	-.018
I am capable of sorting information and necessary data.	-.008	.786	.054
I have technical computer skills.	.069	.537	.274
I often feel like skipping English class.	.124	.010	.596
I keep thinking that the other students are better at English than I am.	-.024	.045	.580
I wouldn't mind taking more English classes.	.023	.273	.511
			accumulative variance = 65.7%

**Table 4. Result of factor analysis for class B (Higher)**

	Factors	
	1	2
I can operate computers.	0.811	-0.188
I am capable of giving presentations.	0.770	0.052
I am capable of providing simple explanations.	0.725	0.092
I am capable of sorting information and necessary data.	0.655	0.162
I am capable of deepening my understanding of knowledge.	0.637	0.208
I am capable of collecting information.	0.599	0.289
I am capable of analyzing information.	0.529	0.273
I am capable of expressing myself through non-verbal media.	0.477	0.103
I am capable of expressing my opinions in sentences.	0.123	0.798
I am capable of understanding others' explanations.	-0.128	0.779
I am capable of thinking independently.	0.097	0.735
I am capable of performing detailed investigations.	0.202	0.470
accumulative variance = 63.8%		

Lastly, we collected open-ended feedback from both classes. Students wrote comments freely about digital movie presentation in Japanese. The amount of open-ended feedback is almost the same between the two groups (Number of words average: Class A, 50.6; Class B, 47.8). A lot of learners of both groups touched on two topics in the feedback; they made comments on the importance of English pronunciation and how the language should be spoken in the video, in addition to the importance of visual aids. It was also observed that the participants in Class B (Higher) expressed their presentation in terms of content and organization, while those in Class A (Lower) made more references to anxiety and achievements.

Tables 5 and 6 illustrate typical examples of open-ended feedback of Classes A and B, respectively, translated into English by the author.

**Table 5. Comments from class A (Lower)**

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1	The use of pictures and sound was really helpful for me because I found it easier to communicate with my classmates. I am not good at speaking, but I took the trouble to improve the presentation, animation sounds, and layout. This presentation method was really outstanding because we could devote ourselves to aspects of story-making dependent on our personal interests.
2	I found the movie presentation very interesting because I sometimes had difficulty deciding which words to choose. I can make myself understood by using movies. And I think the movie presentation was more powerful than traditional presentation because of the use of movies and sounds.
3	Participating in this class was a nice experience. I considered again and again about the speed of the narration and the use of pictures because the choice would have a different influence on the audience. It was also nice that I didn't have to touch the computer during the presentation, because I am not good at doing a speech and using the computer at the same time during presentations

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**Table 6. Comments from class B (Higher)**

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1	I thought that the two most important factors to make the movie easiest to understand are the level of pronunciation and the visuals. A clear voice will reach the audience much better. The visuals will help the audience understand the content at a glance and will lead to deeper communication. I realized the importance of the process of organization—what to tell and what to show.
2	I spent a lot of time on the design of the movie. However, I thought I didn't spend much time on considering the content of my presentation. I didn't practice pronouncing English words sufficiently either. I found some grammatical errors in the script just after completing the movie. I need to establish the foundation of how to convince the audience through the movies.
3	I was really surprised that my friends in the classroom imagined and created much more things just from keywords on the Philippines and India. Observing my friends' movies is really fun, I never got bored, and it was the first of such an experience I have had in a class presentation.

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The first student of Table 5 showed his/her anxiety in speaking English, but he/she tried repeatedly to complete the video. Additionally, the third student seems to be satisfied that he/she avoided operating the software during the presentation. The second student expressed overtly, and the other two students implied, that the video presentation was an exciting experience although they had difficulty in the process. The first two students in Table 6 generally agreed on the point that the important factors for the success of video presentation were good pronunciation and content or organization. The third student made reference to the importance of collaboration, maybe because this was helpful in understanding and deepening his/her own content or organization. These comments can be regarded as supporting our suggestion that video presentation is useful not just for avoiding anxiety in front of people for less proficient students, but also enhances deeper reflection on students' productions in the course.

## **5 Discussion**

It was shown that students of Class A (Lower) felt that their foreign language anxiety was reduced. This result validates the observation given in Ono (2008), where it was suggested that the students had never been willing to speak English before the project, but that they got involved actively in the digital movie presentation project. Moreover, Table 2 showed that there were almost no question items on PBL skills in Class A which showed significance, but a few question items showed a tendency of significance, and these are question items concerning computer use, indicating their meaningful use of computers. These results seem to follow from active participation in the project through computer-mediated PBL (Bottino & Robotti, 2007; Hung et al., 2012). More simply, the introduction of technology and computer-mediated linguistic tasks into a presentation course motivated less proficient learners to make an achievement (Olsen, 1980; Ushida, 2005).

As for foreign language anxiety experienced by Class B (Higher), there is no effect observed as shown in Table 2. This is an expected result considering that they are willing to speak in the classroom. Table 4 showed that Factor 1 was related to the use of computers and treating of information. Factor 2 concerned reflection on the process, which is a necessary skill for academic achievement. The fact that these two facts were abstracted for high-level learners was notable, because computer-mediated PBL approach to digital movie production enhanced essential computer skills, sharpened critical thinking skills, and expanded the knowledge of the audience to whom learners present, in the sense of Ohler, (2006) and Sadik (2008).

The experimental results and the feedback from the students confirmed previous research findings; that is, PBL approach engaged learners in working with their class members and help them improve their learning achievement (Johnson, Johnson & Holubec, 1994; Krajcik, Czerniak & Berger, 2003). This is an interesting implication for future methodology for CALL because it validates the claim that computer-mediated PBL approach to movie production is a distinctive and motivational technology-mediated task, as suggested by Castaneda (2013).

The degree of the students' engagement in the project was actually beyond the researcher's expectations. All the students in both classes successfully completed a digital story in the target language and presented the finished product to an audience. In comparison with the traditional face-to-face presentation, which they are accustomed to, they cannot use facial expression to express their emotions, nor can they ad lib during the presentation in response to the audience reactions during the video presentation. These facts seem to have led them to concentrate on the accurate pronunciation, comfortable delivery, and beautiful visual aids in the video, with the effect of enhanced motivation to think carefully and practice repeatedly. This is not to say that video presentation is superior in any way to the traditional face-to-face presentation in a presentation course plan. What I mean here is that video presentation will have a role to encourage students to concentrate on their videos in terms of organization, pronunciation, visual aids, and the proper incorporation into the traditional presentation course might be key for future presentation courses.

At the beginning of the course, we were afraid that the students believed that the task would be troublesome with computers, and that they would spend too much time on technology, rather than on the content of the script. This, however, turned out not to be much of an issue

for either students or instructors, because it became apparent in this research that the students became more confident in both computer use and language use. Maybe (and hopefully) they were convinced that the multiliteracy task would lead them to the acquisition of language skills, deeper thinking, and computer literacy, required as 21st century skills as suggested by Castaneda (2013).

## **6 Conclusion**

This paper suggests that computer-mediated approach to movie presentation had some effects on learners with a wide range of proficiency. This provides a possibility to incorporate movie presentation into Japanese EFL curricula for regular presentation courses. As stated at the beginning of this paper, this study is a preliminary research on PBL in ‘one-to-one’ settings and several perspectives must be considered for further research.

The first limitation of the current research is that the results from the experiments were obtained from only one institution and the number of participants was too small to generalize the results to a wider range of educational settings. Secondly, since the current study was limited to examining learners’ awareness of their foreign language anxiety and PBL skills, future research examining their overall progress in writing and speaking proficiency could provide more insight on a broader perspective of the relationship between the project and its expected effects. Lastly, this research does not suggest anything about the longitudinal effect of PBL project. Future research may focus on better understanding the difference between short- and long-term effects on motivation and proficiency.

In sum, while this study has its limitations, it can serve as a basis for further study in integrating our CALL approach to movie presentation into the language classroom. Future research with focus on raising learners’ motivation and enhancing PBL skills for the global age is worth pursuing.

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## **References**

- AbuSeileek, A. (2007). Cooperative vs. individual learning of oral skills in a CALL environment. *Computer Assisted Language Learning*, 5(20), 493–514.
- Agawa, T. (2012). Cooperative learning in digital storytelling: A way to raise university English learners’ motivation. *The Language Teacher*, 36(1), 11-16.
- Banaszewski, T. (2002). Digital storytelling finds its place in the classroom. *MultiMedia & Internet @ Schools*. Retrieved from <http://www.infotoday.com/mmschools/jan02/banaszewski.htm>

- Bax, S. (2003). CALL past, present and future. *System*, 31, 13–28.
- Bell, N. (2008). Visualizing and verbalizing for language comprehension and thinking. Retrieved from [http://www.psllcnj.com/visualizing\\_and\\_verbalizing.htm](http://www.psllcnj.com/visualizing_and_verbalizing.htm)
- Bottino, R.M., & Robotti, E. (2007). Transforming classroom teaching and learning through technology: Analysis of a case study. *Educational Technology & Society*, 10(4), 174-186.
- Brenda, H.S., & Tillson, L. (2007). Strategies to improve students' presentation skill. *Journal of Applied Topics in Business and Economics*, 1–6.
- Brown, H.D. (2007). *Principles of language learning and teaching* (5<sup>th</sup> ed.). White Plains, NY: Pearson Longman.
- Bueno, M.C. (2010). Synchronous voice computer mediated communication: Effects on pronunciation. *CALICO Journal*, 28(1), 1–20.
- Bueno, M.C. (2011). Perceived benefits and drawbacks of synchronous voice-based computer-mediated communication in the foreign language classroom. *Computer Assisted Language Learning*, 24(5), 419-432.
- Burmark, L. (2004). Visual presentations that prompt, flash and transform. *Media and Methods*, 40(6), 4-5.
- Castaneda, M.A. (2013). “I am proud that I did it and it’s a piece of me”: Digital storytelling in the foreign language classroom. *CALICO Journal*, 30(1), 44-62.
- Cloud, N., Lakin, J., & Leininger, E. (2011). Learner-centered teaching: The core of effective practices for adolescent English language learners. *TESOL Journal*, 2(2), 132–155.
- Dal, M. (2010). Digital video production and task based language learning. Ráðstefnurit Netlu – Menntakvika 2010. Menntavísindasvið Háskóla Íslands. Retrieved from <http://netla.khi.is/menntakvika2010/alm/021.pdf>
- Davis, A. (2004). Co-authoring identity: Digital storytelling in an urban middle school. *THEN: Technology, Humanities, Education, & Narrative*, 1(1). Retrieved from <http://thenjournal.org/feature/61/>.
- Ellis, R. (2003). *Task-based language learning and teaching*. New York: Oxford University Press.
- Fitz, M. (2006). Discourse and participation in ESL face-to-face written electronic conferences. *Language Learning & Technology*, 10(1), 67–86.
- Greenfield, R. (2003). Collaborative e-mail exchange for teaching secondary ESL: A case study in Hong Kong. *Language Learning & Technology*, 7(1), 46–70.

- Hadley, A.O. (2001). *Teaching language in context*. Boston, MA: Heinle & Heinle.
- Horwitz, E.K., Horwitz, M.B., & Cope, J. (1986). Foreign language classroom anxiety. *Modern Language Journal*, 70, 125- 132.
- Hung, C.-M., Hwang, G.-J., & Huang, I. (2012). A project-based digital storytelling approach for improving students' learning motivation, problem-solving competence and learning achievement. *Educational Technology & Society*, 15(4), 368–379.
- Johnson, D.W., Johnson, R.T., & Holubec, E.J. (1994). *The new circles of learning: Cooperation in the classroom and school*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Kajder, S. (2004). Enter here: Personal narrative and digital storytelling. *The English Journal*, 94(3), 64.
- Kimura, M. (2010). Visualizing and verbalizing by digital storytelling in English reading class in Japanese University. In D. Gibson & B. Dodge (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2010* (pp. 1479-1486).
- Koh, J.H.L., Herring, S.C., & Hew, K.F. (2010). Project-based learning and student knowledge construction during asynchronous online discussion. *The Internet and Higher Education*, 13(4), 284-291.
- Krashen, S. (1988). *Second language acquisition and second language learning*. New York: Prentice Hall.
- Lambert, J. (2006). *Digital storytelling: Capturing lives, creating community* (2<sup>nd</sup> ed.). Berkley, CA: Digital Diner Press.
- Lambert, J. (2007). *Digital storytelling cookbook*. San Francisco, CA: Digital Diner Press.
- Long, M.H. (1996). The role of the linguistic environment in second language acquisition. In W. Ritchie & T. Bhatia (Eds.), *Handbook of second language acquisition* (pp. 413–469). New York: Academic Press.
- Lowenthal, P.R. (2009). Digital storytelling: An emerging institutional technology? In K. McWilliam & J. Hartley (Eds.), *Story circle: Digital storytelling around the world* (pp. 252–259). Oxford, UK: Wiley-Blackwell.
- Miyaji, I. (2011). Effects of creating digital storytelling by three kinds of themes. In T. Hirashima et al. (Eds.). *Proceedings of the 19th International Conference on Computers in Education* (pp. 531-538). Chiang Mai, Thailand: Asia-Pacific Society for Computers in Education.



- Mergendoller, J.R., Markham, T., Ravitz, J., & Larmer, J. (2006). Pervasive management of project based learning: Teachers as guides and facilitators. In C.M. Evertson & C.S. Weinstein (Eds.), *Handbook of classroom management: Research, practice, and contemporary issues*. Mahwah, NJ: Lawrence Erlbaum, Inc.
- Nunan, D. (2004). *Task-based language teaching*. New York: Cambridge University Press.
- Obari, H. (2009). Integration of e-learning and m-learning in teaching EFL in Japan. *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2009* (pp.1009-1015).
- Ohler, J. (2006). The world of digital storytelling. *Educational Leadership*, 63(4), 44-47.
- Olsen, S. (1980). Foreign language departments and computer-assisted instruction: A survey. *The Modern Language Journal*, 64(3), 341–349.
- Ono, Y., Ishihara, M., & Yamashiro, M. (2012). *Technology enhanced movie presentation with focus on foreign language anxiety and PBL skills*. In G. Biswas et al. (Eds.), *Proceedings of the 20th International Conference on Computers in Education* (pp. 584-588). Singapore: Asia-Pacific Society for Computers in Education.
- Polman, J.L. (2000). *Designing project-based science: Connecting learners through guided inquiry*. Columbia University, NY: Teachers College Press.
- Sadik, A. (2008). Digital storytelling: A meaningful technology-integrated approach for engaged student learning. *Educational Technology Research & Development*, 56(4), 487-506.
- Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11, 129–158.
- Shrum, J.L., & Glisan, E.W. (2010). *Teacher's handbook: Contextualized language instruction* (4<sup>th</sup> ed.). Boston, MA: Heinle Cengage.
- Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. Gass & C. Madden (Eds.), *Input in second language acquisition* (pp. 235–256). New York: Newbury House.
- Takeuchi, O. (2008). *Development of CALL classes*. Tokyo, JP: Shohakusya.
- Ushida, E. (2005). The role of students' attitudes and motivation in second language learning in online language courses. *CALICO Journal*, 23(1), 49–78.
- Vinogradova, P., Linville, H.A., & Bickel, B. (2011). "Listen to my story and you will know me": Digital stories as student-centered collaborative projects. *TESOL Journal*, 2(2), 173–202.

- Vitasari, P., Wahab, M.N.A., Othman, A., & Awang, M.G. (2010). A research for identifying study anxiety sources among university students. *International Education Studies*, 3(2), 189-196.
- Vygotsky, L.S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.
- Warschauer, M. (1996). Comparing face-to-face and electronic discussion in the second language classroom. *CALICO Journal*, 13, 7-25.
- Warschauer, M., & Healey, D. (1998). Computers and language learning: An overview. *Language Teaching*, 31, 57-71.
- Wolk, S. (1994). Project-based learning: Pursuits with a purpose. *Educational Leadership*, 52(3), 42-45.
- Yashima, T., Noels, K., Shizuka, T., Takeuchi, O., Yamane, S., & Yoshizawa, K. (2009). The interplay of classroom anxiety, intrinsic motivation, and gender in the Japanese EFL context. *Foreign Language Education Studies*, 17, 41-64.
- Young, D.J. (1999). *Affect in foreign language and second language learning: A practical guide to creating a low-anxiety classroom atmosphere*. Boston: McGraw-Hill.
- Young, D.J. (1986). The relationship between anxiety and foreign language oral proficiency ratings. *Foreign Language Annals*, 19(5), 439-445.
- Zhao, Y. (2003). Recent developments in technology and language learning: A literature review and meta-analysis. *CALICO Journal*, 21(1), 7-27.