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# Rethinking the University Learning Environment: How to Enrich Students' Education through a Constructivist Learning Environment

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There has been wide spread discussion regarding how to create an authentic setting for students to acquire competencies to enrich their lives. We have been hosting an International Collaborative Project (ICP) for many years. After reviewing our experiences hosting this ICP over the past 10 years, we have come to the conclusion that learners develop a more meaningful understanding if they are active participants in their own authentic setting like the International Collaborative Project. This event's focus on making English presentations provides an obvious result and furthermore a proof of the successful collaboration which breaks through cultural barriers and the students' mixed level of English communication abilities. In this report, while showing clear examples of how students participated in the event as an authentic setting, we would like to further clarify the perspectives to evaluate their activity. What is the scaffold for them and how are they led by the constructivist theory. We also focused on the ICT education which they used to enhance their understanding and development regarding the event. This new media provides them seems with an opportunity to improve their interactions with other people. These technological competencies extend so far as to show how they could share their thoughts and other forms of information through the network.

Keywords: international collaborative project, authentic setting, constructivist theories, ICT utilization

# **EXPERIENTIAL LEARNING**

# **International Collaborative Project**

With the promotion of ICT use, the types of international collaborative projects (ICP) have been changing. The wide spread use of the internet since its introduction into the world has helped change ICPs dramatically. The authors started an ICP called the World Youth Meeting (WYM) which has been carried out since 1999. It was an occasion to experiment with new teaching methods to test the effectiveness of ICT as an educational tool. New styles of international communication that incorporate presentations and digital pictures are good examples of the effective use of the media. ICP started as an outcome of peace education based on the preamble of the charter of UNESCO which says, "Since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed." This is related to "Developmental Education" and "Environmental Education" to a certain extent. Now this idea is included in Integrated Study and/or related to the subject of "Information". ICT use, knowledge design, and English communication ability fostered by international collaborative projects are expected to deal with increasingly important issues such as global warming and conflict resolution. Students from Germany, United Kingdom, Zimbabwe, Sri Lanka, Papua New Guinea, Australia, United States, Nepal, Korea, Taiwan, China, Cambodia, and Thailand have participated in the WYM last 10 years. Since students from many countries participate in the WYM, medium of communication is English. The teachers and students communicate each other throughout the three phases , the preparatory activity , the event , after the event, by using e-mail, web pages, video conferencing as well as face-to-face meeting to achieve the project .

In this project, Asian students meet to work on collaborative presentations on a common theme. As an example, students from Cambodia and Japan did some research on ideal international support and

performed presentations by using ICT. This project is designed on a Constructivist Learning Environment base, which includes such elements as modeling, coaching and scaffolding. (Jonassen, 2001)



Figure1. WYM home page

# Constructivism during the Event

Educational constructivism is the idea that learners actively construct their knowledge rather than passively receiving knowledge from their teachers or environments. Teachers interested in constructivism typically reference knowledge types such as critical thinking, reasoning, and problem solving. When considering the situation from both the physiological constructivist and social constructivist perspectives, it seems natural to conclude that these two perspectives are important for transposing a constructivist idea into the event, the International Collaborative Project, where students work enthusiastically.

In the WYM an authentic setting was provided, where students work outside classrooms together with people from other universities, high schools, and instructors' organization, arrange an steering committee and hold an international exchange event centered on collaborative presentations. In the process of planning, managing and evaluating their activities, a learning environment was created, in which "school knowledge" was promoted to "active knowledge". Students had to pursue activities in this environment in which they find issues on their own and also suggest solutions. In the report "For the education of independent young people who will shoulder the next generation" MEXT (2007), the conference of the Central Council of Education suggests that 'the authentic settings' are an important part of the 'learning experience'. This learning experience is indicated by Kubota from the viewpoint of Constructivism. Learning activities are corroborated by Legitimate Peripheral Participation theory in which students are to learn in working with their teammates or with different groups. In "The important viewpoints and policies for motivating young people and promoting well balanced growth", it is stated that "learning experience should be established in all young people's lives. Trial and error, competition with each other should be fostered."

# Purpose

This report tried to describe how the student's steering committee carried out the International Collaborative Project (ICP) as an authentic setting strongly related to the real world by inviting more than 700 participants from inside and outside Japan. This event was crucial for them as a stage to their nourish active knowledge which will assist them in their future as compared to the conventional "Chalk and Talk " style lessons. This study aims to clarify the following two questions.

1. How does the student steering committee solve the problems they have to face in the process of carrying out the event?

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2. What are the outcomes of their learning in this constructivism environment?

This study is scoped with the results of questionnaires and the observation of the student steering committee activity through three stages, the preparatory on line activity-the event and post-event.

# **CONSTRUCTIVIST THEORIES**

L.S.Vygotsky developed the theoretical basis for a new view of development and education. His theory is very influential today. A major emphasis in Vygotsky's work was the importance of understanding cognitive development in terms of the social and cultural contexts in which it occurs (Vygotsky, 1987). He believed that students create their understandings of the world when they engage in activities. Each social environment provides cultural tools to support students' activities and mediate them.

#### The Zone of Proximal Development and Authentic Setting

The Zone of Proximal Development (ZPD) is Vygotsky's concept of how social interactions can be most productive for helping learners internalize mental functions. Vygotsky defined the ZPD as the distance between what a learner can independently accomplish in their domain, and what the same learner can accomplish while working with a more skilled adult or peer. The concept of the ZPD posits that if students have an opportunity to receive proper instructional guidance, they are more likely to complete their studies. In the ZPD, the teacher and student work together on the some task that a student could not achieve independently due to the difficulty level.

Vygotsky's theory gave voice to the instruction and assessment methods for the WYM. Vygotsky's view of the role of culture has led to the consideration of cultural contexts for this event. One goal is to develop the WYM culture so that it enables students to interact with their colleagues' educational experiences and knowledge within their ZPD. They are expected to solve a problem together, and after scaffolding with more skilled students or teachers. For example, when they try to coordinate all the tasks for the program by the deadline, they learn a lot by comparing their situation with the previous program. Sophomores work as skilled learners. It seems natural to conclude that this type of interaction can be referred to as collaborative scaffolding.

#### **Design of Collaboration**

It was effective to set three stages; a preparatory online activity, the event, and a post event. To reinforce the activities of these three stages, collaborative presentations became the final product of the project. To create the final product, participants got to know each other, conducted surveys, collected data and made a presentation. Conflicts were inevitable throughout the program, but participants obtained communication skills by overcoming these conflicts. Finally, when they give their presentations in front of a large audience, they felt a sense of accomplishment and realized the significance of their effort.

# **COLLABORATIVE INTERACTION IN WYM**

This approach is needed to illustrate how interaction and collaboration are related in the case of the WYM among students on the steering committee from the perspective of constructivism. Figure 1 by Wozniak, R. H. & Fischer (1993) shows the relation of collaboration and interaction. The vertical axis represents relative expertise and the horizontal axis, the degree of collaboration. The frame line of interaction represents the degree of collaboration, and the size of the object represents the difference of expertise. For example, C3 shows the strong relation of collaboration and the relation of people who are working toward the same goal, such as that of teachers and students on the same project.

	Preparatory on line activities	Face to Face Meeting (the event)	<ul> <li>Post event activities</li> <li>Make the final report</li> <li>Make CD files regarding the presentations</li> </ul>		
task	<ul> <li>Share a clear purpose for the project</li> <li>Make plans for preparatory work</li> <li>Design questionnaires</li> <li>Collect information</li> </ul>	<ul> <li>Overcome cultural conflicts</li> <li>Compare data collected on both sides</li> <li>Make a collaborative presentation</li> </ul>			
Place	home country	Japan, home stay	home country		
Product	<ul><li>Self introduction</li><li>Sound files</li><li>Questionnaires</li></ul>	Final presentation	- Data on CDs and on the website		
Tools of the Internet	<ul> <li>Email File exchanges</li> <li>Movie files Picture file exchanges</li> <li>Video conference, Homepage</li> </ul>	<ul> <li>Email</li> <li>Exchange of picture files taken in home countries</li> </ul>	Web		

Table 1. Steps for the Designated Day

The following three key concepts in the figure 2 are strongly related to the student steering committee activities in an authentic environment such as the WYM.



# **Mutual Collaboration (A3)**

The activity of the student executive committee in the WYM is practiced in this way. The group responsible for overseas correspondence supports groups from overseas by helping them to get their visas. They learn to cooperate and work toward the shared goal through exchanging information and experiencing interaction without suggestions from professors so they must decide how to manage the tasks by themselves.

# Asymmetric Collaboration (B3)

In terms of the WYM, groups, who take part in different parts of the project, are composed of students from different grades. The senior students lead the project by giving guidance to the juniors. The activities involve a lot of cooperation and exchanges of opinions to pursue the shared goal, the success of the WYM.

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Each group works under the instruction of group leaders but they observe each other while learning the procedures to carry out various tasks.

# Scaffolding (C3)

Students face many difficulties in various situations of the WYM. For example, should a group of students be unable to decide which system is the most effective when they need to share information with others. At that point, teaching staff can provide information about specific software and systems as a solution. They came to learn about the new SNS which drastically enhances communication. Figure 3 shows the new SNS that supports the steering committee activity carried out by the university technical staff.



Figure 3. Social networking service for the committee

# ICT ENVIRONMENT FOR PRACTIVE

Reviewing the studies on how to carry out these kinds of International Collaborative project, in order to clarify how they can achieve their goals, we set up an ICT environment where students can reflect upon their activities while pursuing their tasks. It might be difficult for students to evaluate the activities when they are fully dedicated to carrying out the preparation. Supervisors, leaders of the students' steering committee, set up a general meeting once a week to share information about the situation and to check how far along the members are in completing their own tasks in the week. Each group is required to show articulated data which clearly shows how they achieved their goals. Figure 2 illustrates the ICT environment of the students' steering committee.

Most students use mobile phones or mobile PCs to collaborate with each other. They are very good at using appropriate mobile tools in terms of their specific functions. Students find solutions while interacting with seniors to complete their work for the success of the WYM. After ascertaining the tasks they have to complete immediately keeping in mind the time line leading up to the designated day, they are trained to identify outcomes at each stage which become milestones showing how well they have been accomplishing their set tasks.



Figure 4. ICT facilities

# **Activities for Student Executive Committee**

Each task group is placed as shown in the table 2. Each group has a senior student as a supervisor to help one or two sophomores and two freshmen. Freshmen and sophomores work together to complete the tasks.

	Group and Task	
1	Leader	Supervising, contact between sections
2	Publicity	Digital photo taking, Internet updating
3	Overseas correspondence	Assistance in visa application, Ticket arrangement, writing invitation letters in English
4	Philippines	Contact with Philippine university in the Philippines and universities in Japan
5	Cambodia	Assistance with visa applications, Remittance of travel expenses, Assistance in making presentations
6	Taiwan	Contact with two universities in Taiwan, making itinerary for visiting Japan
7	South Korea	Contact with Ewha Woman's University High school,
8	Indonesia	Contact with participants in Indonesia and in Japan Assistance with visa application
9	Presentation A Deliver collaborative presentation with Cambodian participants Making questionnaires, Conducting surveys	
10	Presentation B	Making and delivering presentation in line with the theme of the year
11	Presentation C	Making and delivery of presentation with theme on communication
12	Presentation D	Making presentations with a team of Kansai University on overseas volunteers
13	Video conference	Conferencing with overseas participants, Making documents
14	Opening	Planning on opening activities(dance)
15	Brochure	Making a brochure for the WYM
16	Accounting	Record transactions, foreign exchange
17	Guide	Arrange for parking, making maps
18	Audio	Design music session, assist audio arrangement
19	Guide for high school student	Assist high school students in their presentation making
20	Accommodation	Arrange accommodations for 280 participants, Assist accommodations
21	Workshop	Plan and hold exchange events with participants from overseas
22	Meals, name cards, guests	order lunch for 300 people, make arrangement for a break

Table2.	Tasks	of Each	Group
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# **Text Book**

In April, the student committee of the previous year passed the tasks to the new student committee. How preparation was made and what results had come out were reported by each group. At this reporting, explanations on documents produced by previous year activities were emphasized. The documents actually used for overseas and domestic participants were shown to indicate what documents were needed at the time.

This type of experiential learning is very new for the students so that it is necessary to publish a text book which describes how to manage the meeting in terms of facilitation skills and the time management up to the designated day.

# The Key Dimension of the Learning

# Find the problem

While preparing for the event, it was inevitable that problems would arise. For example, one group who was in charge of the lunch was required to lead the700 participants to the café and have them finish the lunch in the 7 minutes allotted for this in the original schedule. To find such problems was an important part of the learning process.

# Find the solution with the other group members

After finding the problem, they have to forge ahead in order to make progress with the event. The real world component of the event strongly pushed them to make progress. This is one of the efficient aspects of experiential learning. Students already know how to deal with these kinds of problems using the mapping shown in the textbook as one of the methodologies this was discussed in the conventional classroom beforehand. After finding a solution they talked about these issues with professors who "scaffold" them. Finally their solution was approved by the group member and the steering committee.

# Articulate the process

In the process of deciding the lead tracks, students overview how to settle the problem and sum up the procedure sharing the data through ICT equipment quickly with the other members who may face the same kind of problem.

# Implementation on the designated day

After implementing the "find – solution – scaffolding –articulation" circle, they reached the designated day. They became the kind of person who could peruse, analyze the event and imagine what would happen next from the viewpoint of a constructivism practitioner. Of course they came to feel a strong sense of accomplishment.

# Model

The event ended during just before summer vacation. They could get fabulous feedback from overseas participants and also from the domestic participants. The event on the whole looked very successful. On the contrary they began to show burnout syndrome with regards to all the studying and researching that went into holding this event. The work students did as staff at the event; provided them with an authentic setting that worked as a kind of learning environment. They were required to develop a new viewpoint and change their attitude of just dealing with the problem at hand and finding a solution for it to an attitude of making a role model. That role model helped them to summarize the experience to retain this

knowledge in their long-term memory the kind of real knowledge I pointed out in the former section. They surely were able to get a model that would improve their own lives.

The students repeated the process in figure 5and get used to facilitate their meeting to solve the problems approaching the event.



Figure 5. Key dimensions on authentic setting

# ICT Utilization and English Communication Competencies

Being involved in international collaboration automatically means students must be able to use English and prepare English documents for overseas friends to come to Japan. These activities are mirrored in students' English classes where they are studying useful expressions or how to deliver presentations in a heterogeneous environment. These classroom lesson designs are also based on the constructivism theory. Being given two kinds of study encourages the students to learn English as a communication tool.



Figure 6. Experiential and classroom lessons

#### **FINDINGS**

### **Confidence** Acquired

The questionnaire was distributed to the members from the students steering committee. The students wrote their student ID numbers to ensure reliable responses, which were T-tested. Fifty-one students were assembled in one classroom for each survey.

Questions were about the promotion of the project and how they were involved in the authentic setting. A scale was divided into four. Each scale was given certain points for each assessment. The answer "I think so" was given 4 points. "I rather think so" was given 3 points. "I do not really think so" was counted as 2 points and "I do not think so" was 1 point.

The average score of the question, "Did you participate in the event autonomously interacting with friends of different ages?" was 2.81 to 3.57.(2008) This shows that while playing their role as a member of the steering committee, students achieved their goal of keeping a good relationship in the work group. This change indicates how the ZPD worked for them in solving the problem they had to face (t(51)=4.57,p<.001). This indicates how they cooperated with each other when challenging their tasks of making English documents or preparing brochures. Question "Will this experience be helpful in your future study and group activities." is about facilitation and group activity. The average score became 3.55 to 3.82(t(51)=2.745,p<.001). Students acquired effective ICT use and helpful skills in conferencing through activities based on constructivism. Although there was no clear significant difference, the average score of 3.08 for the question "Did you become confident in yourself?" indicates that students gained confidence in themselves during the WYM and its preparation. Their satisfaction is indicated in the score (t(51)=2.787,p<.001) for the question "Could you create a good role model that will encourage you in the future?"



Figure 7. The result of questionnaire

#### **Reports**

Dependent t-test								
		t	df	p.value	average (June)	average (August)	Ν	sd
A-1	I actively used a digital camera and pc.	4.190	50	0.000	3.31	3.84	51	0.812
A-2	I exchanged more e-mails	2.663	50	0.010	3.31	3.69	51	0.812
A-3	I referred to uploaded pictures.	4.484	50	0.000	2.92	3.55	51	0.868
A-4	I referred to the WYM homepage	3.521	50	0.001	2.90	3.59	51	0.878
A-5	We have to find ways to improve information sharing and information exchange.	0.444	50	0.659	3.71	3.75	51	0.540
A-6	I use English more than before.	3.824	50	0.000	3.16	3.75	51	0.946
A-7	I was able to talk with guests from overseas.	7.322	50	0.000	2.31	3.51	51	1.157
A-8	I should study English more	1.739	50	0.088	3.69	3.84	51	0.547
A-9	I understood the presentations.	2.349	50	0.023	2.94	3.27	51	0.705
A-10	Presentation of NFU was very good	3.656	50	0.001	3.43	3.84	51	0.700
A-11	I want to try making an English presentation.	2.718	50	0.009	3.22	3.59	51	0.783
A-12	I should study English everyday.	1.071	50	0.290	3.78	3.86	51	0.415
B-1	This experience will be helpful in my future study and group activities.	2.745	50	0.005	3.55	3.82	51	0.522
B-2	I became confident in myself.	2.787	50	0.225	2.86	3.08	51	0.825
B-3	I prticipted in the event autonomously.	4.247	50	0.002	2.81	3.57	51	0.800
B-4	I worked hard for the WYM	3.759	50	0.000	3.24	3.59	51	0.764
B-5	My high school did not have this kind of event.	2.867	50	0.006	3.69	3.92	51	0.648
B-6	I would like to work for the WYM next year	2.787	50	0.002	2.81	3.57	51	0.703
B-7	I could create a good role model.	2.978	50	0.004	3.12	3.63	51	0.887
B-8	How many times did your group meet for the preparation?	5.173	50	0.000	3.43	3.96	51	0.671
C-1	I would like to participate in international exchange in the future	1.632	50	0.109	3.75	3.88	51	0.440
C-2	The WYM is an appropriate event for the InternationalSocial Development Management	1.702	50	0.095	3.75	3.92	51	0.627
C-3	I am proud of NFU where the WYM is held compared with friends in other schools	2.7 <b>1</b> 0	50	0.009	3.14	3.59	51	0.939

#### Table 3. Result of Questionnaire

Students are required to write a report with regards to how their group pursued their role.

They described how to collaborate with juniors to contribute to the event while focusing on the encouragement they received from other members. According to the process of problem solving, they could illustrate their own process of overcoming the limitations of their collaborative competency. At the authentic setting, time management is one of the most important factors they come to know.

Reviewing their activities from both the perspectives of constructivism and active knowledge, it's clear that they felt the weight of responsibility as a member of the steering committee to complete their task by the due date. The fact that they were able to gather more than 700 participants from inside and outside of Japan on the designated day constitutes the quality of their implementation.

They also clarified the criteria of effective English presentations after observing the event which included more than 20 presentations conducted by the joint groups of several countries. They came to know what works well on presentations from the perspective of organization, file making and delivery. An authentic situation nourished the presentation competency of the committee members who were involved in the situated learning. Table 4 shows an example of a student report that tells us how they improved their collaboration and presentation skills.

Collaboration with peers

We faced a lot of problems to be solved when we proceeded with the tasks preparing for the designated day like the preparatory meeting where participants to come to my university to determine the schedule and contents of the WYM. Where and how to carry this out was our topic of discussion. We conducted the meeting according to the methodology of facilitation pointed out by professors as one example of Scaffolding.

The text book of WYM steering committee clearly showed the direction we needed to go. This type of text book was familiar to us, such as normal textbooks on conventional lessons; it was very useful and easy to image what we should try next. Sometimes it was difficult to meet and consult closely with professors so that we could use the text book to conduct the meeting and find the solution.

Effective presentations

After learning from the presentations conducted by the joint groups of various countries, we could come to know the important issues. Simple bullet points and sophisticated impact images worked very well. Eye contact and questions for the audience are useful to keep a good interaction concentrating on the theme of the presentation. Use of the microphone and where the presenter should stand are indispensable points for successful presentations.

# CONCLUSIONS

The overall findings of the study reveal important factors on constructivism environments for students to build up their active knowledge for their future. The study could indicate the following.

### **Steering Committee Activities and Its Grouping**

In reviewing constructivism theories, it should be noted that knowledge is socially constructed while learners are interacting with more or less capable peers to find newly created points of view in the authentic setting like WYM. Students can collaborate to solve the problems found in the process of completing the event sharing responsibility for learning and understanding. Groups composed of freshmen, sophomores and juniors work well in experiencing the ZPD challenging their goals assigned by the student steering committee. WYM is the kind of event which is strongly related to the real world in that it gathers participants from outside the university. This authentic setting encourages them to complete the task while learning how to facilitate the meeting in accordance to the indications in the text book and scaffoldings from their respective professors. Real experience drastically changes and nourishes the students so they we could learn.

### The WYM as an Authentic Setting

When discussing the WYM, It posits that both knowledge and learning can not be separated from the context in which students are involved as steering committee members. If knowledge is to be usable, it needs to be acquired through authentic learning activities. The WYM is an authentic learning environment during which our students could get not only substantive conversations with peers and foreign friends but also see its connection to the real world. This is composed of three stages that makes it easier for students to find their role in terms of time management. Typically, authentic learning activities are similar to activities in real-world situations that require the use of the kind of knowledge students have learnt during the WYM. When it comes to ICT utilization used in the WYM and English as a common language, we could advocate that students came to be able to use new functions like web2.0 and increase their confidence in using English properly, understanding their counterparts and the situation. The more opportunities they get to use ICT and English, the better they become at using these indispensable tools for the younger generation who must shoulder many responsibilities as the next generation.

#### **Task-Based Project**

As the stages were designed and the tasks were assigned, it was clear for the students what and when to do them. Each student is required to do his or her part, which significantly affects the outcome of the event. They need to have a role model to successfully play their roles and they need to share information effectively. In constructivist environment, this necessity produces series of activities to give students sense of accomplishment and satisfaction by reflection. So it is required for them to publish a report of how they contributed to the event and how they should proceed with the event based on Constructivist theory as it may enable them to exam themselves through the criteria of how to correctly identify problems and solutions.

This pedagogical activity should take into consideration the perspectives of both education and cognitive load. The report and review through careful observation is needed to address the cognitive load that enables their articulation to long term memory (Pass, 2003).

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#### REFERENCES

- Fred Paas (2003), Cognitive Load Theory and Instructional Design Educational Technology Expertise Center
- Jonassen D. H. (1999). Designing Constructivist Learning Environments. In Reigeluth, C. M. (Ed.), (1999). *Instructional-design Theories and Models: A New Paradigm of Instructional Theory* (Vol. II). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Kageto, M. and Sato, S. (2006) How to improve students' communication competence through international exchange activities, *International Conference for Media in Education*, 207-215.
- Kageto, M., (2007), An Instructional design for International Collaborative learning Focusing on Communication, *Korea Society for Educational Technology International Journal*, 8,(1).
- Kubota, K.,(2000). Kouseisyugi paradaimu to Gakusyu kankyou Dezain [Constructivism paradigm and design of learning environment]. Osaka: Kansai University.
- Miller, S.M., & Miller, K.L. (2000). Theoretical and practical considerations in the design of Web-based instruction. In B. Abbey (Ed.), *Instructional and cognitive impacts of Web-based education*. Idea Group Publishing, 156-177.

Vygotsky, L. S. (1987). Thinking and speech. New York: Plenum

- Wozniak, R. H. & Fischer (1993). *Development in Context: Acting* and Thinking in Specific Environments, U.S.A. : Lawrence Erlbaum Assoc Inc
- Ministry of Education, Cultures, Sports, Science and Technology, Japan. (1997). For the education of independent young people who will shoulder the next generation. *The conference of the Central Council of Education*.
- World Youth Meeting, The International Collaborative Project. (1999-2009). Retrieved December 3, 2009, from http://www.japannet.gr.jp/