

The Project-based Movie-presentation Course for Japanese EFL learners

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Abstract: This paper describes an implementation of technology-mediated, task-based multiliteracy project involving digital-storytelling as a foreign language instruction in Japan and validates the effect of digital storytelling on learner's awareness on the foreign language anxiety and PBL skills. Blended into presentation course on the basis of Ono, Ishihara and Yamashiro (2012), the tasks of digital story-telling provides the learners with the opportunities to reflect themselves on each process from brainstorming to complete the movie. The project reduces foreign language anxiety for low-level students. This study compares such students with students with high proficiency level in order to investigate how these two groups are different. The result suggests that our project had an effect on foreign language anxiety for low-level learners and on PBL skills on high-level learners. This study further examines how the themes of the presentation affect their PBL awareness. It will be shown that the "too personal" theme does not motivate learners for PBL, but that the theme "favorite things" motivated the most among the three topics carried out in our project.

Keywords: Digital storytelling, Project-based learning (PBL), Foreign language teaching, topic effects

1. Introduction

In the field of foreign language teaching, it is generally accepted that when language is practiced in meaningful contexts with activities that make connections to learners' lives, students attain competency for real-world communication (Castaneda, 2013; Brown 2007; Hadley, 2001; Shrum & Glisan, 2010). Since the instruction paradigm shifted from Behavioristic to Communicative, Task-based, project-based, and content-based approaches have sought to integrate learners in authentic environments (Warschauer and Healey, 1998). Modern technology in the field of Computer-Assisted Language Learning (CALL) provides various kinds of tools to support such learning styles and enhance the authenticity of communication (Zhao, 2003). In Japan, an example of the typical "English as a Foreign Language (EFL)" countries, more and more classrooms have been changed into wired setting, which means that "one-computer-to-one-learner" environment is becoming more common.

This paper is concerned with the implementation of technology-mediated, task-based multiliteracy projects involving digital storytelling in a foreign language presentation course conducted at a Japanese national university. As was stated in Ono, Ishihara and Yamashiro (2012), creating movies can be considered to be a useful task in the following two ways: (i) the task is comfortably accepted by learners with less confidence in speaking, because they can avoid speaking a foreign language in front of the audience, and (ii) the practice entails planning, writing, scripting, obtaining feedback from peers, revising, designing storyboards, digitizing the story elements, and presenting the product to an audience (Lambert, 2006, 2007). In other words, each process to the goal of completion of a movie requires learners to utilize some essential PBL skills like critical thinking, computer-literacy, linguistic competence, and so on.

The purpose of our research is to show how the learners' awareness toward foreign language anxiety is reduced and how about the learners with high-level linguistic competence. This study further examines what kind of the theme will motivate the students most to participate in the project. This paper first starts with clarification of the role of digital storytelling, one example of technology-mediated, task-based multiliteracy projects, in a foreign language teaching by reviewing some

important previous studies. After showing our teaching model carried out in a Japanese national university in chapter 3, we would like to show how our research was conducted in chapter 4.

2. Literature Review

2.1 Digital Storytelling

The merits of conducting digital storytelling in a foreign language classroom are mentioned in the literature (Castaneda, 2013; Ono, Ishihara and Yamashiro, 2012; Bell, 2008; Dal, 2010; Obari, 2009). Ellis (2009), an advocate of DST, believes that it is the key to great teaching and dynamic learning, adding that it is a unique method of communication that enables students to express their thoughts and ideas in their own unique ways, and also improves reading fluency, comprehension, and vocabulary. Storytelling and learning are inextricably intertwined because the process of composing a story is also a process of meaning-making. Because the stories provide a record of students' thinking, teachers can use them in assessing student progress toward learning goals. In a Japanese EFL context, there are some studies suggesting the effect of digital storytelling in EFL courses (Ono, 2008; Kimura, 2010; Agawa, 2012; Obari, 2009, and so on). As reviewed in Ono, Ishihara and Yamashiro (2012), however, these previous studies of Japanese EFL digital storytelling projects mainly focus on collaborative digital storytelling project. These kinds of projects usually involve one movie creation for one group consisting of three to six members. In addition to common collaborative activities like peer reviewing and self-evaluation, our project assumes "one-to-one" environment using CALL rooms and LMS. The CALL room will make it possible to conduct individual movie making. But very few studies have dealt with the effect of digital storytelling in a CALL environment.

Movie production, compared with face-to-face presentation in public, is a useful task to use English for meaningful purposes especially for students with little confidence or less motivation. This activity avoids the situation in which the student stands in front of the students in panic. Instead, they can spend sufficient time to practice speaking to record their sounds many times until they feel that it is perfect. The situation will become more serious when they give a project-based academic oral presentation, since the materials and their vocabulary become more difficult. In a digital storytelling, however, even students who are less motivated to study a foreign language at an academic level can actively participate in the project because they can take active roles of other PBL activities like searching the net, designing the layout of PowerPoint, operating edition or other kind of computer software, and so on. Ono (2008) and Ono, Ishihara and Yamashiro (2012) demonstrated that the digital storytelling course reduced foreign language anxiety and encouraged the less-motivated students to participate in the project. Their study demonstrated that the improved items through the digital storytelling project can be abstracted into three factors according to our factor analysis; "Anxiety in the Classroom", "Information and Computer Skills" and "Enhanced Interest". You might wonder if there is any effect of digital storytelling to learners with much confidence, who have very little foreign language anxiety and are always willing to speak in a foreign language. This is a crucial question for the current research and we would like to validate that the digital storytelling project improves PBL skills for high-level learners through comparative examination between the two high- and low-level classes.

2.2 Technology-mediated, Task-based Multiliteracy Projects

Castaneda (2013) provides a thorough and detailed description on why the digital storytelling falls into the definition of "Technology-mediated, Task-based Multiliteracy Projects". Pedagogically, the digital storytelling process is an example of a "multiliteracy" approach. Because of its 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 must also gain competence in representing their own thoughts with new communication technologies. Digital storytelling using a foreign language "marries these two aims" (p.47).

The project is made up 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 can be considered as consisting of meaningful tasks in

which students use the foreign language to convey a story to the audience. In the field of language teaching and learning, such production of a meaningful outcome is considered task-based learning. Chapelle (2001) considers the use of tasks in a technology setting from the view of the 21st-century skills. Technology-mediated tasks increase students' motivation (Olsen, 1980; Ushida, 2005). Thus, Castaneda (2013) claims that the digital storytelling project is a distinctive and motivational technology-mediated task.

2.3 Foreign Language Anxiety

Anxiety has been shown to negatively influence foreign language learning including achievement (Horwitz, Horwitz and Cope, 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 (Horwitz, Horwitz and Cope, 1986; Young, 1986). In the process of movie production, students avoid feeling anxiety or becoming in panic as they often feel when they make face-to-face presentation in public. They are also provided with opportunities to revise their works in each process until they feel that they are perfect. Especially, speakers with less confidence had to overcome anxiety or apprehension when they speak in public. Stories are revised, edited, and revisited several times, with established steps that move the author from concept to completion.

In the case of academic oral presentation in front of people with the use of PowerPoint, the situation will become more serious. Some unaccustomed presenters speak or even "read" an difficult English script holding a piece of paper and operate PowerPoint at the same time, which leads to their panic in front of the audience. Since the demand for more global human resource development is so great in Japan, the contents and linguistic materials must be "academic" to some extent regardless of student's linguistic competence. With these things in mind, the introduction of digital storytelling may bring about a solution model over foreign language anxiety.

2.4 Topic Effect

Naturally, the effect of storytelling depends to the purpose, the instructional design, and so on. Miyaji (2011), in a case study of introducing digital storytelling to enhance self-understanding, picked up three kinds of themes and studied how students worked on each of them. The three topics are "self-understanding", "story for children", and "future course" and it was reported that there was a change in the degree of self-understanding. In our project, we carried out digital storytelling in a first-year EFL course and picked up the following three themes for the study; (i) on one foreign country the instructor picked up (Unknown country), (ii) on one foreign country students want to introduce to the audience (Favorite country) and (iii) on your future; about yourself in four years (About myself).

The familiarity of the three themes seems to be: (iii) About myself > (ii) Favorite country > (i) Unknown country. So the general expectation would be that the most motivating topics among these three might be (iii) About myself. In terms of acquiring new knowledge, the theme which gives the student more opportunities to learn a lot of academic knowledge might be: (i) Unknown country. This study considers which theme enhanced the students' awareness for PBL skills.

3. Course Plan

3.1 One-to-one Environment

Our course involves the use of ICT in many ways and computer-assisted teaching method is well motivated. Making good use of presentation software like PowerPoint is thought to be a necessary skill for academic or other social presentations in public. Peer evaluations and other collaborative activities are essential in our course plan to understand the issue, clarify the point, and organize their opinions. All the products created in each class are collected and stored in order that the student and teacher can see and reflect their progress toward their goals. Recent Computer Assisted Language

Learning (CALL) System is designed in terms of implementation of socio-constructivism as an integrative model (Takeuchi, 2008). The collaborative teaching approach naturally falls on computer assisted language learning environment since it is designed for facilitation of both individual activity and group activities like discussion and peer evaluation in the classroom. In order to work on their task outside the classroom, the course is connected with Learning Management System; Moodle, which makes it possible to enhance their study at home. The rough image of our class environment is given in Figure 1 below:

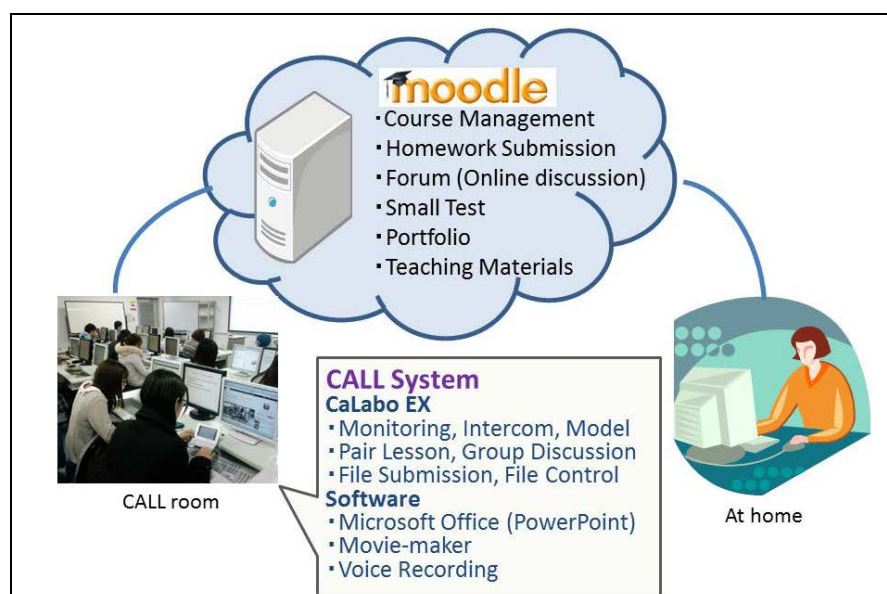


Figure 1. The Outline of Our One-to-one Model (Ono, Ishihara and Yamashiro, 2012).

3.2 Lesson Plan

We conducted this course in two different classes: Class A is a high-level class in which there are 24 students and 12 students have experienced studying abroad more than one year; and class B is a class consisting of 35 students and only one student has been abroad. The class B underwent the project in 2012, which was reported in Ono, Ishihara and Yamashiro (2012). For Class A, the course was conducted in 2012. The basic content of the lesson plan for Class A is the same as that of Class B. For each theme, we spent five weeks to complete one project. Details each week's activity is summarized in Table 1 below:

Table 1: Our Course Plan for Each Theme.

Week	Lesson	Content	Activity	Technologies
1	Brainstorming, Research	Net research Watching news on youtube	Discussion on the country /one's future Decision of title	Internet browser, On-line discussion, File download
2	Searching, Organization	Completion of organization worksheet PowerPoint creation	Discussion on organization Script	File control/submission, Office (Excel, PowerPoint), On-line discussion
3	Recording, Edition	Sound recording Movie edition	Creation of first movie Peer-evaluation on first movie	File submission, Text-to-speech, Sound recorder, Movie maker, On-line discussion
4	Evaluation (1)	Evaluation	Completion of evaluation sheet	File control/submission, Office(Excel), CALL(Income)
5	Evaluation (2)	Evaluation	Completion of evaluation sheet	File control/submission, Office(Excel), CALL(Income)

4. Research

4.1 Method

The purposes of this research is as follows: (i) the effect of our project-based movie-presentation course on foreign language anxiety and PBL skills considering two classes of different levels; and (ii) the effect of the theme on the awareness of PBL activities. As to (i), we adopted the following two instruments. As to foreign language anxiety, we employed a Japanese version of Foreign Language Classroom Anxiety Scale (FLCAS) (Horwitz, Horwitz and Cope, 1986; Yashima et al., 2009). As to (ii), the questionnaire research used in Miyaji (2011) was employed. This questionnaire includes the following subcategories like searching, computer literacy, cooperation, planning, achievement, creativity, and so on. See Table 2 below for question items. As to (i) we carried out a t-test to see if there is a significant difference before and after the course. For Class B (Low-level class), the result of Ono, Ishihara and Yamashiro (2012) was employed for comparative analysis. Note that the students of Class A (High-level class) went through the same teaching plan: they carried out the project for Theme (i) (Unknown country) for five weeks for the first time, and they underwent the pre- and post-tests for foreign language anxiety and PBL skills. We conducted factor analysis of significant items to examine interrelationship between those items. As to (ii) we carried out the questionnaire research on PBL skills for Class A when movies of each of the three themes are completed in order to observe which theme motivated the learners the most.

Table 2: Question Items.

1	I have an interest in computers.	33	I don't care for making mistakes in English class.
2	I have understanding of computers.	34	I tremble when I know that I'm going to be called in English class.
3	I have technical skills with computers.	35	It frightens me when I don't understand what the teacher is saying in English.
4	I know methods of computer use.	36	It wouldn't bother me at all to take more English classes.
5	I have a skill in clarifying problems.	37	During English class, I find myself thinking about things that have nothing to do with the course.
6	I have a skill in mapping out a plan.	38	I keep thinking that the other students are better at English than I am.
7	I have a skill of deepening of understanding knowledge.	39	I keep myself calmed down in English examination.
8	I have a skill of studying independently.	40	I start to panic when I have to sneak without preparation in English class.
9	I have a skill of collecting information.	41	I worry about the consequences of failing my English class.
10	I have a skill of sorting information and necessary data.	42	I don't understand why some people get so upset over English classes.
11	I have a skill of analyzing information.	43	In English class, I can get so nervous I forgot things I know.
12	I have a skill of expressing self-opinions in sentences.	44	It embarrasses me to volunteer answers in my English class.
13	I have a skill of expressing through non-verbal media.	45	I would not be nervous sneaking English with native speakers.
14	I have a skill of creating simple explanations.	46	I get upset when I don't understand what the teacher is correcting.
15	I have a skill of giving a presentation.	47	I feel nervous even when I prepared for English classes well.
16	I have a skill of understanding others' explanations.	48	I often feel like not going to my English class.
17	I have a skill of communicating with others.	49	I feel confident when I sneak in English class.
18	I have a skill of accurately judging self-evaluations.	50	I am afraid that my English teacher is ready to correct every mistake I make.
19	I have a skill of accurately judging others' opinions.	51	I can feel my heart pounding when I'm going to be called on in English class.
20	I have a skill of improving and correcting.	52	The more I study for an English test, the more confused I get.
21	I have a skill of performing detailed investigations.	53	I don't feel pressure to prepare very well for English class.
22	I have a skill of completing research.	54	I always feel that the other students sneak English better than I do.
23	I have a skill of cooperating with each other.	55	I feel very self-conscious about speaking English in front of other students.
24	I have a sense of fulfillment.	56	English class moves so wildly I worry about getting left behind.
25	I have a sense of accomplishment.	57	I feel more tense and nervous in my English class than in my other classes.
26	I have a skill of solving one's own problems.	58	I get nervous and confused when I am speaking in my English class.
27	I have a skill of organizing information.	59	When I'm on my way to English class, I feel very sure and relaxed.
28	I have a skill of thinking independently.	60	I get nervous when I don't understand every word the English teacher says.
29	I have a skill of creating something.	61	I feel overwhelmed because I have learn a lot of grammatical rules to speak English well.
30	I like talking to people.	62	I am afraid that the other students will laugh at me when I sneak English.
31	I like speaking English in front of people.	63	I would probably feel comfortable around native speakers of English.
32	I am never quite sure of myself when I am speaking in my English.	64	I get nervous when the English teacher asks questions which I haven't prepared in advance.

4.2 Result

4.2.1 Foreign Language Anxiety and PBL Skills

Table 3 below showed interesting results. The results of these two classes showed an almost symmetric relation between PBL skills and Foreign Language Anxiety. Students of high-level class seem to feel that the BBL skills, rather than Foreign Language Anxiety, greatly improved after the project. In contrast, those of low-level class 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 3: Significant Items Before and After the Course.

	High-level Class				Low-level Class			
	M	SD	t-value	Significance (Two-tailed)	M	SD	t-value	Significance (Two-tailed)
3 I have technical skills with computers.	-0.333	0.717	-2.789	.008	0.361	0.990	2.188	.035 +
4 I know methods of computer use.	-0.361	0.723	-2.996	.005 **	0.194	0.856	1.363	.182
5 I have a skill in clarifying problems.	-0.139	0.990	-.842	.406	0.417	0.967	2.584	.014 +
7 I have a skill of deepening of understanding knowledge.	-0.333	0.756	-2.646	.012 +	0.139	1.291	.646	.523
9 I have a skill of collecting information.	-0.361	0.683	-3.174	.003 **	0.167	1.108	.902	.373
10 I have a skill of sorting information and necessary data.	-0.556	0.877	-3.803	.001 ***	0.389	1.128	2.068	.046 +
11 I have a skill of analyzing information.	-0.500	0.697	-4.305	.000 ***	0.250	1.025	1.464	.152
12 I have a skill of expressing self-opinions in sentences.	-0.361	0.639	-3.389	.002 **	0.167	0.971	1.030	.310
13 I have a skill of expressing through non-verbal media.	-0.528	0.971	-3.263	.002 **	0.028	0.878	.190	.851
14 I have a skill of creating simple explanations.	-0.556	0.809	-4.122	.000 ***	0.000	0.926	.000	1.000
15 I have a skill of giving a presentation.	-0.417	0.770	-3.247	.003 **	0.139	1.073	.777	.443
16 I have a skill of understanding others' explanations.	-0.333	0.756	-2.646	.012 +	0.139	1.268	.657	.515
20 I have a skill of improving and correcting.	-0.361	0.639	-3.389	.002 **	0.333	1.146	1.745	.090
21 I have a skill of performing detailed investigations.	-0.389	0.728	-3.205	.003 **	0.194	0.980	1.190	.242
27 I have a skill of organizing information.	-0.250	0.692	-2.168	.037 +	0.361	1.099	1.971	.057
28 I have a skill of thinking independently.	-0.389	0.766	-3.045	.004 **	0.333	1.146	1.745	.090
32 I am never quite sure of myself when I am speaking in my English.	0.083	0.732	.683	.499	-2.250	1.610	-8.384	.000 ***
36 It wouldn't bother me at all to take more English classes.	0.139	1.246	.669	.508	-0.722	1.560	-2.777	.009 **
38 I keep thinking that the other students are better at English than I am.	-0.167	1.082	-.924	.362	-1.250	1.857	-4.038	.000 ***
39 I keep myself calmed down in English examination.	0.028	0.910	.183	.856	1.278	1.386	5.532	.000 ***
41 I worry about the consequences of failing my English class.	0.083	1.025	.488	.629	-1.833	2.324	-4.734	.000 ***
42 I don't understand why some people get so upset over English classes	-0.361	0.867	-2.499	.017 +	-2.250	1.918	-7.039	.000 ***
44 It embarrasses me to volunteer answers in my English class.	0.083	0.937	.533	.597	-1.194	1.754	-4.087	.000 ***
45 I would not be nervous sneaking English with native sneakers.	-0.083	0.906	-.552	.585	-1.333	1.690	-4.733	.000 ***
46 I get upset when I don't understand what the teacher is correcting.	0.000	0.862	.000	1.000	-0.556	0.998	-3.339	.002 **
48 I often feel like not going to my English class.	-0.167	0.910	-1.099	.279	1.333	1.897	4.216	.000 ***
49 I feel confident when I sneak in English class.	-0.083	0.554	-.902	.373	-2.444	1.463	-10.027	.000 ***
51 I can feel my heart pounding when I'm going to be called on in English	0.056	1.194	.279	.782	-0.500	1.363	-2.201	.034 +
52 The more I study for an English test, the more confused I get.	-0.111	0.820	-.813	.422	1.167	1.765	3.967	.000 ***
53 I don't feel pressure to prepare very well for English class.	0.028	1.341	.124	.902	0.667	1.957	2.044	.049 +
59 When I'm on my way to English class, I feel very sure and relaxed.	-0.139	0.798	-1.044	.304	-0.778	1.267	-3.682	.001 ***
60 I get nervous when I don't understand every word the English teacher	-0.028	0.878	-.190	.851	-0.472	1.341	-2.112	.042 +
64 I get nervous when the English teacher asks questions which I haven't	0.222	0.929	1.435	.160	-0.500	1.108	-2.707	.010 +

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

Then, we conducted a factor analysis to observe interrelationship among clustered items in each factor. All these significant items were subject to a principal axis factor analysis with Promax rotation. For each analysis, the items with factor loadings ($>|.35|$) are shown on Table 4 and 5. Our analysis resulted in three factors for both classes, although the clustered items in each factor were different. Considering the clustered items in each factor, the labels were given to each factor for both classes. As was shown in Ono, Ishihara and Yamashiro(2012; p.547), repeated here as Table 4 below, three factors were produced by our factor analysis: Factor 1 “Anxiety in the Classroom”, Factor 2 “Information and Computer Skills” and Factor 3 “Enhanced Interest”. As to Table 5 (high-level class), two factors were abstracted. Considering the items in factor 1, they are basically items that constitute comfortable learning. So we named Factor 1 “Information and Computer Literacy”. Similarly, as to Factor 2, “Attitude toward Academic Thinking” was named because the items are concerned with students’ awareness toward deeper way of thinking and communication for an academic purpose.

Table 4: Factor Analysis (Low-level Class)

	Factors		
	1	2	3
It embarrasses me to volunteer 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 which I haven't prepared in advance.	.721	-.217	.411
I get upset when I don't understand what the teacher is correcting.	.620	-.101	.067
I get nervous when I don't understand every word the English teacher says.	.491	.191	.125
I have a skill in clarifying problems.	-.051	.805	-.018
I have a skill of sorting information and necessary data.	-.008	.786	.054
I have technical skills with computers.	.069	.537	.274
I often feel like not going to my English class.	.124	.010	.596
I keep thinking that the other students are better at English than I am	-.024	.045	.580
It wouldn't bother me at all to take more English classes*	.023	.273	.511

accumulative variance = 65.7%

Table 5: Factor Analysis (High-level Class).

	Factors	
	1	2
I know methods of computer use.	0.811	-0.188
I have a skill of giving a presentation.	0.770	0.052
I have a skill of creating simple explanations.	0.725	0.092
I have a skill of sorting information and necessary data.	0.655	0.162
I have a skill of deepening of understanding knowledge.	0.637	0.208
I have a skill of collecting information.	0.599	0.289
I have a skill of analyzing information.	0.529	0.273
I have a skill of expressing through non-verbal media.	0.477	0.103
I have a skill of expressing self-opinions in sentences.	0.123	0.798
I have a skill of understanding others' explanations.	-0.128	0.779
I have a skill of thinking independently.	0.097	0.735
I have a skill of performing detailed investigations.	0.202	0.470

accumulative variance= 63.8%

4.2.2 Topic Effects

As noted above, our project is composed of three themes; unknown country, favorite country and myself. The results of analysis of variance regarding these degrees are given in Table 6. Nine out of the 25 items showed significance among three themes. Among these three topics, "about myself" is expected to motivate the students for PBL task. This, however, is not true in our project. As shown in Figure 2 below, the most familiar topic, "about myself in four years", seems to have least motivated the students among the three themes. The most enhancing theme is "About favorite country".

Table 6: Results of Multiple Comparison.

	(i) Unknown country		(ii) Favorite country		(iii) Myself		Comparison		
	Mean	SD	Mean	SD	Mean	SD	(i) and (ii)	(ii) and (iii)	(i) and (iii)
1 I have an interest in computers.	3.8182	.96400	3.8727	.94388	3.8545	1.02593			
2 I have understanding of computers.	3.8000	.75523	3.9636	.88115	3.8364	.95769			
3 I have technical skills with computers.	4.1636	.89781	4.1818	.90453	4.0000	.94281			
4 I know methods of computer use.	4.2182	.80946	4.1091	.87502	3.9636	1.03573			+
5 I have a skill in clarifying problems.	3.6182	.80487	3.8727	.90379	3.7091	.89593		+	
6 I have a skill in mapping out a plan.	3.6727	.84007	3.8545	.80319	3.7455	.98542			
7 I have a skill of deepening of understanding	4.2000	.70448	4.3091	.90006	3.6545	.96644		***	***
8 I have a skill of studying independently.	3.8909	.89593	4.2000	.96992	4.0545	.89065	*		
9 I have a skill of collecting information.	4.2545	.77503	4.2545	.94708	3.6000	.80737			
10 I have a skill of sorting information and necessary	4.0545	.75567	4.1091	.97511	3.6545	1.04027			
11 I have a skill of analyzing information.	3.8000	.82552	3.8909	.87502	3.6182	.99053			
12 I have a skill of expressing self-opinions in	3.8727	.74671	4.0182	.84964	4.1455	1.00771			
13 I have a skill of expressing through non-verbal	3.7091	1.08308	3.8545	1.14533	3.5455	1.05089			
14 I have a skill of creating simple explanations.	3.5818	.83202	3.7091	.93636	3.6364	.93023			
15 I have a skill of giving a presentation.	4.0727	.93995	4.0000	1.07152	3.8545	.97026			
16 I have a skill of understanding others' explanations.	4.1818	.66219	4.2364	.66566	3.3455	1.09237		***	***
17 I have a skill of communicating with others.	3.7091	.83161	3.5455	.87809	3.2364	1.10493			*
18 I have a skill of accurately judging self-evaluations.	3.7636	.81567	3.8182	.81856	3.5818	1.04865			
19 I have a skill of accurately judging others' opinions.	4.0909	.77633	4.1273	.84007	3.4909	1.21522		**	**
20 I have a skill of improving and correcting.	3.8364	.73946	3.8182	.88382	3.6545	1.07528			
21 I have a skill of performing detailed investigations.	3.5091	.90006	3.6000	.87348	3.5273	.93995			
22 I have a skill of completing research.	3.6727	.92405	3.5636	1.19820	3.3818	1.04511			
23 I have a skill of cooperating with each other.	3.1818	1.03800	3.2182	1.03084	2.9273	1.10310			+
24 I have a sense of fulfillment.	4.0000	.94281	4.1455	.93131	3.8182	.94459			*
25 I have a sense of accomplishment.	3.9455	.80319	4.1091	.93636	3.8545	.98917			

***: $p < .001$, **: $p < .01$, *: $p < .05$, +: $p < 0.1$

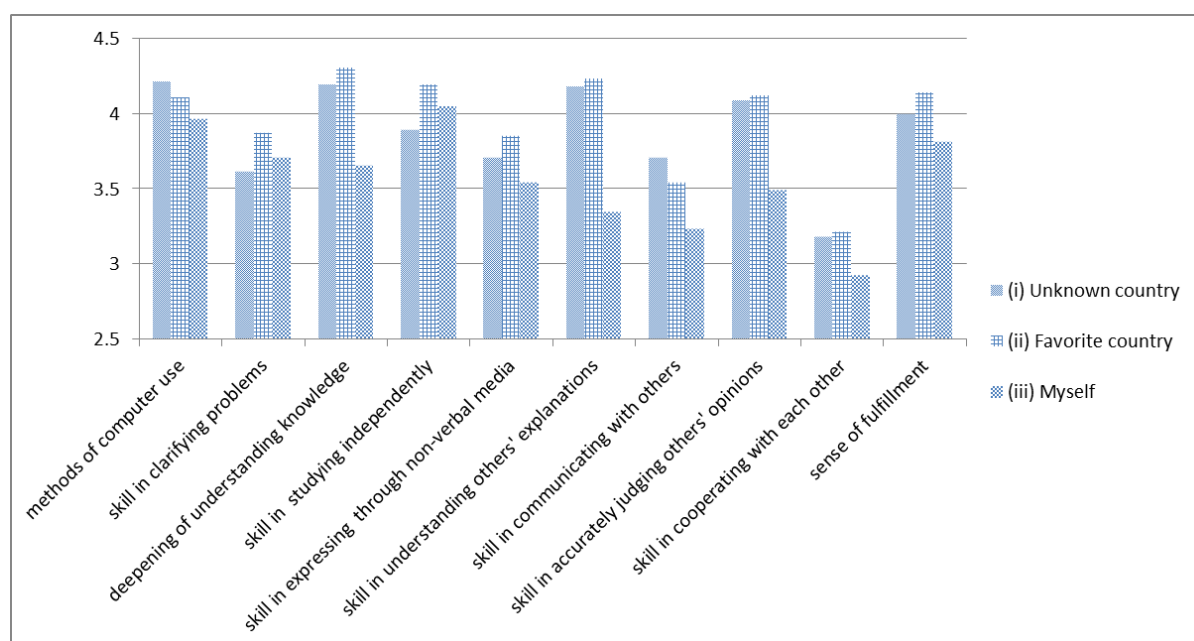


Figure 2. Significant Items.

4.3 Discussion

As was shown in Table 4, our technology-mediated, task-based multiliteracy approach for low-level students had an effect on reducing foreign language anxiety, enhanced the use on computers, and raised their motivation to participate in the project. In contrast, Table 5 showed that the project enhanced high-level students' attitude toward computer literacy and skills of communication for an academic purpose. This seems to be natural considering such students have little anxiety for using English and they tend to concentrate on the content of their movie instead. The implication from these findings is that our project reduces foreign language anxiety and enhanced computer literacy for low-level students. In contrast, high-level students with little foreign language anxiety were inspired to acquire information literacy and skills for academic purpose. This validates the claim that technology-

mediated tasks increase students' motivation (Olsen, 1980; Ushida, 2005) and that the digital storytelling project is a distinctive and motivational technology-mediated task (Castaneda, 2013). As to the theme effects, the findings of Figure 2 is very interesting. The most enhancing topic was Theme (ii) Favorite country. One might expect that the most "personal" topic like Theme (iii) will be the most encouraging for the project, which was not true in our research. However, the "too personal" theme does not let the students actively participate in the project. Instead, Of course it should be important as well to reflect on their life because this fosters their cognitive and mental development. But it is another issue whether the "personal topic" is really the best theme for digital storytelling project on the basis of peer review. Anyway, the findings will have an important implication that the theme has an influence on students' attitude toward the movie.

5. Concluding Remarks

This paper describes an implementation of technology-mediated, task-based multiliteracy project involving digital-storytelling as a foreign language instruction in Japan and validates the effect of digital storytelling on learner's awareness on the foreign language anxiety and PBL skills. Of course, further research is required on the more effective implementation of the digital storytelling. So far, the impact is too limited in depth and scope. However, our findings will lead to the possibility that digital storytelling can serve as a viable means to achieve meaningful goals in the foreign language classroom.

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