

Global Collaborative Learning Support System for the Better Understanding of Multiple Cultures

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Abstract: One of the latest issues that higher education in Japan faces is the development of global human resources who will be successful internationally. However, the number of Japanese students going abroad to study has been decreasing in the last decade. One of the reasons is the restriction of time and space. To contribute to the issue, we set up a research project that aims to create a global collaborative learning support system. The system adopts computer supported collaborative learning that enables facilitators in multiple countries to cooperate on a synchronized lesson. The goal of the system is to make students improve their globalization abilities, and there are three ways in which it supports facilitators to achieve this goal: 'Hofstede's Six Dimensions Model,' 'The World Values Survey,' and 'Questionnaires of Learning Style.' The former two ways are a framework of multiple-cultural understanding. The research determines and indexes cultural tendencies and national characteristics, so that each country is quantified and ranked. Nevertheless, if facilitators only give an attention to students' cultural features, they might use it to do nothing more than to stereotype students. The system therefore also introduced another method by which facilitators can see students' individual learning styles. That is web questionnaires based on the Felder-Silverman model. These tools are expected to be helpful for the understanding of students culturally and individually.

Introduction

One of the latest issues that higher education in Japan faces is the development of global human resources who will be successful internationally. It is the policy of the Council on Promotion of Human Resource for Globalization Development that encourages to cultivate 'linguistic and communication skills,' 'self-direction and positiveness,' and 'understanding of other cultures and a sense of identity as a Japanese.' (The Council, 2011) The fostering of those abilities is an urgent need to higher education today. To contribute to the issue, we set up a research project that aims to create the global collaborative learning support system (the GLoCL system).

According to the Council, the number of Japanese students going abroad to study has been decreasing in the last decade. Even though the Japanese governments appeal of the necessity of studying in abroad to students, they seem to prefer studying only in their own country. There are several reasons for the decrease such as economic difficulties, unstable social conditions, and an introspective nature of the recent youth, and in addition, the restriction of time and space should be considered. Overseas education takes time and money, and students find it hard to afford to travel to do so. It has been a problem for the development of human resources who Japan expects to serve as the driving force of the growth of Japanese economy, culture, and society. Japan expects the GLoCL system to reduce the problem.

The GLoCL system adopts computer supported collaborative learning (CSCL) that enables facilitators in multiple countries to cooperate on a synchronized lesson. Students can communicate with foreign students without going to another country physically. While it is true that real experiences are better than computer-mediated

experiences, however providing opportunities for students to interact with young people from different cultures is an effective method to acquire an international sense of thinking. The GLoCL system is effective at globalizing students in this way.

Moreover, facilitators may confront some difficulties when they meet students whose national character is not familiar to them. Responding to such facilitator needs was also the aim of creating the GLoCL system. Although there are many CSCL nowadays, GLoCL system was designed for international synchronized lessons and supporting multiple facilitators. Such CSCL are rare in Japanese education (Goda et al., 2014). In this proposal, we will first describe an the GLoCL system, and then move to the ways to help facilitators better understand different cultures.

Overview of the GLoCL system

The aims of the GLoCL system are as follows: (1) support facilitators collaboratively design and implement global project based learning; (2) improve interactions for students; and (3) reduce the administrative burden on facilitators. The benefits of developing understanding of multiple cultures is included in (1). These three are an outline of the GLoCL system concepts, and its functions are divided into two aspects: (A) Common Function between Students and Teachers, and (B) Facilitator Support Functions.

The Common Function includes five functions: ‘Top Page,’ ‘Chat,’ ‘Task Schedule,’ ‘Questionnaire,’ and ‘Submission.’ Using these functions, facilitators, who are usually teachers in educational institutions, prepare and organize their lecture jointly. Students acquire basic information of a lecture and take the lesson through the online interface. (B) also has five functions: ‘Questionnaire Manager,’ ‘Group Manager,’ ‘Log,’ ‘Facilitation,’ and ‘Project Design.’ Questionnaire Manager is used for questionnaires of students’ attribution (e.g., English ability, nationality, and their characters). Group Manager is to get the questionnaire results and make groups based on the results (e.g. homogeneous group vs. heterogeneous group). Log is a function to download logs of chats, questionnaires, behaviors, and so on. Facilitation enables facilitators to visualize students’ social presence (SP) and cognitive presence (CP) (Garrison et al., 2001). In addition, the Facilitation function offers comments template along with SP and CP to facilitators (Ishige et al., 2016). Through Project Design, facilitators share project information, exchange views of their lecture in advance, organize the current lesson together, give feedback, and assess students’ work. The Common Function is mostly concerned with the management of lectures, and the Facilitator Support Functions are a support system that lightens facilitators’ burden and offers methods to facilitate students better. Among those functions, we will next focus on a design for multiple-global facilitation in education.

Support tools for multiple-global facilitation

The goal of the GLoCL system is to make students improve their globalization abilities. I will show three ways in which the GLoCL system supports facilitators to achieve this goal: ‘Hofstede’s Six Dimensions Model of multiple cultures,’ ‘The World Values Survey,’ and ‘Questionnaires of Learning Style.’ Hofstede’s Six Dimensions Model is a framework of multiple-cultural understanding (see table 1) . He first issued questionnaires of culture and value to 110 thousand IBM employee in 40 countries from 1967 to 1973. Although his first model was four Dimensions, Hofstede has continued the research and he added two dimensions in 2010. The latest results (2015) include 112 countries and regions. The research tried to determine and index cultural tendencies and national characteristics, so that each country is quantified and ranked. Hofstede emphasized in the research that checking one country’s data does not work well; instead we should compare between countries. I will show an example of the ‘Individualism and Collectivism dimension,’ and compare the U.S. and Japan next.

Table 1. The contents of Hofstede’s Six Dimensions (Hofstede, 2017)

Index	Outline
Individualism/ Collectivism	Individualism pertains to societies in which the tie between individuals are loose (e.g., look after oneself). Collectivism pertains to societies in which people from birth onward are integrated into strong, cohesive in-groups.

Power Distance (large)/ Power Distance (small)	Power Distance is the extent to which the less powerful members of institutions (e.g., the family, the school, and the community) and organizations (e.g., the places where people work) within a country expect and accept that power is distributed unequally.
Masculinity/ Feminity	Masculinity is the extent to which emotional gender roles are clearly distinct (e.g., men are supposed to be tough and focused on material success. Women are supposed to be more tender and concerned with the quality of life). Feminity is the extent to which emotional gender roles overlap (e.g., both men and women are supposed to be tender and concerned with the quality of life).
Uncertainty Avoidance (weak)/ Uncertainty Avoidance (strong)	Uncertainty avoidance is the extent to which the members of a culture feel threatened by ambiguous or unknown situations.
Long-term orientation/ Short-term orientation	Long-term orientation stands for the fostering of virtues oriented toward future rewards (e.g., perseverance and thrift). Short-time-orientation stands for the fostering of virtues related to the past and present (e.g., fulfilling social obligations).
Indulgence/ Restraining	Indulgence stands for a tendency to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun. Restraint reflects a conviction that such gratification needs to be curbed and regulated by strict social norms.

On the dimension of Individualism, the U.S. scores 91 which is the highest for any country on this dimension. However, it is not easy to read useful information only from the score. On the other hand, the degree of individualism in Japan is 46, which ranks 41 among 76. Therefore, per Hofstede’s study, Americans may have tendencies that ‘the ties between individuals are looser: everyone is expected to look after him- or herself and his or her immediate family,’ and Japanese may have tendencies that ‘people from birth onward are integrated into strong cohesive in-groups, which throughout people’s lifetime continue to protect them in exchange for unquestioning loyalty.’ (Hofstede, 2010) We can compare with not only two countries but also more. For instance, Guatemala’s score is 8 in the dimension of Individualism that is the lowest, so we assume Guatemalans are more collective than individualistic. The United Kingdom is the third place in the dimension, so in individualism British are possibly closer to Americans than that to Japanese and Guatemalans (see figure 1).

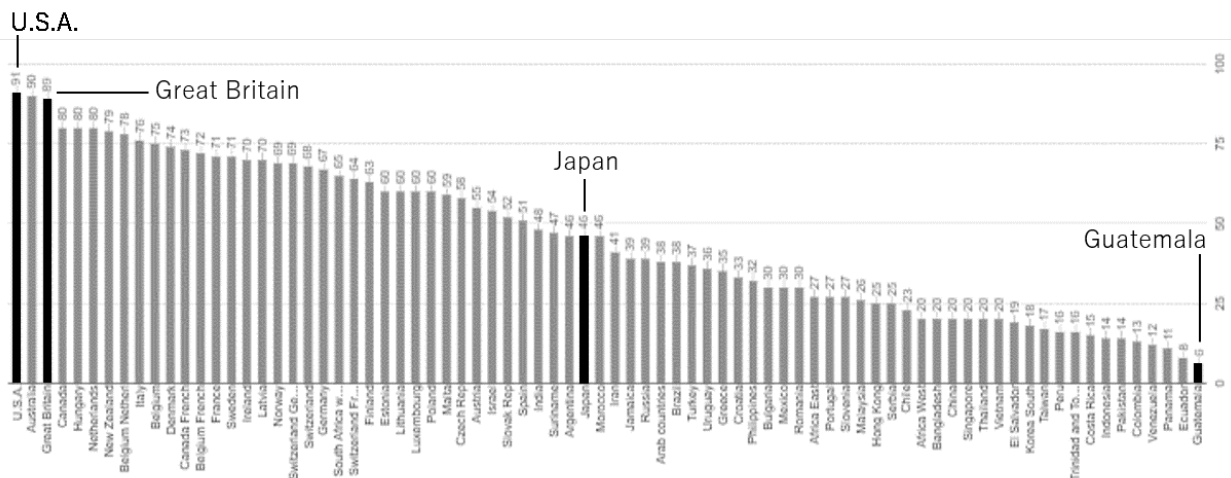


Figure 1. A sample of Hofstede’s Six Dimensions Model in the CLoCL system

The GLoCL system adopts the Six Dimensions Model and shows the dimensions by graphic charts through which facilitators can see tendencies, features, and differences between countries. It is designed to help facilitators when they need to organize new students from different background cultures. It is true that the six dimensions do not actually exist but they are a framework for the better understanding of values and behaviors across multiple cultures. In consequence, our research project has no intention to insist on any discrimination, good or bad, or dominant-subordinate relationship, but only tries to discuss some aspects of cultural diversity.

The Six Dimensions Model is supposed to help better understanding of differences in multiple cultures, but unfortunately, it does not cover all countries in the world. To handle this point, we also introduce another method “The World Values Survey (WVS).” WVS is the research that investigates changing values and their influences on societies and human life on a global scale in almost 100 countries. It was begun in 1981, collecting data and analyzing them based on a questionnaire that consists of 290 questions (2016). The research is held once every five years, and the latest research was finished in 2016 (The World Value Survey, 2018). The data can be used through the website, so we show the survey’s URL and recommend facilitators and students to check it if they need.

There may be a question why we use The Six Dimensions Model if WVS also conducts a continuing survey that shows a more recent result. The answer is that although WVS deals with cultural and value differences, it only shows the data and it is not easy to read meanings from them. For instance, the case of Individualism in WVS, the question wording is as follows: “I see myself as an autonomous individual.” Comparing the United States with Japan, positive answers (“Strongly agree” and “Agree”) are 64.2% in the United States and 69.7% in Japan (see Figure 2). Thus, we can see the numeric data, but it seems to be difficult to understand the meaning of individuality and what the data indicate. In the GLoCL system, more details of the six dimensions are described, so it is expected to help facilitators’ and students’ understanding of each dimension (see Figure 3).

World Values Survey Wave 6: 2010-2014

Select Wave Select Countries Survey questions Responses

V216.- I see myself as an autonomous individual

Cross by: -- Change --

Display: Show Column % (all responses)

	TOTAL	Country Code	
		Japan	United States
Strongly agree	16.1%	13.5%	19.0%
Agree	50.9%	56.2%	45.2%
Disagree	15.5%	7.4%	24.3%
Strongly disagree	3.7%	1.1%	6.5%
No answer	2.4%	-	5.1%
Don't know	11.4%	21.8%	-
(N)	(4,675)	(2,443)	(2,232)

Selected samples: Japan 2010, United States 2011

Figure 2. A sample of WVS

Individualism (IDV)

Individualism/Collectivism	Individualism pertains to societies in which the tie between individuals are loose (e.g., look after oneself). Collectivism pertains to societies in which people from birth onward are integrated into strong, cohesive in-groups.
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p.92(*1)
Key Differences Between Small-and Large-Power-Distance Societies in Education

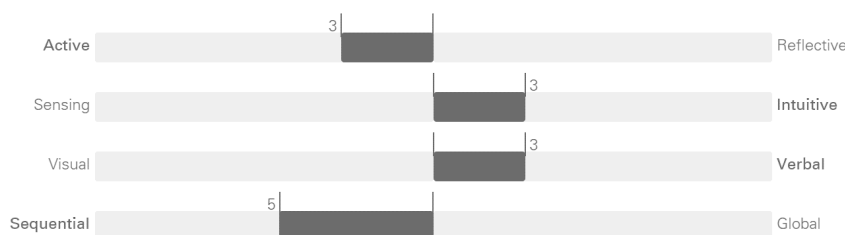
COLLECTIVIST	INDIVIDUALIST
Students speak up in class only when sanctioned by the group.	Students are expected to individually speak up in class.
The purpose of education is learning how to do.	The purpose of education is learning how to learn.
Diplomas provide entry to higher-status groups.	Diplomas increase economic worth and/or self-respect.

p.124(*1)

Figure 3. A sample of The Six Dimensions Model in the GLoCL

We saw the way to grasp cultural differences throughout the comparison between countries, but there may be a criticism of using the Six Dimensions Model. If facilitators only give an attention to students’ cultural features, they might use it to do nothing more than to stereotype students. The GLoCL system therefore also introduced another method by which facilitators can see students’ individual learning styles (Felder, 2017). That is web questionnaires based on the Felder-Silverman model. The questionnaire consists of 44 items and the results are categorized into 4 fields which are divided into 2 types (see figure 4). At the end of the questionnaires, students are shown the result, an explanation what the results mean, and how such learners can help themselves. Facilitators can lead students to use the questionnaires and share the results with the student. Then, facilitators and students grasp

what he/she tends to do and what is appropriate for his/her learning. In short, facilitators can acquire general frameworks of different cultures through the Six Dimensions, and they can also see individual student's learning style through the web questionnaires. These tools are expected to be helpful for the understanding of students culturally and individually.



What do my results mean?

According to the model on which the ILS is based, there are four dimensions of learning style, with each dimension having two opposite categories (such as active and reflective). The reported score for a dimension indicates your preference for one category or the other.

If your score for a dimension is 1 or 3, you are fairly well balanced on the two categories of that dimension, with only a mild preference for one or the other.

Figure 4. A sample of a web questionnaire of Felder-Silverman's model (Felder, 2017)

Conclusion

The system and functions of the GLoCL system were introduced above. The construction of the GLoCL system was finished in 2017, but it is still in its early stage. One of our future tasks is data collection of lesson practices. Although several lessons were experimentally performed, we have not obtained enough data for an analysis yet. We need to reconstruct the system based on facilitators' and students' experiences who actually use it.

To summarize, the final purpose of the GLoCL system is to offer an environment in which students can grow their abilities working collaboratively with foreign students, and facilitators can collectively prepare, design, and facilitate their lectures globally. This presentation mentions only a part of the functions of the GLoCL system, especially from the aspect of the global facilitation, but we expect that its necessity and availability will be well accepted.

Acknowledgement

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References

Felder, Richard M., Soloman, Barbara A. *Index of Learning Styles Questionnaire*. (<https://www.webtools.ncsu.edu/learningstyles/>) Accessed on October 10, 2017.

Garrison, D. R., Anderson, T., Archer, W. (2001). *Critical Thinking and Computer Conferencing: A Model and Tool to Assess Cognitive Presence*. American Journal of Distance Education.

Goda, Y., Yamada, M., Ishige, Y., & Handa, J. (2014). *Survey on Japanese university students' learning experiences with ICT and open sources for international collaboration*. In Proceedings of the 22nd International Conference on Computers in Education, ICCE 2014 (pp. 827-829). Asia-Pacific Society for Computers in Education.

Hofstede, Geert., Hofstede, Gert Jan., Minkov Michael. (2010). *Cultures and Organizations: Software of the Mind. 3rd Edition*. McGraw-Hill USA.

Hofstede, Geert. *The 6-D model of national culture*. (<http://geerthofstede.com/culture-geert-hofstede-gert-jan-hofstede/6d-model-of-national-culture/>) Accessed on October 10, 2017.

Ishige, Y., Goda, Y., Yamada, M., & Handa, J. (2016). *Creation of fixed phrases for the facilitation of CSCL*. Otemae University CELL journal of educational studies vol.6., pp. 1-10.

The World Values Survey (<http://www.worldvaluessurvey.org/wvs.jsp>) Accessed on February 2, 2018.

The Council on Promotion of Human Resource for Globalization Development. (2011). *An Interim Report of the Council on Promotion of Human Resource for Globalization Development*. (http://www.kantei.go.jp/jp/singi/global/1206011interim_report.pdf) Accessed on October 10, 2017.