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Design of Global Education Platform for Children Using Digital Communication Media

by

Marcos Sadao Maekawa

Submitted to the Program in Media Design,

Graduate School of Media Design,

in partial fulfillment of the requirements for the degree of

Master of Media Design

at the

KEIO UNIVERSITY (Japan)

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ABSTRACT

The world has been experiencing transformations that continuously bring up new issues and challenges in global scales. Living in a society ruled by interdependence demands human resources with cross-cultural communication skills and capable to face and deal with those challenges. Organizations around the world have already started projects to promote dialogue between different cultures. However, the existent educational systems seem not to be prepared to absorb this responsibility.

This thesis proposes a global education platform for children where new communication media is combined with cultural exchange programs. Global experiences can provide children with new discoveries about others' and also their own cultures. This learning environment will nurture a new generation of global citizens, inspired and prepared for the challenges of living in a global society.

Keywords: global education, cross-cultural, exchange, new media, children

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1 INTRODUCTION

1.1 Overview

The human being has always been inspired by the challenges of new discoveries and new experiences. Since a long time ago, people have started moving across national borders and unknown lands. Political, social and commercial interests started making not only people, but also goods, money and information move around the world. This scenario of interconnectedness and interdependency within the international society is called *globalization*.

In the last two decades, the world community witnessed wars, economic and financial crisis, environment problems, diseases proliferation and social unfairness around the globe. Meanwhile, technological development brought up innovations and hopes to help us with solutions to those issues.

In times of globalization, any local action can reach global scales. In order to nurture a generation of citizens capable to act locally thinking globally, with strong cross-cultural communication skills, global education is a silver lining to help traditional education systems and inspire younger generations and children to the challenges of living in a global society.

1.2 Cross-cultural and Citizenship Education

Although the globalization phenomenon tends to homogenize lifestyles and cultures around the world, it is necessary to preserve cultural diversity. In 2005, at the 10th Global Youth Exchange Program¹—an annual initiative by the Ministry of Foreign Affairs of Japan—, young representatives of 33 countries and regions gathered in order to find solutions to world peace in the 21st century through synergy of diversity. After several discussions, participants prepared a final proposal in which was declared that:

Cross-cultural education should be promoted; educational opportunities should be increased, and more collaborative studies and research on history, culture, economy, philosophy, etc., should be conducted in order to enhance knowledge, acceptance, understanding, and respect of other cultures.²

Some of the topics above are already included in the Citizenship curriculum classes in formal education; and in many countries, local government and organizations have been working on extracurricular activities to provide young citizens with a wider global-focused coverage of issues and cultural aspects. For example, the project *Get Global!*, originally created in the United Kingdom, has basically three core themes to promote an active global citizenship education:

- (1) To provide an experience of being able to make difference through action;*
- (2) To develop skills of enquiry, participation and reflection;*
- (3) To develop an understanding of the world as a global community and discuss political, economical, environmental and social implications of this.³*

In the *Get Global!* guidebook, a MORI⁴ poll indicates that 80% of students interviewed agreed with the following statement: “young people need to understand global issues so they can make choices about how they want to live their lives.”⁵

1.3 Why Cultural Exchange?

The term *cultural exchange* can be defined as “an exchange of students, artists, athletes, etc. between two countries to promote mutual understanding.”⁶ Knowing more about cultural differences and similarities is essential to achieve mutual understanding and making cross-cultural communication effective. Activity focused on cultural exchange are usually the entrance door to understand a different culture and it has been explored in various levels.

One example of a good practice of international exchange in governmental level is the

postwar Japan, that made efforts to establish its position in the international society, up to the 60's. National agencies worked intensely to introduce Japanese culture to the West, meanwhile Western culture was also being introduced in Japan. In the 70's, trust in Japan within the international community was restored and in the same period there was "a surge of international exchange initiatives by local governments as well as civil and grassroots organizations."⁷ Japan also understands that "to avoid clash of civilizations in the 21st century, we need to work to advance mutual understanding through cultural exchange and achieve harmony and coexistence among the world's diverse cultures."⁸

In individual level, cultural exchange always had a very close relationship with education. It is common to find people start their transformation to global citizens from learning a foreign language or going to study abroad through exchange programs, willing to expand their vision of the world and to improve their language skills. Traditional elements such as music, food and costumes are usually the first steps to be introduced to a new culture. On another hand, participating on a cultural exchange activity is a good opportunity to discover or re-discover our own culture or ethnicity.

1.4 ICT and the New Roles for Education

Information and Communication Technologies (ICT) development has accelerated transformations in the way people work, learn and communicate. The digital era brought innovations that have been influencing the routes of learning and changing schools' and teachers' role in the educational system. The internet made revolution in education introducing E-learning, open courses and online bulletin board systems (BBS), bringing contents that can be accessed whenever you want or wherever you are located in the world, overcoming the barrier of time and distance.

Since the middle of the 2000's, Web 2.0 technologies have been enabling more interactivity in various levels on the web, such as information sharing and collaborative works. Users have more autonomy to produce contents, creating a new

scenario in the Internet. Researches, educators and specialists have been paying special attention to the development of Web 2.0 technologies and its possibilities when applied in education, taking also advantage of its social networking aspects. The traditional model of education, in which contents are produced and/or delivered by teachers and consumed by students, has already started changing and students are becoming both producers and consumer of knowledge.^{9 10 11}

As transformations can be widely found in higher education, younger generations have also been experiencing changes in learning with new communication technologies, in and out of the school. It is not rare to find educational programs introducing the use of portable games, iPod and other digital equipments as new tools or channels of learning. Diffusion of mobile phones can indicate new ways to reach young people to motivate learning. According to a report released by the Tokyo Metropolitan's Board of Education on the use of Internet through mobile phones by children, 38.4% of elementary school, 66.4% of junior high-school and 96.2% of high school students have their own mobile phones.¹²

Mizuko Ito et al, from the MacArthur's Foundation's Digital Youth Project, explain in the white paper *Living and Learning with New Media* that online spaces enable youth to connect with peers in new ways. Ito describes how youth in the US have been interacting with new media technologies and reinforce that "participation in the digital age means...the ability to participate in social and recreational activities online."¹³ Also, The paper suggests that "rather than assuming that education is primarily about preparing for jobs and careers, what would it mean to think of it as a process guiding youths' participation in public life more generally?"¹⁴

1.5 International Migration: Global Issue for this Century

Globalization and development of technology in general allowed people to move more intensively across national borders. Migration has become one of the defining issues of this century and, according to the United Nations International Migration Stock, there

are 214 million international migrants in the whole world, in 2008.¹⁵

The International Organization for Migration (IOM) says that migration is “an essential, inevitable and potentially beneficial component of the economic and social life of every country and region”.¹⁶

*The question is no longer whether to have migration, but rather how to manage migration effectively so as to enhance its positive and reduce its negative impacts. Well-informed choices by migrants, governments, home and host communities, civil society, and the private sector can help realize the positive potential of migration in social, economic and political terms.*¹⁷

Children are actors always present in this migration scenario. Usually, they move with their respective families or are born just after arriving at the host community. Although most of young migrants are able to overcome language barriers faster than adults, many children have traumatic experiences when in the new environment.

One example is the situation of Brazilian children in Japan. Even some of those who can speak Japanese suffer with bullying at schools, because of cultural or physical differences. In 2007, among the total population of 317 thousand Brazilian citizens registered living in Japan¹⁸, the number of children in scholar age exceeded 40 thousand¹⁹. They usually come with their parents, who were attracted by new job opportunities in the Japanese industrial sector. A part of them were born in Japan, have only Brazilian citizenship but have never been in Brazil before.

We are in times when global mind and communication skills are essential to live and face the issues of a global society. As well as it happens in formal education, children would be exposed to cross-cultural experiences and start to the process of acquiring a global mind in earlier ages. And the smart use of ICT enables multicultural activities to come close to children, providing them with effective global education programs.

2 BACKGROUND AND RELATED WORKS

Many projects around the world are making efforts to promote cross-cultural dialogue among young students. Exchange programs allow young people around the world to study abroad, learn more about foreign cultures and knowledge to be used when they go back to their original countries. In another side, e-learning environments deepen their studies to find the best way to extract all possibilities of interactivity empowered by ICT.

2.1 Cross-cultural programs at schools

UNESCO has been running innumerable local and regional programs around the world. One of their biggest project, The UNESCO Associated Schools (ASPnet) following four major priority areas in the field of education: Inclusive Education, Education for Sustainable Development, Human Rights Education and Education in support of Intercultural dialogue.

The Education in support of Intercultural dialogue was created in response to all waves and forms of violence and conflicts. Encouraged by this program, “teachers and students are rising the challenge of entering into contact to each other, transcending borders, cultures and languages in a sincere effort to know each other better.”²⁰ In result, the ASPnet report points that “many societies are becoming multi-cultural.”

ASPnet project is that they are divided in many levels: local (school), national, regional, inter-regional and international levels. But some peculiarities can be observed among the projects. School level projects usually have to run under very low budget and almost no ICT support. This situation is not rare in many countries.

On the other hand, Regional to International level projects are usually based on gathering, face to face discussions, conferences, where participants have to move from their original country to another. Usually, these activities target teenagers, not children.

International level projects, such as the Mondialogo School Contest—the largest contest in the world in favor of international dialogue—have global proportions, covering more than 8000 schools around the world. Although this contest has big scale numbers and innumerable lessons to teach to others, it still does not promote as much interaction, discussions and other activities online, as it could, having all the digital communication media, including a very informative website, available. But they still promote few interactive sessions with participants from different countries.

If those national activities took advantage of the technology available to extend their coverage for elementary school students, all projects coverage would be wider and children could start thinking about diversity in early stages.

2.2 Digital communication media applied to education

Researchers and educators have been working hard to find solutions for this sort of interaction, specially after the spread of Information and Communication Technologies (ICT). The technology available nowadays are sufficient to support high definition quality video and audio data transmission, but the high cost of equipments and infra-structures and teacher's lack of ICT knowledge are still great barriers to be overcome.

Digital communication applications available online such Skype or Microsoft's Messenger have been improving their functions as well as connectivity and broadband become more advanced. In contrast, it permits two-peers only video chatting. Apple Computer's iChat supports up to 4 participants in the same session but are limited to AIM or MobileMe service members, e.g., paid services. Polycom's products have been largely used in business and graduate level education, but not for lower education because of high costs.

One established project that makes the best use of technology, also developing applications in partnership with other research laboratories is the SOI (School on

Internet) Asia project²¹. This project “utilizes satellite based network to provide Internet environment in a less expansive, easy to deploy, and more feasible way”. Throughout the network (Fig. 2-1), universities in Asia can experience a new educational methodology with a combination of live transmission of lectures and online archive. Depending on the hardware infrastructure available at the site, high-definition quality image real-time communication can be held. This project has 27 universities and research institutes partners in 13 countries in Asia.

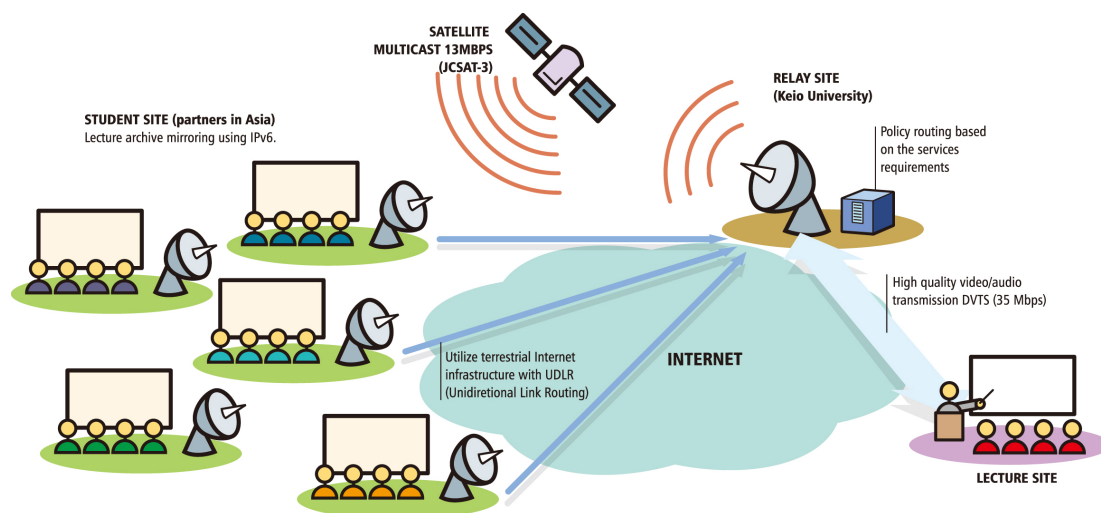


Figure 2-1: SOI Asia basic network model.

Beyond the technological structure, a strong partnership with government bodies, universities, research laboratories and other institutions, are settled. There is also a training program for new operators with regular internships, online and presence meetings, in order to provide continuousness to the operational structure overseas.

SOI Asia educational activities are focused on higher education. If this platform put its environment available to lower education, including elementary, the coverage of global education would be extended for children in countries with low infrastructure of Internet. And they could attend cross-cultural activities without leaving the city or the country they live.

2.3 Trends in children's learning in the Digital Era?

The scenario of learning from experiences in contexts others than the classroom, making use of available technologies, is not new. In *De-schooling Society* (1971), Ivan Illich makes radical critics on education systems in modern economies, but also suggests that technology could support the creation of new learning webs and describe his vision of a good educational system:

*A good educational system should have three purposes: it should provide all who want to learn with access to available resources at any time in their lives; empower all who want to share what they know to find those who want to learn it from them; and, finally, furnish all who want to present an issue to the public with the opportunity to make their challenge known.*²²

Many international exchange programs for children have been utilizing email, website or BBS on a bilateral peer-to-peer basis. Multilateral interaction has been found in online games and business (video conferences), but not often in compulsory education or children focused activities. A numerous literature about peer-to-peer can be found, but there is a big lack of information about multilateral real time communication applied to education.

On the other hand, the economy, politics and the whole society have been becoming more globalized. New issues in scales never seen before have been challenging the global society to find new solutions and the demand for a global focused education has been increasing.

Nowadays, there is a rush to introduce ICT in Education and to provide hardware for schools. By the end of 2009, Uruguay became the first country in the world to achieve full deployment of one laptop for every student and teacher in primary level, for free.²³ The Uruguayan Plan Ceibal²⁴ reached superlative numbers reaching 380,000

computers²⁵. Portugal has presented recently the ambitious Magellan Plan, with a goal of giving computers for 500,000 elementary students (1st to 4th grade).²⁶

Taking advantage of this continuous development of new media technologies and ICT in education, it is time to make more than providing hardware and connectivity at schools. It is also necessary to develop programs with global approaches capable to enhance children's creativity and communication skills.

The research described in this thesis focuses on finding solutions to enable effective cross-cultural exchange program for children in scholar age, making the best use of digital technologies to promote an opportunity of exchange or digital communication media, such as promoting multilateral communication sessions, to enhance interaction and make exchange activities more appealing.

3 GLOBAL EDUCATION KIDS

Based on the background and information extracted from the related works described previously, this research comes to propose a new education platform in which children are provided with global experiences through digital communication media. This platform is supported by a university-centered operational architecture and partnership between school, university, organizations, government and other institutions.

Through this environment, young people from different communities come together and share experiences of cultural exchange, education and friendship. These experiences will help youth to understand global citizenship and that diversity is natural, important and must be respected. This platform will allow people in their early ages to enhance awareness of global and effective learning experience with global approaches. It is not a physical space, but an environment created to inspire children for the challenges they will have to face in their future lives.

In order to conceptualize this environment, this thesis proposes a design targeting three basic aspects described below.

3.1 Learning Together

The ways people communicate, learn and interact have been transformed in the last decades and will keep on changing with the development of technology. Based on this fact, new theories, debates and methods of learning have been raised along the years.

As pointed previously, Illich (1971) argued that the society should be de-schooled and technology would support the creation of learning webs, where people with the same interest would learn from each other experiences. Not as radical as Illich, but with a similar idea, Tom Bentley's Learning Beyond the Classroom (1998) points the demand

of creating new educational challenges and the whole society's mission to reconceptualize education, focusing on the needs of nurture young people's ability to learn and understand themselves. Bentley suggests that "this learning will not take place only inside schools and colleges, but in communities, workplaces and families."²⁷

This vision of people learning outside the traditional educational system, with peers in other contexts is not new. But only in recent years, when the spread of Internet, we can observe this trend happening intensively online. It is possible to find in the web innumerable contents of various genres, a large spread of online BBS, open courses and forums, and also in social networking services. As indicated by Ito (2008), the diffusion of online interest-based communities is also already supporting changes in the way young generations learn in the US.²⁸

The present stage of ICT allows smooth video and audio multilateral communication, enabling a more dynamic interactivity within this learning platform. Sites can gather online and share contents, time and place. This situation creates an environment where children from different places can interact online and make collaborative works in real-time. Although this platform is supported by advanced solutions of connectivity, the main goal is not to teach children how to operate those technologies or hardware, but giving them to opportunity of learning and communicate with their peers abroad.

3.2 Feeling Global

This thesis defines global experience as any situation in which children with different backgrounds can interact, feel and learn something from a global point of view. Activities and programs will be designed to make participants feel the world by making collaborative works and actions, discussing and/or sharing knowledge, feelings, moments of cultural exchange, reflection and friendship.

As explained previously, an effective mutual understanding relies on knowing better the cultures and backgrounds among the parts involved. By providing global

experiences for children in scholar age, this research expects them to discover differences and similarities between cultures and start developing a perception of diversity, values of friendship, respect and principles of universality in earlier stages of their lives.

3.3 Sustainable structure

Observing other projects of crosscultural exchange using ICT, the biggest barriers for individual or independent initiatives are: to find the right partners to work with, the lack of ICT knowledge and literacy among teachers and the management of multilocation operations.

This research proposes a university-centered management structure, where the University, as a reliable institution, plays a bridge role between schools, government bodies, institutions, technicians and other stakeholders, creating an operation cell in local level. An international network of universities (Fig 3-1) can compose an ideal operational architecture for this sort of platform for cross-cultural activities. Universities can contribute with technical support, equipments, facilities and other elements such as manpower and knowledge.

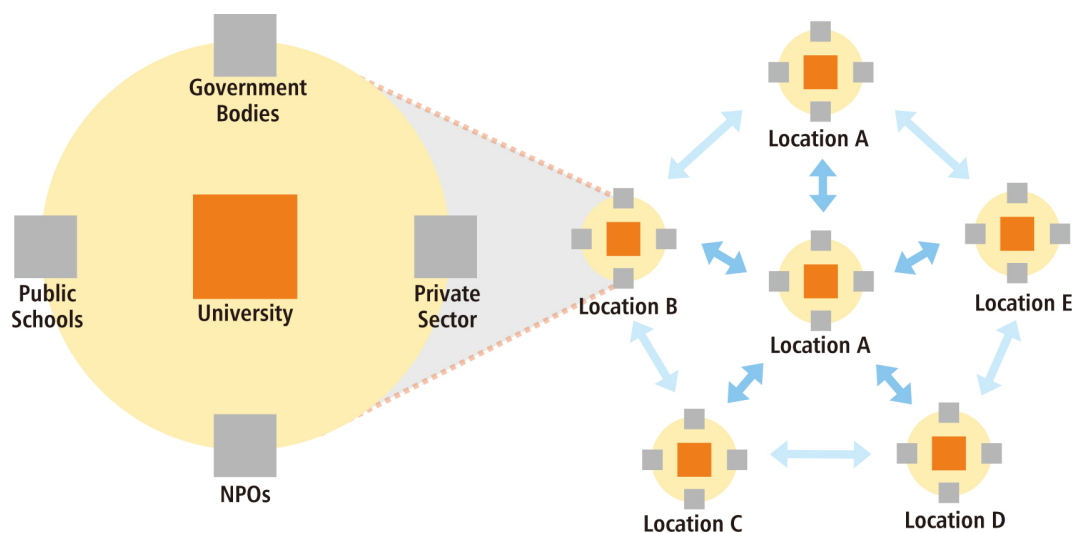


Figure 3-1: The University-centered management structure (left) and the network scheme.

This structure enables multilocation management, decentralizing powers and sharing efforts. It will also create a closer relationship between schools and universities, where schools can have access to the latest technology and knowhow available for crosscultural activities and universities will have international field for researches.

Although this thesis proposes a new context of learning for children, it has no intention of taking off any educational responsibility from schools. Indeed, it proposes a new structure to support elementary education, within and beyond the classroom. Since this educational platform demands more than the usual level of technical and human resources available in regular educational system, it requires more than only team work, as argued by UNESCO's ASPnet project.

*School and learning require partnership...including those with non-governmental organizations (NGOs), universities, municipal authorities, public institutions, government bodies, research centres, foundations, UNESCO Clubs, the media, and intergovernmental organizations (IGOs), such as UNESCO.*²⁹

An efficient organizational structure based in a partnership as described above, enables a "synergy between learners and experts, between amateurism and professionalism, between mere interest and the empowerment of young people."³⁰ The well function of this structure, making full use of each one's strengths, ensures the effectiveness and continuousness, that is, the sustainability of this learning environment.

In order to investigate the performance of this set of concepts for organizing multicultural events proposed by this thesis, this research has been observing and/or producing pilot programs of cross-cultural exchange supported by digital communication media. Two experiments will be described in following chapters, from program design to evaluation. This research observed how these experiments could stimulate children's perception of cultural diversity and global experiences, to explore

the multilateral interaction and new media usage among children and to investigate the effectiveness of a university-centered architecture for this sort of cross-cultural exchange program.

4 EXPERIMENT 1

Connecting the World through Komadori Anime

Komadori Anime & Cultural Exchange ~Connecting to the World~ was a series of workshops designed to promote international multicultural exchange through animation production. *Komadori Anime* is the Japanese term for ‘snapshot animation’ and this medium was chosen to provide children in Japan, Italy, Cambodia and Brazil with the opportunity of expanding their creativity using digital media.

This program was divided in two workshops, described in session 4.1.1. In the first workshop, children produced pictures and drawing, such as characters, objects and landscapes. All material produced by children were shared and, in the second workshop, they were put available for other locations; then, children had the same material to experience the *komadori anime* production.

Workshops were held in each location within July and September of 2008; and Japan had a third one for screening, in October. Each workshop had the participation of almost 75 young students from 7 up to 13 years old and they produced 20 animations, in total (Table 4.1). In Japan and Italy, children applied for participation; in Brazil and in Cambodia, they were classmates.

	JAPAN	ITALY	CAMBODIA	BRAZIL
1st workshop	July 13, 2008	July 18, 2008	August 1, 2008	July 14, 2008
2nd workshop	August 24, 2008	September 5, 2008	September 1, 2008	July 23, 2008
Location/Venue	University facility	Library facility	Children care home	School facility
No. of Participants	35	17	5	16
Age	7 to 12	7 to 13	12 to 13	8
Animations produced	9	5	3	3

Table 4.1: General information of *Komadori Anime* program

This research expected to observe and investigate two major aspects: (1) the efficaciousness of cross-cultural exchange without direct communication between remote sites on children perception and (2) the role and effectiveness of the partnership in multi-location educational programs. The evaluation was based in information collected from observation, interview with participants and hearing from facilitators.

4.1 Program Design and Cross-cultural Exchange

This program was designed to make the cultural exchange factor appear in different phases and levels, as much as possible, since time difference and local conveniences allowed no direct interaction among children. Also, it was divided in two sessions held in different days, in order to enable data exchange. The first one was dedicated to material creation and the second to animation production. A third session for screening was held only in Japan.

In the first moment, all children received a brief introduction of all participant countries. Since most of them were hearing about those countries for the first time and because literacy and grade differences, all data were presented in a simple and easy-to-understand way. Program design team selected basic information, such as position in the globe, currency, language (with samples), and utilized comparisons, such as distance from their countries, relevance in sports, typical food and others topics familiar for close to their daily life. This introduction was repeated in the beginning of the second session.

After that, children were asked to take pictures of places and landscapes where they live and to draw persons, animals or other original characters, food, vehicles and objects to be included in the animation. They were guided to produce pieces that could represent their daily life, culture or country. Some books and references were available for consulting, in case children had difficult to create. In this moment, every participant had the chance to think and reflect about the elements that would represent better their

background. As pointed before, to know your own country's culture is an important step to start mutual understanding. The pictures below show some moments of the first workshop in each location.



Figure 4-1: Participant drawing (Cambodia).



Figure 4-2: Introductory session (Japan).



Figure 4-3: Introductory session (Italy).



Figure 4-4: Children play origami (Brazil).

In the last part of this first session, all groups were motivated to send video messages to participants in other countries (Appendix A.4-A.7). Once this first stage was finished, every drawing produced were scanned and exchanged with other countries, so every site had the same contents available to be used in the next session.

In the beginning of the second workshop, children watched the video messages

received from their peers abroad. Then, all material exchanged previously was printed out and introduced to children. In this moment, they experienced another sort of cultural exchange: listening to explanations and looking at materials produced in other countries, they quickly started pointing and finding out similarities and differences between countries.

In the sequence, children picked up pieces that would fit the story they were about to create and went to the production stage. Although participants handle digital cameras in both workshops, facilitators conducted all computer operations during sound recording and movie edition process. In the end, all creations were presented by the respective author group and screened for participants, parents, guardians and other local audiences.

After this second stage was concluded, all animations were sent to Japan, where they received subtitles in Japanese, Italian, English (for Cambodian participants) and Portuguese. Animations were published in a website created for this program. Children could watch all movies created by their colleagues abroad and also see pictures and reports from other workshops in other locations.

In Japan, organizers promoted an extra screening session of all animations with subtitles for Japanese participants, their parents or guardians and other stakeholders of this program, such as supporters and sponsors.

4.2 Partnership Between University, NPOs and Foundation

This program was sponsored by the International Communication Foundation—actual KDDI Foundation³¹— whose mission was to contribute for global development through ICT. Keio University³² cosponsored the project and provided publicity, translation and program design support, as well as provided equipments and facilities.

Canvas³³, a nonprofit organization based in Japan and specialized in creative workshop

for children, was the center of the operation network created for this project. In addition to the general management, the NPO provided workshop and technical knowledge and designed the main program. The operation network also included local organizations in each country: Nipponica³⁴ (Italy), Kamonohashi Project³⁵ (based in Japan and activities in Cambodia) and Bem-Te-Vi Project³⁶ (Brazil).

This sort of collaborative work allowed *Komadori Anime* to be held on a flat and decentralized organization basis, what lowered budget and gave flexibility to adapt the program to each environment without compromising the main goals.

Organizers in Japan designed a manual covering all stages of each workshop, facilitation tips and simple software usage instructions to help deployment in all locations. This kind of material is essential to implementation of multi-location projects because it ensures fidelity to the original theme and improves efficacy in delivering the workshops. It also previewed flexibility for some tasks, so organizers in each country were allowed to adapt the manual to their own needs and environment. However, organizers were asked to follow strictly the main structure of the program and animation editing instructions, to avoid discrepancies in the final output.

4.3 Diversity

In this activity, diversity went beyond nationality or citizenship. Each group of participants had a peculiar background and workshops held in spaces with different characteristics. In Japan, where the workshops were held in Keio University's facility in Tokyo, participants—1st to 6th graders—had to apply for subscription and did not know each other, although some of them belonged to the same family or school. In Italy, the event was held in a library and students live in the same area, in Bologna city. Participants from Cambodia, all 6th graders, were victims of child sex industry in the past and now live in a children's care center. In Brazil, participants were 2nd grade students from a public school, where movie production workshops are held regularly.

4.4 Evaluation, Findings and Results

In order to evaluate this program, the only data available was the observation of each activity in Japan, video interview with some participants and hearing of organizers and facilitators from all countries.

4.4.1 Cross-cultural Exchange: age matters?

Observing participants' behavior and based on feedback from facilitators, it can be concluded that children learned were motivated to learn about other countries and to show their own culture to others. They made questions to the facilitators, searched information in the books available and gave suggestions by themselves. However, they demonstrated different behaviors in each kind of exchange session, depending on their ages and nationality.

According to organizers in Brazil and Cambodia, where there was no age variation, and also in Italy—majority of higher graders—, students were very receptive to introductive information about foreign cultures. Due to date incompatibility, Brazilian children had available to animation production only the material by Japanese children and by them own. But they were very curious and some knew much about Japan. This second fact can be also attributed to the intensive media coverage because of the 100th Anniversary of Japan Immigration to Brazil.

In Japan, where participants' age varied from 7 to 12, facilitator observed that higher graders (4th to 6th) were more participative than younger ones during the introduction of other countries' profile. Higher graders were also the first to point out cultural differences and similarities between the drawings exchanged, in the second session. On the other hand, younger participants, as well as higher graders, were very excited while recording and, in special, watching video messages. This is a hint for next works: make better universal design of information to cover larger audiences or shorten participants' age difference in order to lead to more uniform results.

4.4.2 Electricity and Literacy Divides: global issues

One interesting point observed was the difficult of communication with Cambodia. The interview with one of the students (Appendix A.2) revealed that they had more than 10 personal computers available for students, but because of electricity costs and electricity limitation, they are allowed to use the machines only one hour per day, from Monday to Friday, and there was no connectivity with the Internet. They usually utilize the PCs to study on Word or Excel.

Another point was the fact Cambodian students did not use any materials, but the ones produced by themselves. Although they showed to have high drawing skills, the local facilitator related that children know neither what an animation was nor how to create an original story. Then, the facilitator explained the meaning of animation and suggested to them create a script introducing their culture and/or their daily life in the child's centre.

4.4.3 New technologies: supporting creativity and operations

From a technological point of view, new media tools played an important role to support children's creativity, although the focus was not in teaching children how to operate cameras or computers. This program was designed to make them experience cultural exchange and learn interacting with elements created by their peers abroad; also, to make children participate in the creative process of a simple snapshot animation, from storytelling and narration to production.

Digital communication media supported the operational aspect, since almost all communication between sites was made by email and few calls using Voice Over Internet Protocol (VoIP) application Skype³⁷. There was no need of international travels or visits, but it is important to emphasize that Japanese staff was acquainted with the organizers from other sites.

Another important task supported by ICT was the exchange of all materials produced

by children, from drawing to movies. Every piece was digitalized and transferred to an FTP server, from where they could be downloaded. After done, children could access their own animation on the website, as well as the one produced by their friends abroad. In Cambodia, organizers decided to make data transfer by CD and the exchanged drawings were printed and sent by post because of connectivity limitations.

4.4.4 Manuals: supporting creativity and management

Manuals were essential to equalize work environment and support facilitation in a multi-location based program like this. Manuals also supported general management, making information uniform—an important factor since all communication occurred by email or Skype. It is also important to remind that manuals were translated to the original language of local organizers.

Although facilitators faced difficulties to follow all guidelines because local limitations, such as lack of human resources, they found instructions clear and helpful, in special all information about the animation production process and video editing software. This opinion also brings a finding: manuals have the potential of support facilitators' nurturing.

4.4.5 Partnership: the key to an effective management

In the management aspect, *collaboration* between a foundation, non-profit organizations (NPO) based in other countries and educational institutions was one of the keywords to the success of this program. With the support of Keio University and other institutions, NPO Canvas had more autonomy to work on program design and general management. Every part of the network contributed to the final result, appreciated by all stakeholders.

4.4.6 Others

The results found in this activity served as base of discussion about the mission of adults and views of the future regarding ICT, children, digital divide and cultural

exchange, in symposium held in Japan. The group of panelists, which included specialists in ICT, arts and education, agreed about the importance of cultural exchange in children's education in order to make them understand better the global society and also enhance communication skills. They also raised the digital divide agenda as an important task to be deeply discussed internationally.

5 EXPERIMENT - Global Kids Eclipse 2009

This program created an environment where students—the majority of 6th graders—could watch the transmission of the longest total solar eclipse of this century³⁸ and also participate in other real-time interaction sessions with other children. More than 550 students from 8 countries—Japan, Brazil, Indonesia, Thailand, Bangladesh, Philippines, Malaysia, United Arab Emirates—gathered at 13 different locations in Asia (Table 5.1).

Table 5.1: Sites and participant information

Location/Country	Participants schools	No. Part.
Japan – Hiyoshi	Kawasaki Municipal Sumiyoshi Elementary School, Keio University (Japan), Khalifa University of Science Technology and Research (UAE)	100
Japan – Gunma	Brazilian Elementary School Nippaku Gakuen	30
Bangladesh	Bangladesh University of Engineering and Technology and Bangladesh University High School	102
Thailand	Chulalongkorn University Demonstration Elementary School	35
Indonesia – Jakarta (two locations)	UNESCO Indonesia, high schools	80
Indonesia – Aceh	Schools around the Syiah Kuala University	50
Indonesia – Bandung	Institute of Technology Bandung	Not informed
Indonesia – Malang (two locations)	Brawijaya University and other four junior high school and high school students	67
Indonesia – Manado	Sam Ratulangi University and seven elementary schools	50
Malaysia – Penang	University of Science Malaysia	16
Philippines	University of the Philippines, UP Astronomical society and UP Integrated Elementary School	30

The program was designed containing two parts: pre-session and main session. In the pre-session, students had a lecture about the eclipse phenomenon and made drawings in their respective locations. In the main session, the program was conducted by an

master of ceremony in Hiyoshi site, Japan. All other sites were connected and participants could interact through greetings, drawing observation and quiz games; and finally, they could watch the eclipse images transmitted from Iwojima Island, in the South of Japan, where the eclipse reached its longest duration. All sites were connected through video and audio communication application utilizing multicast technology over the satellite-based network SOI Asia project (Figure 5-1). SOI Asia, in partnership with AI3 Project³⁹, also provided all technical support to this program. Due to the convenience and schedule incompatibilities, the pre-session was held only in both locations in Japan and in Manado, Indonesia.

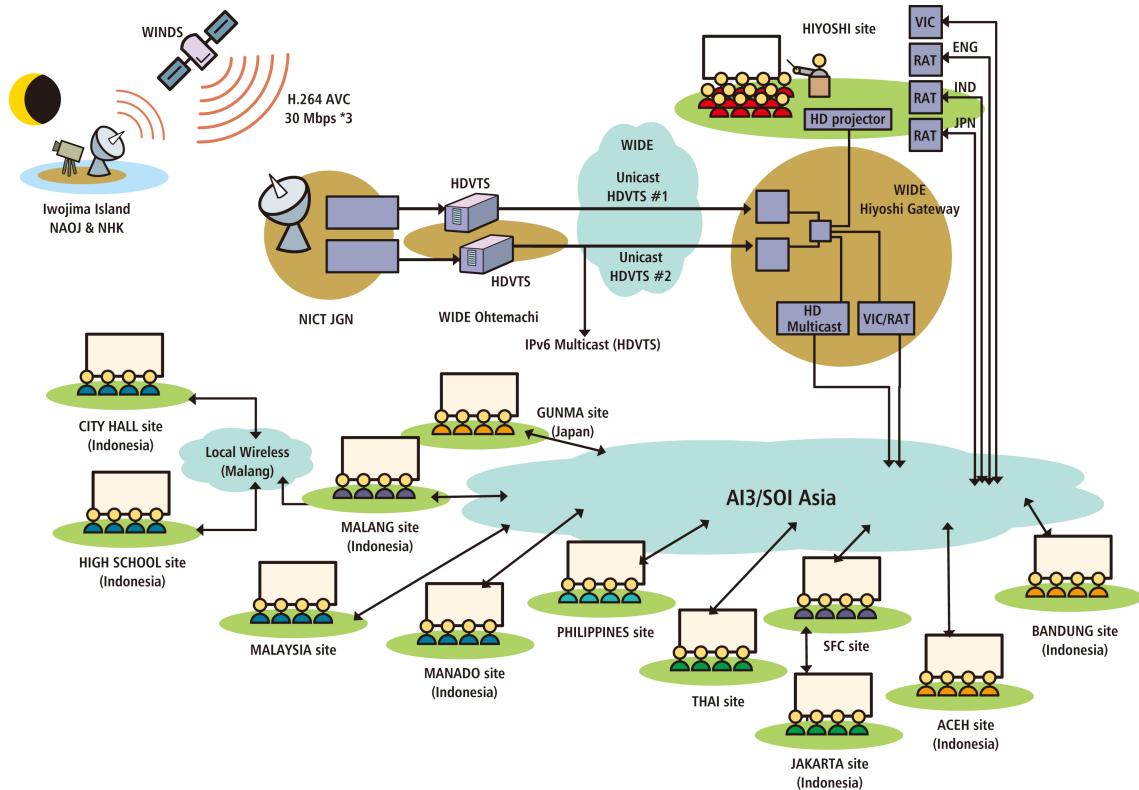


Figure 5-1: Technology configuration of video and audio.

This Global Kids Eclipse 2009 (GKE2009) was produced and organized by a network headed by the Global Education Project, from Graduate School of Media Design of Keio University (KMD), in Japan. Also participated in this network KMD's Digital Kids

project, public schools, local governments, institutions and organizations from all locations involved.

This research focused in observing and investigating three main points in this experiment: (1) the performance of the *learning together* concept using a science topic as the eclipse phenomenon, (2) the use of multilateral communication to encourage cross-cultural interaction within children and (3) the efficaciousness of the university-centered operational architecture for multi-location activities management.

5.1 Feeling Global

The design of an effective global experience requires more than connecting sites from different countries. In order to achieve the best result of interaction with the resources available, this research concentrated efforts in the following aspects:

5.1.1 Creating a simultaneous Interpretation Network

It was not possible to run this activity only in English because it was not the mother language of none of the participant countries and the proficiency level among students would be very different. On another hand, language difference is one important element to compose a global atmosphere.

After consulting the technical team about the possibility of creating a simultaneous translation scheme over the already existent SOI Asia platform, it was decided to make a simultaneous interpretation network. Although SOI Asia's platform is mainly dedicated to multilateral learning in English, it was a chance to investigate RAT application's running with different channels used in the same time and its performance in an event. This was the second time to experiment it in a cross-cultural event, but the first time to have interaction the whole event.

This design enabled interpretation in five languages to cover the biggest number of participants: Japanese, English (for the Philippines, Malaysia and Bangladesh),

Indonesian, Thai and Portuguese. At the Hiyoshi site, an interpretation booth was created to support English and Bahasa Indonesia (Figure 5-2). Thai and Portuguese interpreters were located in their respective sites in Bangkok and Gunma Prefecture (Japan).



Figure 5-2: Simultaneous interpreters for English and Bahasa Indonesia, at Hiyoshi site.

5.1.2 Breaking the Ice

Based in previous experiences, this research understands that one of the problems in activities like this is to have an active participation since the beginning. Since GKE2009 targeted children from different backgrounds and languages, icebreaking action were designed to release tension and motivating interaction.

In the beginning of the event, participant received a leaflet containing a list of participant schools and *Good Morning* translated in their respective idioms. Before introducing each country, everyone was invited to greet them in the respective language. For example, before Indonesia's introduction, students greeted the Indonesian site with a loud '*Selamat Pagi*'. After this section, children started feeling more comfortable while watching other participants around the globe. They experienced the first interaction, talking, waving hands and being returned, and

realized they were all connected.

5.1.3 Creativity and Expression

With the purpose of create another way of interaction, all locations were guided to ask children to make a *drawing* on the theme “My ideal Star/Planet.” Since the convenience in each country was different, only Japan (including the Brazilian site) and Indonesia (Manado) held this activity (Fig 5-3). Some pieces from each location were previously selected and presented during this main session. After each presentation, other participants were encouraged to make questions for the authors.



Figure 5-3: Drawing in the pre-event at Hiyoshi site (Japan).

One of the most impressive moments was when an Indonesian boy’s work (Fig 5-4) was enthusiastically welcome by warm applauses and a great cheer by all children in all locations. Soon, they started raising hands to make questions, including the usually shy Japanese students: “What did you use to draw?” or “How long did you take to make that piece?” The author replied: “I used crayon and it took me about one hour and a half to finish” and once again children reacted with a shout of surprise and joy. Another draw from Thai was very well received. “My ideal planet is beautiful and

with very pure and clean air. If you breathe that air, all your diseases will heal,” explained the student. A Brazilian girl said that her colorful art piece represents a planet where all countries are gifted with freedom and love.

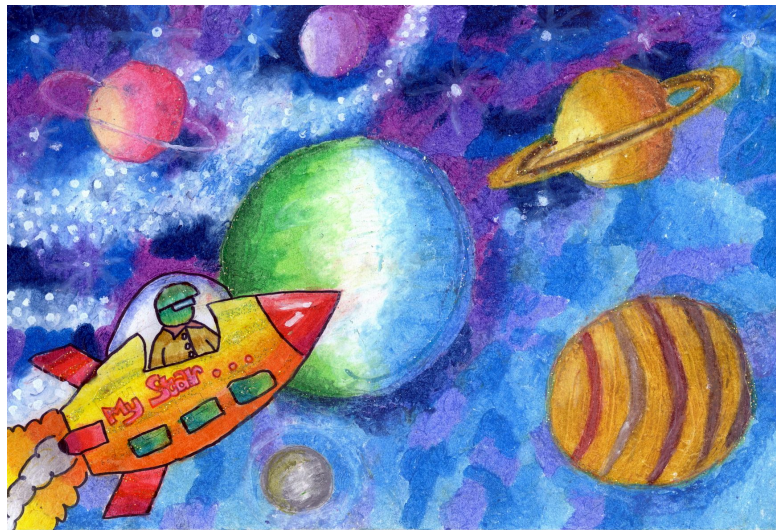


Figure 5-4: Drawing from Indonesia.



Figure 5-5: Sample of drawings made by Japanese (left) and Brazilian students.

According to Takashi Naoi, teacher of arts for elementary students and the Arts Exchange interactive session’s MC, this was a very important experience not only for the children, but also for his profession. In his article for *Bijutsu Kyoiku*⁴⁰, Naoi says “everyone knows that it is very this was the first time he saw children asking each other about themes and messages included in each art piece.” (Fig 5-6)



Figure 5-6: Brazilian student (right) asks questions about drawing made by Japanese student.

Naoi also pointed in his article the multicultural exchange. He explains that the exchange aspect of this event was very successful and it was reflected in the surveys within the participants (session 5.4). Children had the chance, through a creative activity, to realize and experience the differences not only regarding techniques and tastes, but also in the messages contained in each piece.

5.2 Promoting Science and learning together

2009 was declared International Year of Astronomy 2009 (IYA2009), by the United Nations—and endorsed by UNESCO—and central theme of “The Universe, Yours to Discover.”⁴¹ Since a total solar eclipse contains the science aspects and is a rare phenomenon, the program was designed to take images of the total solar eclipse in its climax and delivered to places where nor even the partial eclipse was visible.

As regular education curriculum varies from country to country, the program provided a brief introduction of the solar eclipse phenomenon for the students, in order to tune all knowledge and shorten literacy differences. In some locations, special lectures were

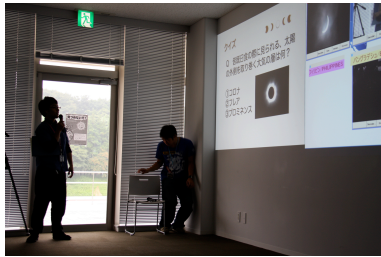
held during the pre-event (Fig 5-7). The content for this lecture was based on a material produced and distributed freely by the National Astronomical Observatory of Japan (NAOJ)⁴². This material, as well as the whole presentation file produced for this day, was translated to English, Indonesian, Portuguese and Thai.



Figure 5-7: Lecture about the Eclipse in the Pre-event, at Hiyoshi site.

To increase the learning factor and make it more attractive, organizers designed also a quiz session. It was held just before the total eclipse observation. Participants were already comfortable with the environment and were excited to see the eclipse. It was an opportunity to boost students' expectation to the observation, making them remember names such as *corona*, *diamond ring* (the climax) and when the next total solar eclipse will occur in Asia.

Eclipse quizzes played a special role in the event. This was one of the moments when the participants became more enthusiastic. They were very curious about the questions and when asked who knew the answer, students rapidly and eagerly raised hands (Fig 5-8). During the eclipse images transmission, they cheer each step of the eclipse saying its name and clapping hands.



5-8: Quiz game during the main session in Hiyoshi site (Japan)

5.2.1 Time Difference

One of the most difficult things for a child to comprehend is time difference. In order to give them an idea of what it would be, the program scheduled the transmission of (total or partial) eclipse images from each country, what would happen in different moments within the 2 hours and half of this event.

Unfortunately, in the first sight, Bangladesh, the eclipse occurred before the beginning of school hours. In Thailand and Hiyoshi (Japan), the partial eclipse expected was not visible due to bad weather conditions. But in the place where the eclipse reached its climax (6 minutes and 39 seconds) in the whole trajectory, the weather was good and transmission occurred smoothly.

5.2.2 Multilateral communication: technical and management challenges

The technical challenge of this experiment was to deliver multilateral communication in satisfactory levels to all sites, including the eclipse transmission. The first procedure was to utilize the SOI Asia platform to connect all sites. SOI Asia uses video and audio applications developed primarily for multilateral higher education learning environments.

5.2.3 Eclipse Observation (live image broadcast)

The eclipse live images used by this program were provided by NAOJ - National Astronomical Observatory of Japan. Those images, with high-definition quality, were received in the main site in Hiyoshi; then they transmitted to other locations through the SOI Asia network.

5.2.4 Projection layout

In order to facilitate interaction among sites, all sites were asked to prepare two projectors. One of them was dedicated to close up images, such as question and answer sessions, and presentation material (Fig 5-9). The other to project images from audience in other locations. In Hiyoshi, Japan, there were four projectors available and they were positioned as indicated in Figures 5-10 and 5-11.



Figure 5-9: Layout with 2 projectors (Indonesia - Malang site).



Figure 5-10: Wall projection with 3 projectors (Hiyoshi site).

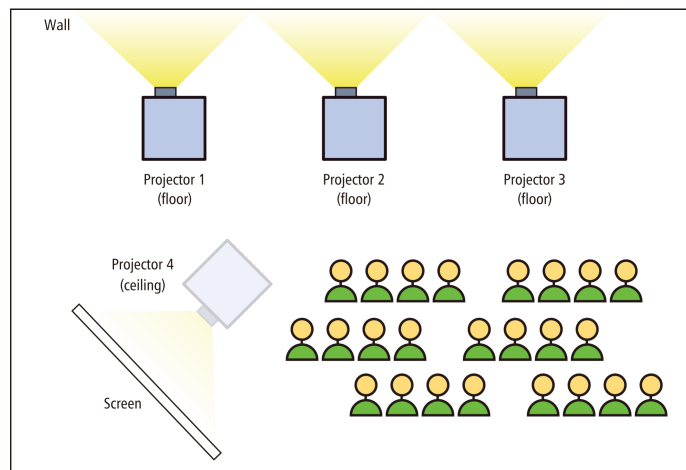


Figure 5-11: Layout with 4 projectors (Hiyoshi site).

5.3 Results and Evaluation

In order to evaluate the effectiveness of this environment, we collected data from surveys distributed for children and teachers. We had feedback by email from partners abroad, hearing sessions with facilitators, operators and supporters.

5.3.1 Learning Together

Digital Communication Media enabled this program to overcome the distance barrier, and students from many different places could share not only the same content (total

solar eclipse), but also the same space (images of each location), time (real time video and audio communication) and impressions (drawings).

Teachers from all sites supported the idea and said they have intention to collaborate in future projects like this. Outside Japan, teachers, operators welcome the project and were satisfied with the results. They asked for more frequency and, since almost all partners abroad were engineering colleges or universities, they also offer their respective education colleges participation to support programs in the future.

Data from Japanese children's surveys reveal one of the most used words in the answer to the questions was *minna* (Appendix B.17), the equivalent to 'everybody', 'everyone' and depending on the use, 'everybody together'. From this result, we can assume that the fact of gathering with others peers was a memorable learning experience.

5.3.2 Digital Communication Tools

The main technical role was played by video and audio communication applications using Multicast technology over SOI Asia's satellite-based network. Although the Philippines site could only not send images, only received, and some problems with the audio—caused by inadequate equipments, communication and interaction occurred smoothly.

High definition quality images made difference in the interactivity because facial expression is essential for communication in different languages. This was important while the drawing observation and quiz sessions. Finally, high quality images of the diamond ring—the right moment in that the total solar eclipse ends—, transmitted from Iwojima, Japan, guaranteed the emotion felt and shared within the 550 participants in all countries.



Figure 5-11: Video transmission from Iwojima Isl. in high quality definition.

From the organizational point of view, ICT supported communication within all sites, as well as data transfer, such as presentation files, manuals, leaflets and translations. There was no need of international trips or phone calls. All information sharing occurred by email, instant messages tools such as Skype and Microsoft Messenger and data transfer. This factor shows that ICT helped not only the event itself but also in the preparation stage. Another factor to be pointed is documentation translation in other languages such as Portuguese and Thai. It made communication flow better among local communication and comprehension by teachers and other local stakeholders.

5.3.3 Partnership

Partnership was essential to enable this environment. The center of all operations was held in Japan by KMD's Global Education and Digital Kids project teams. They were also in charge of designing the whole program and manage the communication with other partners, publicity, translations and printing material. The SOI Asia and AI3 projects teams provided all technology.

Local government in Japan played an important role bridging university and the school. A local private company in Japan sponsored part of the event, making it

possible the participation of Brazilian students from an elementary school in Japan, increasing the diversity of the participant—majority of Asians. UNESCO and NPO Canvas also supported with publicity and providing human resources such as specialists in science and children focused workshop experts. As occurred in the previous experiment, the organization flexible and gave autonomy for all sites to adapt the manual and program to their necessities.

5.4 Result of Surveys

In order to collect data to investigate the performance of this event from the point of view of participants, surveys were distributed for children and teachers in Japan and also in Manado, Indonesia. In order to have a qualitative analysis, four questions were elaborated to result in written answers from children.

There were 130 surveys collected and from the following locations: 72 from the Japanese students (site Hi-yoshi), 16 from Brazilians (Gunma, Japan) and 35 from Indonesian students from Manado (Appendix B). Surveys were distributed in the end of the main session and contained four questions:

Q1) What did you learn most through this event? (LEARNING)

Q2) What was the most remarkable impression on today's activity? (IMPRESSIONS)

Q3) Please tell us how was to communicate with students from other countries.
(EXCHANGE)

Q4) Please tell us all your impressions or thoughts about participating in this event.
(OTHERS)

After collecting all data, we made two kinds of evaluation. First, we collected all data and made a general quantitative analysis, as described below.

5.4.1 Quantitative Analysis

Question 1) *What did you learn most through this event?* (LEARNING)

This question aimed to measure the learning factor of this event and if it was directed linked with the initial propose of promoting science. The results are represented in the Figure 1.

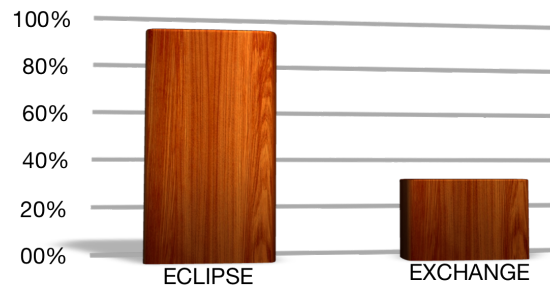


Figure 5-12: Results of question 1 (children's survey)

Although more than 90% of the answers referred to the eclipse as the main learned lesson of this event—as expected on the *promote science* goal—, 32% of the students included the *cultural exchange* as the main lesson.

Question 2) *What was the most remarkable impression on today's activity?* (IMPRESSIONS)

To know how was the impact of this event on the participants, they were asked what was the most impressive moment, expecting to understand the difference between interests in science and cultural exchange. Results were concentrated on the eclipse, in special on the *diamond ring* and *corona*, answers for the quiz session held right before the total eclipse observation.

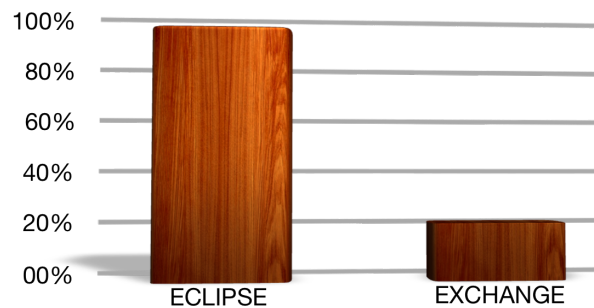


Figure 5-13: Results of question 2 (children's survey)

In the same question, 20% of the students also featured the opportunity to interact with other students through the transmissions as the most remarkable memory of this event.

Question 3) *Please tell us how was to communicate with students from other countries.*
(EXCHANGE)

In this question, students were expected to tell if they felt comfortable with the interactive sessions held during the event and what were their impressions of being connected with other children abroad. Results were divided in four main categories (differences/ similarities, language/ communication, drawing and others) as shown in the Figure 3.

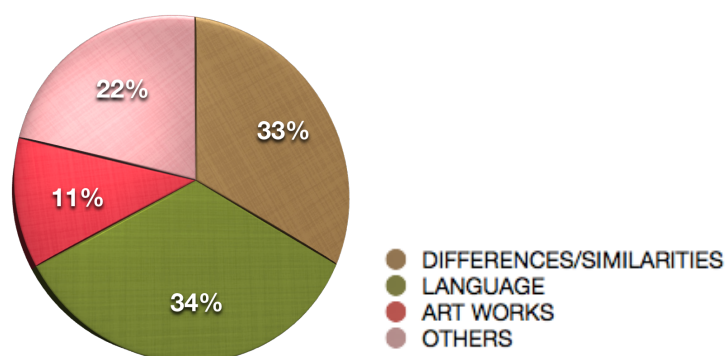


Figure 5-14: Results of question 3 (children's survey)

One third of the students raised differences and similarities as their findings when

communicating with others, revealing the idea of global and international. 34% of the surveys contained some observation regarding language or the opportunity to have this multilateral communication experience. Data not very explicit such as impressions (*it was good, nice experience, etc*) were included in *Others*.

Question 4) *Please tell us all your impressions or thoughts about participating in this event.*
(OTHERS)

This question expected to capture any impressions of pleasure, joy, satisfaction, wish to participate again or have more experiences or any other reflection students could have done after participating in this program.

Most of the surveys showed a very positive feedback regarding the opportunity to interaction and exchange. Among the answers, some comments such of a Japanese student:

I want to take advantage of the power of a computer to be able to communicate more with people around the world. Then, I want to promote the Japanese culture and also deepen the relations with people around the globe.

A Brazilian boy gave the following answer:

I want to participate again in these kinds of activity. I want my relatives to have the same opportunity I had to see the eclipse with other people from other countries.

5.4.2 Syntactic Analysis

In order to make a deeper reading of the evaluation material, the data collected was analyzed qualitatively. Using a system developed for Japanese language by the Academic Center for Computing and Media Studies of Kyoto University, all data from 72 surveys of Japanese students were compelled by parsing (syntactic analysis). This system classifies the words of a phrase automatically and for this experiment the

results were divided in three main categories: substantives, adjectives and verbs. The words most used of each category revealed more about children's thoughts about this program. The detailed results can be found in Appendix XXX and the most relevant results are described below.

First, attention was paid to substantives. Words such as *eclipse*, *diamond ring* and *total solar eclipse* appeared several times in the first (learning) and second (impression) questions. This result demonstrates that participants had an ample interest or concern about the astronomical phenomenon during this activity. Also, the numerous count of the substantives *country*, *world* and *exchange* shows that the impression of global and the exchange experience were remarkable in their opinion.

Regarding verbs, it was detected a high number of verbs in the past tense such as *saw/watched*, *thought* and *did*. *Saw/watched* and *did* represent actions or reactions done and can be understood like an experience they had. On the other hand, *thought* can be understood as a reflection. Considering these results, it can be concluded that this program made them experience and reflect about the activities provided.

Adjectives are linked directly to impressions, opinions and emotions. The large use of *good*—the word most found in Japanese students surveys—*great*, *really/truly* expresses that this event was deeply impressive for them. *Various* and *different* also appeared several times and may express the moment the students realized similarities and differences between them and children from other countries.

After reading all surveys, it could be found a sprouting concerning about the world, respect for the nature and emotion of the sharing experiences. These answers reflect children's expectation about cultural exchange, wish of participation in international collaborative relations and an opportunity to think about their own future. One Japanese student gave his testimony:

Participating in this special lecture, I could interact with kids around the world, we could see the total solar eclipse together and it was a very exciting experience. I've just realized that I want to become a scientist in the future.

This feedback was bigger than expected and makes the significance of this experiment more precious. Finally, this result indicates all potential and influences this sort of program can have on children's nurturing.

6 EVALUATION

The design of global education platform proposed by this thesis has three major concepts: learning together, feeling global and sustainable structure. The results of both experiments described in this thesis confirm that the design proposed by this research enabled global experiences capable to make children exercise their perception of cultural diversity.

6.1 Learning Together

According to data collected with the experiments, children learned about science or other cultures and were motivated to know more about science and to interact with other peers abroad.

I think it was great to participate in these workshops because we could know other children and become friends even speaking different languages.

Komadori Anime program, Italy (extracted from Appendix A.2)

It was good to be in this program because we and other kids from other countries were like one big group and it was like we worked together.

Komadori Anime program, Italy (extracted from Appendix A.2)

I learned the most about solar eclipse. When the moon covered the sun - it really amazed me and made me understand what solar eclipse is. Because I saw the solar eclipse myself through this GKE even though just from LCD screen.

Global Kids Eclipse 2009, Indonesia (extracted from table B.4)

O que eu mais aprendi foi que o eclipse ele é um elemento raro e que muitas pessoas não pode ver, e que o eclipse existem varios tipos. (I learned that the eclipse is a rare phenomenon and many people cannot see it, and there are many types of eclipse)

Global Kids Eclipse 2009, Brazil (extracted from table B.2)

世界各国の子どもたちが、同じ時間に同じ日食の映像を見てるってすごいなと思った。(I thought it was amazing see children from many countries around the world watching images of the same solar eclipse at the same time.)

Global Kids Eclipse 2009, Japan (extracted from table B.13)

Teachers from Japan, Brazil and Indonesia also emphasized that children became more interested in eclipse, science, ecology and also other children and cultures after participating in the Global Kids Eclipse program.

By the results on the surveys on the previous confirm that children enjoyed the interacting with peers abroad during the activities. But it's needed to try real collaborative works in real time to make it more dynamic and try new alternatives.

6.2 Feeling Global

The results confirms that multilateral communication can enhance the learning and interactive aspect of cross-cultural exchange programs. This sort of activity performs an immediately influence on children's nurture and also motivates him/her to think and reflect about others' and their own culture. Surveys results and observation confirm that children were able to find out and/or realized differences and similarities during the activities.

In a *Komadori Anime* making of video sent from Brazil (Appendix A), it is clear to see children asking questions to the facilitator before starting make drawings of elements that would represent their own culture. For example, a girl asked if a *toucan* (a bird typical from Latin America) is Brazilian or not. Another one says that she is going to draw a frog, but was not sure if the frog was a typical Brazilian animal.

In a report sent by email by the Brazilian facilitator, she said in the beginning kids had some difficult to find out the elements from their own culture. The facilitator started asking kids what do they visualize when they think about Brazil and this action

resulted evoking elements from their minds.

In Japan, when children and in other countries, children got help from facilitators and also from books, guides and encyclopedias featuring Japan and its culture. They were also very participative in the introductory session, where all participant countries were briefly introduced. In Cambodia, children also consulted books prepared for this situation, as in Figure 6-1.



Figure 6-1 Cambodian students consulting books to know more about there own culture.

In the GKE2009 program, students were impressed to meet children from other countries and to interact with them. Although its undeniable that a rare natural phenomenon such a solar eclipse is more appealing than the cultural exchange for elementary students. But almost one third of the participants cited that meeting other kids abroad was what they most learned and 20% said that the exchange was the most remarkable impression of the whole event.

星の絵とかは、なんとなくみんな似てるんだけど、考え方とか、思ったことが全然違うんだあって、

感じました。でも、やっぱりみんな、平和とかが元な感じだって、思いました。(I felt that the drawings were somehow similar, but the ideas and concepts were completely different. But after all, I thought the essence of all was something like peace)

Global Kids Eclipse 2009, Japan (extracted from table B.10)

Percebi que as línguas deles são totalmente diferentes, o jeito de vestir e cada opinião. (I realized that the language they speak is totally different, as well as their clothes and opinions)

Global Kids Eclipse 2009, Brazil (extracted from table B.10)

[Looking the material produced by kids from abroad] I realized that saw that there are many interesting places... gardens are larger [than in Japan]... I realized that there are places very different if comparing to Japan.

Komadori Anime program, Japan (extracted from Appendix A.2)

Another relevant data collected from GKE2009 Japanese surveys is the large usage of the verb *chigau*, the Japanese term for *different/be different/to differ*. It indicates that children reflect about the differences and similarities between their culture and the cultures from their peers abroad.

According to these results, the feeling global concept worked as the experiments made an immediate influence in children, making them reflect and think about cultures and global factors. But it is also important to evaluate how this sort of program can influence in children's nurturing for global education, in mid- and long-terms.

6.3 Sustainable Structure

In the first experiment, the university-centered operational architecture was not established, but the partnership between NPOs, in a similar structure, helped to decentralized power and facilitate management. The university played a very important role giving support in program designing, publicity, technical support and

providing facility spaces for the Japanese site.

In the GKE2009 program, the university-centered structure for management was implemented using the existent infrastructure of SOI Asia. Since operators are used to manage multilateral communication tools, the multi-location management occurred smoothly. The only face-to-face communication occurred two months before the eclipse, when the program was introduced for all members of the SOI Asia network. After that, the organization process could be handled within a very short period. Universities were responsible to manage their own sites, from inviting schools to participate to make local partnerships with other undergraduate schools, local government and adapt the program to the local needs or conditions.

This scenario of collaborative works was enabled by the smart and best usage of ICT in management level and also because of the already existent local connections held by universities, confirming the local cell of operations proposed by the sustainable structure concept. But to make this structure sustainable, it is needed to work on other factors such as create a frequency of programs applied. Also, it is necessary to create nurturing programs for facilitators and other human resources demanded.

7 FUTURE WORKS AND CONCLUSION

General feedback received from students, teachers and other related people was good, but there are still many lessons to be learned and possibilities to be explored.

7.1 Future Works

Both programs designed and observed by this research revealed a big potential to provide global experience for children, but they happened only once. In order to improve its effectiveness and sustainability, it is necessary to make continuous efforts to find solutions in several directions, as described below.

7.1.1 Scalability: adults nurturing and programs

Testimonies from teachers and assistants revealed a good intention of promoting new media-based educational activities for children, but lack of knowledge of technology is still one of the biggest barriers for them. A nurturing program on digital communication media literacy focused in adults, not only for teachers and facilitators, would enhance technical literacy, essential for this sort of program. Parents, volunteers and other interested people are important elements in this educational platform as a whole.

Since adults play an essential supporting role for the feasibility into the existent educational system, efforts to enhance their technological skills need to be designed in parallel of children's program design. Enhancing knowledge and increasing human resources in global education, including program designers, ICT experts, can be part of the solutions to allow scalability for this educational environment.

7.1.2 Deployment: Solid partnerships

This research has been noticing many difficulties to get support from public schools. On another hand, it understands this sort of partnership, as well as with governmental institutions, is a vital factor to the success and diffusion of this sort of programs. New policies to encourage support for new educational initiatives would promote the

creation of new and solid partnerships and facilitate deliver and deployment.

7.1.3 Opportunity for All

ICT brought up possibilities for our lives that would be hardly imagined some years ago. One proof is the result of those experiments described in this thesis, revealing its feasibility in small and medium scales. But more solutions needed to be fought in order to make this environment cover a bigger number of children around the world, does not matter either where they are from or what is their background. Technology will definitely help this sort of program as soon as it keeps on developing.

7.2 Conclusion

The results of the experiments revealed that there are more room and demand for multicultural exchange programs and that children are ready to experience cross-cultural activities. Then, it can be concluded that this research has a valuable potential to start defusing global education among children and young people around the world. Cross-cultural communication demand is increasing rapidly and program design to improve those skills from elementary students age need to be developed to stimulate their perception of diversity and better mutual understanding.

Due to the development of technology and all efforts to introduce ICT to primary schools, it will not be long the day that children will have not only one, but many computers dividing their attention with educational purposes. This research wants to create a platform to connect all those hardware and build a platform where children can have free access to global education equally. Communication tool applications have to be improved to an easier and friendly interface, what would help spread of this sort of programs. This environment will become also a field of research of new technologies of digital communication for children, such as 3D cameras and projectors, to give more reality in those remote interactions and improve communication.

The university-centered management architecture has potential to enable sustainability

for this platform and promote activities more continuously. But it is still necessary to improve communication among sites and create means to widen the network of universities and channels for cross-cultural exchange programs, such as revitalizing or recreating the twin towns or sister cities agreements, to reach children also in country and rural areas. These will demand a better service design for enabling an effective deployment and delivery of those programs.

In the same pace, new policies need to be created in order to facilitate and speed up partnership with government bodies and private sector, in order to enable more collaboration and funds rising.

There is a long journey to reach until this research becomes a real global project. As said in the beginning of this thesis, it is needed more than connecting children using new media tools. It is necessary to develop programs capable to utilize the big potential of this environment and to nurture human resources able to support them.

By providing opportunities they could not have before the spread of digital communication media, we expect to widen young students' view of the world, making them reflect about local and global acts, their responsibilities in the society. The global education environment proposed in this thesis hopes to prepare children to find solutions for the global issues and, finally, inspire them for the challenges of living in a global society.

This thesis is dedicated for all those young people,
Wherever they are, who are still waiting for an opportunity.
Be aware, because it will definitely come.

APPENDIX A

Komadori Anime

Feedback

A.1 Report from Facilitator (Bem-Te-Vi Project), Brazil. (email to the author)

Oficina 1.

Começamos com uma breve explicação sobre o projeto e as atividades que seriam realizadas, logo em seguida mostramos o vídeo de apresentação do Sadao. As crianças ficaram muito animadas após o vídeo.

Voltamos para a sala e novamente expliquei a proposta, desta vez mais detalhadamente. Distribuí os materiais e as crianças começaram a desenhar. Algumas estavam com dificuldade para começar então conversamos sobre que imagens elas lembravam quando pensavam no Brasil, logo estavam todos desenhando.

A medida que eles terminavam, pedi para que desenhassem novamente a mesma figura em outra posição ou contornassem o desenho para facilitar na hora de scanear. Enquanto as crianças desenhavam, os alunos do documentário faziam pequenas entrevistas. A presença da filmadora e dos outros alunos certamente mudou a dinâmica da oficina. Alguns alunos aproveitaram para cantar e mandar recados para os outros participantes ao redor mundo.

Cerca de 20 minutos antes de terminar a oficina, reunimos todos os desenhos e sentamos ao redor da mesa para ver em conjunto o que havia sido produzido. Cada aluno falou sobre seu desenho e o que estava pensando enquanto criava.

Ao final juntamos todos alunos para mandar uma mensagem para o Japão.

Oficina 2.

Com todos os alunos sentados mostrei todas as imagens impressas que recebemos do Japão. Eles ficaram muito animados com os desenhos. Logo em seguida mostrei novamente os desenhos que eles haviam produzido na oficina anterior. Agora separados em grupos de 3 e 4 crianças pedi para que criassem histórias curtas, de uma maneira que tanto os desenhos das crianças japonesas quanto os deles, pudessem fazer parte da história. Pedi para que escrevessem já em forma de roteiro, assim como havíamos feito nas oficinas da manhã.

Houve uma certa disputa por certos desenhos, mas nada que eles mesmo não puderam resolver. A medida que os personagens e os cenários eram escolhidos, cada grupo recortou o que deveria ser recortado e começou a produzir os balões com as falas.

Os grupos terminaram praticamente ao mesmo tempo. O primeiro grupo a terminar pode gravar antes. Em um dos grupos as próprias crianças que tiraram as fotos para o filme. Nos outros dois eles preferiram mexer os personagens. Enquanto um grupo se preparava para gravar, as crianças bricaram com a filmadora tirando outras fotos dos personagens que não seriam usadas no filme.

Assim que terminamos de tirar as fotos, fomos ao estúdio de som gravar as vozes para o filme. Todas as vezes que fomos ao estúdio, inclusive nas oficinas da manhã, as crianças ficaram extremamente animadas, o que dificultava na hora de gravar pois as crianças que não estavam gravando naquele momento não conseguiam não fazer barulho. Talvez pela pouca idade, era bastante difícil fazer com que o texto fosse lido várias vezes, para garantir ao menos uma boa gravação, o que dificultou na hora da edição.

Quando terminamos de gravar o som voltamos para a sala, com o datashow as crianças puderam ver tudo que havia sido gravado no dia e ter uma ideia do que seria o vídeo no final. Pela falta de tempo e monitores não era possível que as crianças participassem do processo da edição. A edição foi feita posteriormente baseado no roteiro que os grupos haviam feito.

Interviews

A.2 Video 1 – Interview with participants in Italy, Cambodia and Japan

A.3 Video 2 – Interview with participants in Brazil

Video Messages

A.4 – video message from Japan

A.5 – video message from Italy

A.6 – video message from Cambodia

A.7 – video message from Brazil

Animation

A.10 – Animations from Japan

A.11 – Animations from Italy

A.12 – Animations from Cambodia

A.13 – Animations from Brazil

APPENDIX B

Global Kids Eclipse 2009

Surveys with Children

Question 1 – What did you learn most through this event?

Table B.1: Sumiyoshi Elementary School - Hiyoshi, Japan	
1	ほんの6分間だけど今世紀最長なので面白いなと思いました。あとピッタリに重なるまで、みんながまちどおしい感じで見ていて、やっぱりみんな楽しみにしていて日食は凄いなと思いました。
2	日食になって暗くなったら動物がどうなるか見てみたかった。
3	かいき日食で太陽がかくれたらその場所はどういうふうに暗くなるのかなと思ってたけどえいぞうを見てけっこう暗くなるんだと勉強になった
4	日食はいっしゅんだと思ったけどけっこう長い時間見れるんだなと思いました。
5	ほかの国の人とインターネットではなしてほかの国からも日食も今回の日食を見れるとしたのでよかったです。
6	日食についての説明や、あのちょっとしたクイズや、いおうじまの日食のえいぞうも勉強になったと思います
7	まわりのあふれている光が「コロナ」だということ
8	皆既日食の見れ時間は何分だけかや、日食の時にまわりで光っているのはコロナなど皆既日食のこと。
9	かいき日食が光ってたときなぜ太ようは月にかくされたのに回りが明るくなっていることがクイズになっていてよくわかった。
10	硫黄島の日食を見ている時に、クイズをやって、そこが一番勉強になった！
11	べんきょうというか、月と太陽が重なるしゅんかんのかれ？をべんきょうできました。
12	皆既になるまで時間が長い。
13	月や太ようがかさなるなんてふしぎだったけど、見たらすごくきれいでビックリしました。
14	日食の事をいっぱい教えてくれた事。
15	ぼくは、海外に行ったことがなかったので文化の違いや時差が実際に感じられたので、ここが勉強になりました。
16	日食で、日食のまわりの光りをコロナ？？っていうのははじめて知った。ほとんどぜんぶ勉強になりました。
17	46年ぶりの日食なので見れることがとてもうれしかったです。どうやって日食がおこっているのかよく分かり勉強になりました。
18	コロナがなぜでるかを聞けた。
19	日食はどうやってできたかよくわかった。
20	日食はなぜ黒くなるのかがよくわしく教えてもらったので良かったです。
21	あさからよるまで見えると思ったけど少しの時間しか見れないのがびっくりした。

22	日食はなんかいもなんかいもみれるものではないとわかりました。
23	日食がどのようにどういうふうになるか。日食がおきる（起こる）ときの様子。外国のこと。
24	ダイヤモンドリングを見れたり交りゅう出来たこと
25	「プロミネンス」や「コロナ」などの言葉 日食の欠け方
26	日食は2つのしゅるいがあるのをした。
27	世界の子どもたちと、交流することができて良かった。日食は見えなかったけど、エーゾーで見て日食はこうゆうのだと分かった。
28	他の人と通信ができたりした。
29	世界のみんなと身近に会話ができ、世界はつながりを持っていて、段々地球が小さくなるかのようにみんながまとまり合う事を勉強した。
30	世界ってつながっている。同じ地球の中にいろんな人がいる。
31	日食を見れたことと世界の人と交流できたことです。
32	外国の人との交流
33	もちろん日食です。ダイヤモンドリングはどんな物なのかよく分からなかったので実際に見れて勉強になりました。
34	月が太陽をかくして、だから、ダイヤモンドリングが出るんだなって、思いました。月が、小さくても、太陽をかくせるんだなって勉強になりました。
35	世界の子供達と日本の子供達と交流した時に日本と世界の子供達では考え方が少し違うということが分かった。また、世界の子供達とは言葉が通じなくても通じあえるということも分かった。
36	日食の事で、ダイヤモンドリングや、コロナが素晴らしかったです。日本以外の他の国と交流する事もよく勉強になりました。
37	かいき日食でどうやったら日食がおこるかで
38	1番さいごの見たやつです。なぜかとゆうと太ようのようすとかがすごかったから それがべん数になりました。
39	ぼくは、日食を自分で見れなかったけど日食の映像を見だし、ダイヤモンドリングも見れた、だけど1移ぐらいしか、見れませんでした。
40	日食の時間が6:39秒の間だということ
41	日食の事です。特にダイヤモンドリングが素晴らしかったです。あと、世界のみんなと交流する事もよく勉強になりました。世界の子供たちの考え方も学べました。
42	日食は世界のどこでも見れるところは、見えるんだなあと思いました、衛星ちゅうけいだけど、世界の人々と話せるなんてびっくりしました。
43	月からはみ出る光は「コロナ」という事と硫黄島が東京都である事。
44	いろいろな国の人達とみんなつながっているコト！！
45	世界の子ども達と「ふれあう」ということをまずまなびました。交流などをしたりして、楽しみながらいいけいけんやたいけんなどまなびました。日食をみて、たいようと月がかさなってあたりが暗くなる時本当によるで（あたり）ビックリしたし自然をかんじました。
46	・ちがう国の人と交流して考えてる事がちがっていたことのちがいが？・日食の事
47	外国の人と交流して日食を見たりした事
48	日食について月のうごきがよくわかった。
49	日食についてと、いろいろな国のあいさつです。

50	日食の事も勉強になったけど、やっぱり外国とのコミュニケーション。
51	光を少しおさえるカメラで皆既日食を写したのに、とても明るくて、キレイだったこと。
52	今回は日食を見るのに、世界の人びとと会話しているように感じる事ができるんだと思いました。
53	世界の子どもの交流
54	かいき日食がどんなことがあってできるかが一番勉強になりました。
55	日食では、ダイヤモンドリングや皆既日食がすごくキレイで、終わりで配られたパンフレットで日食の事をよく知ることができました。
56	日食がどうしておきるか。他の国の人がどういうふうに見えるか分かった。
57	世界の子供たちともあいさつをかわしたりできて世界は改めてつながっているな～と感じました。
58	ダイヤモンドリングと言う現象は知らなかったのですが月と太陽がずれる一しゅんだけ指輪のような形が見れて勉強になりました。
59	やっぱり世界のいろいろな人と話しやいろいろなことを出きたことがけっこう勉強になりました。硫黄島の中けいにみんなもたぶんずっと見ていたから全部太陽がかくれることは天気も悪くて見れないところが多かったのでもちぎょうな映ぞうだったんだなあと思いました。
60	世界の子供達とは、言葉が通じなくても通訳の人がいて仲良くできたこと。これは日本人だけでなく、世界の子供でも仲良くできる！これが分かりました。
61	私たちの住んでいる日本で電波を発進をして他の国の子どもたちと交流することができました！星の発表などで色々な感想を言ったり質問をしたりして、答えがかえってくるので、とても楽しかったです。
62	日食を見るとき（見れるとき）のしくみなど
63	皆既日食やコロナやダイヤモンドリングをみれて、勉強になりました。
64	本当に太陽が月にかくされるなんて…日食に時間は 6:39 秒だそうです。（いおう島）
65	日食のときは太陽周りのモヤモヤはコロナで、日食の時は暗くなったこと。
66	かいき日食を本物ではないけど映像を見たことです。ぼくはうまれてはじめて見たので「ぴかっ」と光り、びっくりしました。
67	日食になる時間がいがいと長いことがわかりました
68	日食のときは、空が暗くなるとわかりました。
69	このかいき日食を勉強して日吉では見えなかったけど硫黄島の中けいをみて、かい日食がおこった時のまわりの景色やダイヤモンドリングやコロナの事がよく分かりました。
70	世界の子供たちと交流して感じたことは、星を作ってしょうかいしあったことがとてもたのしかったです。
71	国によって日食の時間がちがうこと
72	本当に月と太陽が重なってコロナが光っていたので、感どうしたし、とても深くわかった。

Table B.2: Brazilian Elementary School Nippaku Gakuen - Gunma, Japan

73	O que eu mais aprendi foi que o eclipse ele é um elemento raro e que muitas pessoas não pode ver, e que o eclipse existem varios tipos.
74	Que o eclipse é um fenômeno muito importante. E acontecerá depois de muitos anos.
75	Aprendi a importância de sabermos sobre os fenômenos da natureza, e saber um pouco mais sobre ele (eclipse).

76	Além de aprender sobre o eclipse eu aprendi que há várias pessoas de outros países que falam línguas diferentes.
77	Eu aprendi que a Eclipse é um fenômeno muito interessante e bonito, etc.
78	Aprendi como acontece o eclipse, quais são os nomes (corona)
79	Além de ter aprendido sobre o eclipse, eu aprendi que não podemos ver o eclipse ao olho nu, temos que ver com um óculos especial.
80	Que quando o eclipse é total, chama-se "CORONA". Gostei muito de aprender essas coisas. E nós conversamos quero dizer vimos pessoas de outros países. Ex: Bangladesh, Indonésia, etc... ah! E aprendi que tem o eclipse total e parcial.
81	Que não pode olhar para o eclipse sem o óculos especial.
82	Sobre o que é o eclipse e daqui há quantos anos acontecerá outro eclipse. Interagimos com vários países da Ásia , ou seja, fizemos um intercâmbio
83	Como acontece um eclipse e como se comunicar com outras crianças do mundo, mesmo não sabendo sua língua.
84	Aprendi que fui privilegiada, por ter feito esse intercâmbio com outras crianças de varios lugares , aprendi a participar, escutar as opiniões de cada um.
85	De quando em quando aparece a eclipse.
86	Aprendi como acontece um eclipse solar e fiquei muito feliz em ter essa oportunidade e de conhecer novas pessoas.
87	Que se for eclipse total chama-se corona
88	Que não podemos olhar para o eclipse sem os oculos especificos.

Table B.3: Khalifa University - Abu Dhabi, United Arab Emirates

89	I learned some general facts about this phenomenon. How it occurs only in special area where the geometry of the sun and moon and the earth is right
90	We learned how to communicate with international students
91	The most important thing is that this event gathered different students from all over the world sharing together the eagerness to learn. I also learnt a useful information about the eclipse
92	I learned that total solar eclipse is very rare, it happens every 46 years! Also, it last for a very short time! And not everybody can observe it.
93	We learned mostly about the total eclipse and it was a good opportunity to connect the students in different countries.
94	The steps of eclipse, how it happens
95	I learned how the eclipse is formed and also that people in different places in the world can communicate in an interesting way

Table B.4: Elementary Schools in Manado, Indonesia

96	Solar Eclipse, because this is the first time I saw it, so it's really amazing
97	Solar eclipse and its process
98	Total Solar eclipse, very amazing. It happens when sun, moon and earth's position are at one same straight line
99	Solar eclipse and the diamond ring
100	Solar eclipse

101	About Solar eclipse. Also, I'm very happy because we were together with friends from overseas. Today I felt the excitement of learning together with friends.
102	Solar eclipse
103	Solar eclipse and the diamond ring
104	Watching a very beautiful and phenomenal Solar eclipse
105	I learned more about Solar eclipse. I'm also very happy to talk with friends from abroad
106	I got a valuable lesson on how Solar eclipse occurs
107	Total Solar eclipse
108	Total Solar eclipse
109	Total Solar eclipse and learning more about Solar eclipse
110	I learned the most about Solar eclipse. When the moon covered the sun - it really amazed me and made me understand what Solar eclipse is. Because I saw the Solar eclipse myself through this GKE even though just from LCD screen.
111	About Solar eclipse occurring in Japan
112	Watching Solar eclipse together with friends. Also I learn more about what Solar eclipse is.
113	Total Solar eclipse
114	Able to see the Solar eclipse live, and able to know (new friends) and share my thoughts.
115	I learned that our universe can do things that are impossible for human to do
116	Watching a very beautiful and phenomenal Solar eclipse
117	Total Solar eclipse
118	Able to understand Solar eclipse and see other friends' pictures
119	Total Solar eclipse
120	Meet friends from abroad and watch Solar eclipse
121	Able to understand about total Solar eclipse
122	Solar eclipse
123	I learned what is Solar eclipse and how it happens. When I watch the broadcast, I was able to understand Solar eclipse.
124	I learned about Solar eclipse
125	I learned about total, partial and the ring of Solar eclipse
126	Total Solar eclipse, talking with students from abroad, drawing techniques
127	Total Solar eclipse
128	Learned more about total Solar eclipse
129	About Solar eclipse
130	Watching Solar eclipse live

Question 2 – What was the most remarkable impression on today’s activity?

Table B.5: Sumiyoshi Elementary School - Hiyoshi, Japan	
1	インドネシアの人の星の絵がうまくて敗けた！と思いました。それが意味心に一番残っています。でもインドネシアより全然サッカーは強いと思っています。サッカーで勝ててよかったです。でもやっぱり絵がくやしい！！
2	日食ができたときは、すごかったです。日食になるまで長かったので日食ができたときは、すごうれしかったです。
3	だんだん太陽が見えなくなってって、重なってダイヤモンドリングが見れたこと。
4	ダイヤモンドリングが見えた事！！
5	日食が皆既日食になるしゅんかんが出るしゅんかんがくわしく見れてよかった。ほかにもダイヤモンドリングが見れたのでよかった。
6	一番心に残ったことか2つあります。1つは、他の国の人が書いた星の絵は私達と考え方が少し違っておもしろかったです。2つは「ダイヤモンドリング」です。はじめてみたのもあってとってもびっくりして、「ここに来て良かった」と思いました。
7	日食がはじまって、長い時間待って、やっと「ダイヤモンドリング」が見たこと
8	みんなでダイヤモンドリングを見れたこと。
9	外国の人たちと話せたこと。えいぞうだったけどかいき日食がみれたこと
10	ダイヤモンドリングを見たところ！！日食の中でも一番きれいだった！
11	やっぱり日食。本当は生で見たかったけれどこれはこれでしっかり見えてとてもキレイだったです。
12	・ダイヤモンドリングが皆既の直前・直後に見えたこと。　・衛星通信がやばかった。
13	日食がはじまった時とダイヤモンドリングデス
14	月と太陽が、かさなった所がみれてよかった。ダイヤモンドリングが見れた事。
15	日食を見れたことです。（映像）ダイヤモンドリング（昨日まで知らなかった）や太陽が完全に欠けていくようすを自分の目で見たので感動しました。
16	皆既日食
17	ダイヤモンドリングが見えてとてもきれいだったので心に残りました。他にもダイヤモンドリングになる直前もとてもきれいで心に残りました
18	ダイヤモンドリングが見れた事です。
19	日食が見れたこと　ダイヤモンドリングがきれいだった。外国の人となかよくなれた
20	ダイヤモンドリングのいっしゅんでしたがとてもきれいでした。
21	ダイヤモンドリングが見れた所。
22	ダイヤモンドリングをみれたのと他の国の人と交流できたのがよかったです。
23	ダイヤモンドリング、コロナ、など今まで1度も見たことない。
24	ダイヤモンドリングを見れたこと。
25	硫黄島の日食。ダイヤモンドリングを生まれて初めて見れたのが良かった！けっこう強い光でビックリした。

26	ダイヤモンドリングがすごくきれいだった事
27	日食は見れなかったけど、世界の子もたちと交流して良かったと思う。
28	日食を見れたことや、ダイヤモンドリングを見たこと。
29	遠い世界の人と中継を通して他国から感謝の言葉をもらった事が心に残った。あと生ではないがダイヤモンドリングが見れた事に対しても心に残った。
30	ダイヤモンドリングが出た瞬間。
31	いろいろな人としゃべれたこと。
32	日食のダイヤモンドリング
33	かいき日食です。映像だけでも日食になったときはとても感動しました。ダイヤモンドリングは少しの間しか見れなかったけど、とてもきれいで心に残りました。
34	初めて、日食を見て、いっしゅんだっただけけどダイヤモンドリングってすごいなって思いました。今度は、自分で見たいなって思いました。
35	生まれてから1回も見ることがなかった皆既日食を見れたこと。日吉で部分日食を見れなかったことは少し残念でした。でも「ダイヤモンドリング」が見れたことはうれしかったです。
36	やっぱり皆既日食です。コロナがものすごく光っていて、すごく感動しました。初めて日食を見て、ダイヤモンドリングをすごく心に残った。貴重なものが見れて、良かった。
37	ダイヤモンドリングです。めったにみれないので一番心に残りました。
38	太ようのようすとかダイヤモンドリングの事です。僕はしんじていたんですけどいきなりへんなみたいになってても1番さいごにダイヤモンドリングになったからよかったです。
39	ダイヤモンドリングです。ダイヤモンドリングがすごくきれいだったことです。
40	ダイヤモンドリングが、とってもきれいで、心に残っています。
41	やっぱり皆既日食です。コロナが輝かしく光っていて感動しました。とても貴重なものを見てとてもよかったです。
42	映像だけどかいき日食とダイヤモンドリングが見れたこと。
43	ダイヤモンドリングのダイヤモンドが光った時に、ものすごく良かったし、ちょっと感動しました。
44	かいき日食の中けいの時にダイヤモンドリングが見れた事！！
45	日食がかさなった所！ダイヤモンドリングがみえた時
46	日食を見てダイヤモンドリングを見た事
47	かいき日食のダイヤモンドリングを硫黄島から生で見た事に感動した
48	ダイヤモンドリング 一番心に残っていることはダイヤモンドリングです 生まれて初めて見たので、とてもびっくりしました。
49	生？で日食が見れたことです。
50	やっぱり日食の映ぞう。テレビでしか見た事がなかったので、テレビよりも画ぞうがキレイで、本物に近い感じで見れて感動した。
51	ダイヤモンドリングがとてもキレイだったこと。日食のしゅんかん。
52	日食のダイヤモンドリング。

53	世界の子どもたちのえいぞうや、声が聞けたり、見たりできた。日食のえいぞう。
54	硫黄島のかいき日食が心に残っています。とくにダイヤモンドリングはいまでもおぼえています。インドネシアのこの絵がすごかったです。クレヨンで1時間30分でできるなんてすごいなと思います。
55	日食も良かったけど、私は、世界の人とふれあえて良かったと思う。どこの世界の人も皆やさしかったし、とても楽しかった。
56	硫黄島のかいき日食を見たこと、世界の人と会話したりしたこと。
57	生放そうの硫黄島の日食で、「ダイヤモンドリング」が一番すごいと思いました。
58	日食が近づくと夜のようにまっ暗になり日食がおこるので神秘的な6分間でした。
59	やっぱり日食を見れたことです。中けいだったけど全部太陽がかくれる所を見てすごく心に残りました。あとダイヤモンドリングも見れて良かったです。でもここ日吉でみられなかったのは残念でした。
60	こっちの方では見れなかった。皆既日食が、中継で、つながっていて、それで、満足なのに、「ダイヤモンドリング」が見れて、本当によかったです。26年後、晴れたら見たいなと思います。
61	日吉では見れなかったけど、硫黄島での中断の映像を見て、ダイヤモンドリングを見ることができたことです。
62	外国の小学生と、絵を見せ合ったり、話したり一緒に皆既日食を見て、感動を言いあったりして良かったです。
63	皆既日食とコロナとダイヤモンドリングが心に残りました。
64	ダイヤモンドリングが一番心に残りました。最初は暗くなったけど太陽がでたしゅんかんに明るくなりました。
65	硫黄島からの中継で皆既日食の時に、ダイヤモンドリングが見えたことで、生まれて初めて見たので、すごいなと思いました。
66	これがかいき日食をみたことです。とても明るい光でとても夜みたいでした。また、26年後はれたら見たいです。
67	ダイヤモンドリング見れたことと、いおう鳥がだんだん暗くなってくる時が心に残りました。
68	硫黄島から中継で、ダイヤモンドリングを見ることができたことです。
69	映像で見た硫黄島のかいき日食が見えたりダイヤモンドリングがみえたこと
70	やっぱりかいき日食が一番心にのこりました。ダイヤモンドリングがきれいでした。
71	中けいで日食を見れたこと
72	中けいでいおう鳥から、かいき日食が見れたのが一番心に残った。

Table B.6: Brazilian Elementary School Nippaku Gakuen - Gunma, Japan

73	Eu gostei mais do dinhamante
74	Quando o eclipse solar apareceu na tela
75	De me comunicar com outras crianças de diversos países.
76	Foi de ver a corona do eclipse
77	Na hora em que a eclipse apareceu.

78	Em estar interagindo com os outros países.
79	Foi quando nós vimos a Corona do Eclipse.
80	Na hora do eclipse, E ver o pessoal de outros países, ver o eclipse total na tela e ver as pessoas sendo entrevistadas.
81	Foi de ver a corona
82	De ter visto o eclipse e de ter contato com as outras crianças de vários países.
83	A corona e o diamante do anel.
84	O que mais gostei foi de ter visto varias crianças participando junto com a gente.
85	De olhar a eclipse parcial
86	Gostei do fato de poder ter visto um eclipse solar pela primeira vez e de conhecer gente de outro país.
87	Quando conversamos com outras crianças.
88	Da parte que mostrou o eclipse total.

Table B.7: Khalifa University - Abu Dhabi, United Arab Emirates

89	The participation of several countries in this event
90	It was organized very well. The interaction with event of the total solar eclipse was great.
91	When students presented their drawing and when the total eclipse happened
92	The gathering of young children of different schools from all over the world.
93	It was really interesting and full of excitement. We enjoyed learning about the event and the country.
94	
95	The intelligence and creativity of children

Table B.8: Elementary Schools in Manado, Indonesia

96	Seeing Solar eclipse for the first time
97	When the moon started to cover the sun
98	When the moon started to cover the sun. Also this is my first time watching Solar eclipse
99	When watching the Solar eclipse from Japan
100	When the moon cover the sun
101	I saw a very beautiful total Solar eclipse and had a wonderful time learning with friends.
102	When watching a very beautiful Solar eclipse even though just from a screen

103	When the Solar eclipse occurs
104	Watching the ring turns into sun
105	When watching the total Solar eclipse because this is my first time seeing it. It turns out to be very beautiful
106	When the total Solar eclipse occurs - it left so much impression to me
107	When the moon and sun line together forming a ring
108	When total Solar eclipse occurs
109	Watching the Solar eclipse together with friends - not only friends from Manado but also friends from other countries
110	Watching a very beautiful Global Kids Eclipse, made by God Himself, not a man-made one.
111	Watching Solar eclipse live
112	I can make new friends, not only from Indonesia but also from abroad
113	When the Solar eclipse opened up
114	I can watch Solar eclipse from the start when the sun covered by the moon until the moon appeared again
115	When the moon covers the sun and solar eclipse occurs
116	Watching the solar eclipse ring turns into sun
117	When the moon covers the sun
118	Able to see solar eclipse live with my own eyes
119	When total solar eclipse occurs
120	Meet new friends and showing our work to them
121	Able to see solar eclipse live with my own eyes
122	When I saw the sun appears from the left side - very beautiful
123	When I saw the total solar eclipse happening in Japan – it's truly amazing. I've never seen this kind of thing before.
124	It's very exciting to see live solar eclipse!
125	This is my first time seeing solar eclipse and I'm thankful to God who created all of this on earth. I'm also thankful to UnSrat for giving us this chance to us
126	Watching total solar eclipse live, meet and talk with other children from abroad through the pictures.
127	Able to see total solar eclipse with live broadcast, able to meet new friends from outside and inside Indonesia (in Manado and Malang City).
128	When watching the total solar eclipse. This is my first time seeing total solar eclipse.
129	When I saw the sun appears from the left side.
130	It is remarkable to participate with UnSrat's Engineering Faculty.

Question 3 – Please tell us how was to communicate with students from other countries?

Table B.9: Sumiyoshi Elementary School - Hiyoshi, Japan	
1	呼ぶ時に英語で楽だった国もあるけど、その国の言語があったりして、難しかったです。また通訳の人は凄く大変だろうなと思いました。
2	ほかの国の人と通信して「地球て小さいな」と思いました。
3	絵で質問されるとき通やくはいるけど話してるということが不思議に感じた。
4	いろんな国の人たちと、会話したり、いっしょに日食を見たりしてすごたのしかったです。
5	今回交流した国は全部の国がちがうことばをしゃべっているのがわかった。
6	心に残ったことでもあるんですが、世界の人それぞれみんな考えがちがって、星の絵でもそれがかんじられて、おもしろかったです。
7	やっぱりみんな同じ生き物なので、同じことを思ってるんだ、と思った。
8	ふつうに通やくさんを通して話し手いたけど、外国にいる小学生と日本にいるのに話せるということは技術が発達して、すごいことだなと思いました。
9	(ぼく) 会話はあまりしなかったけど、あい手の思っていることはだいたい同じだった気がする。
10	星の絵とかは、なんとなくみんな似てるんだけど、考え方とか、思ったことが全然違うんだなあって感じました。でも、やっぱりみんな、平和とかがもとなかんじだと思っていました。
11	やっぱり言語をこえて人間としてつながっているんだなと思いました。とてもできない体けんでした。すごい楽しかったです。
12	頭がよさそう。先生がこわそう。
13	全然日本と違う教室と、話し方、服そうもいろんな国の人と話してとっても楽しかった！
14	いろいろな国の人とかと会話をしてなんか心と心でつうじあっているみたいで、とてもたのしかった。
15	同じ人間でも考えること、発音が違うんだと思いました。
16	同じ世界なのに、思った事やはっそうなどがちがった
17	他の学校の星(書いた)はとてもキラキラしてたりクレオンだけですごくうまく書いてたりしておどろきました。昨日はふつうに外国の人と話してたけどすごいことだと感じました。
18	おたがいに、いろいろな事で興味しんしんで、たくさん他国の文化を知ってよかったです。
19	ことばじゃなくても手をふったら手をふった。
20	交流することの大切さを学びふれ合えておたがいの国のことも話せて良かった。
21	ほしを書いた学校の子は、日本とそんなにかわらないんだなあって思った。
22	国がちがうけどこうゆうのがきっかけではなせてよかったです。
23	国はちがうけど、いろいろ話せてよかった。
24	外国の人と絵をすごいのにびっくりした。
25	遠くはなれた国でもインターネットを通じて話ができて、たくさんの友達がつくれたような気がした。
26	国に、よってあいさつや、ことばがちがった。
27	会話して、国に住む小学生と話して、なにを言ってるかわかんなくて、でも、すこしきこえた。

28	どこの国かは、わからなかったけど、以外に日本語が言える人がいて、他の国と交流ができることは、すごいなあと思った。
29	本当は互い気持ちを伝える事ができるが後は他国の言葉が分からないだけなので、その内全ての国が同じ言葉を使うようになればいいのにと感じた。
30	言葉がどこの国も違うんだな…と改めて思った。
31	たのしかった。
32	しゃべったりしてとても楽しかったです。
33	私は英語ができないので、外国の人となんか交流できるの？と思っていたけれど、通訳の人のおかげで話すことが出来たので良かったです。
34	会話で何を言っているのかわからなかったけれど、つうやくしてもらって、とても、楽しかったです。また、今度何かのイベントで他の国の人と話ができたらいいなって思いました。
35	言葉が通じなくてもいっていることがわからなくても交流ができるという。
36	私たちが想像することや考える事と他の国の人達が、考えることはちがうなと思ったし、私達より、しっかりした答えだったので、少しびっくりしました。
37	みんな同じかいき日食を見て同じ思いをしていると思いました。
38	なんかいろんな国と会話とかできたからすごかったです。あと本の人とかがいけんとかゆってたからすごかったです。
39	いろいろな国に住む小学生で、その国で見れない国もありました。だけど、みんなが見たいという思いは、いっしょだと思いました。
40	色々な国の言葉があるんだなあと感じた。
41	自分達が考えることと世界の国々のみんなが考えることは、ちがうな…と思いました。世界の国々の子供たちは、想像力が豊かで、とってもしっかりとした答えでした。
42	世界の人は、何事もていねいな言葉使いだなあと思いました。
43	いろんな国の人と会話ができ、みんなと協力していきたいと感じた。
44	ちがう国の人と言葉がちがうのにその時間に会話が出来てすごかった。
45	未記入
46	・思った事考えている事がちがっている。 ・ 国によってむずかしい考えとかがある。
47	どの国々もよくてがんばれば世界中の国と交流できると思う
48	言葉が通じないのに、思っている事、考えている事が同じなのがすごいなあ。と思いました。
49	図工のもしあったらいてみたい星の絵で、国がちがうからって考えていることも違うわけではないと思った。後この絵を書いた違う国の人がすごく絵が上手だったのでビックリした。しかもクレヨンであんな絵をかけてすごいと思った。
50	最初は心配、タジタジ、話してみたら通やくさんがいて、「あ、こんな事考えてるんだ、おもしろい」など感じられて勉強になった。
51	日本の人と、他の国に住んでいる人が思っていることは同じだと言うこと。
52	どんな小学生だろうかと不安だったけれど、気が合いそうな人達もいた。
53	いがいとすんなり話せたりして、よかった。
54	ぼくたちより大きいのに5年生のこなどがとても多かった。
55	いろんな国とふれ合えて楽しかった。よかった。

56	今回、世界の人と通訳さんが中心となって会話をしたから、自分も英語をおぼえ、話せたらいいと思った。
57	いろいろな星の絵を見せてもらっている時、みんな、「地球の環境」や「長生き」などを考えているんだな、どこも同じなんだ、とわかりました。
58	なかなかいろいろな国と話す機会はないけど中けいでいろいろな国の人と交流できたり、みんなの理想の宇宙の絵を見せあったりしてさまざまな事をできたので良かったです。
59	会話がしていないけれど他の国の人は意見などをいっぱい言っていてすごいなあと思いました。
60	私は、日本語でしかしゃべれないから、いっしょう、世界の人達としゃべれないと思ってたけどこういう事があって、楽しく、ふれあいました。自分の星では、クレヨンですごいまい人がいて、びっくりしました。
61	日本人の和と他の国の人と、たくさん交流して、住んでいる所はちがうけど人とつながっていると思いました。
62	実際遠くにいるけれど、カメラ、インターネットで通じあえるのでどこにいても同じ地球で一緒に過ごせるということがすごいと思った。言葉は通じないけれど話しあったりできて良かった。
63	みんな皆既日食がみれて、かんとどうしていた。
64	相手も僕達の会話に応じてくれたこと。楽しくみんなと会話できたこと。
65	どこの国でも、ダイヤモンドリングなど、感動することは同じだと思いました。
66	世界の子どもたちと実際にあったわけじゃないけどインターネットでいろいろやって気づいたことは、いろいろな国の人は、とくぎがあるということです。絵がうまい人がいたり、びっくりしました。
67	星の絵を見せてくれたとき、地球のことを考えてる星を書いていた人が多くて、みんな考えていることは、同じなんだなあと思いました。
68	他の国の人は、絵がうまいことがわかりました。
69	自分の行きたい星の絵を見ると、他の国もデザインがすごいなと思った。
70	他の国の人たちと話していて、みんな元気がよくて、でもはずかしがっている人もいたのしかった。
71	遠い所にいてもインターネットでつながっているので通やくを通して話せるのですごいなと感じた。
72	みんな星の交流で、何人もの人がいるのにみんなちがう絵だし、とても上手だった。

Table B.10: Brazilian Elementary School Nippaku Gakuen - Gunma, Japan

73	Eu achei muito legal e muito interessante.
74	É muito legal. Os alunos das outras escolas se comunicaram conosco. A gente se comunicou com eles sobre o eclipse.
75	Achei muito interessante comunicar com as crianças que moram em outros países. Eles falaram línguas diferentes.
76	A linguagem é bem diferente da língua japonesa e portuguesa.
77	Que em diversos países existem muitas pessoas criativas e que desenham bem.
78	Eu achei interessante em ver eles falando sua própria língua.
79	Percebi que a língua deles é bem diferente da nossa.
80	Que o jeito de falar e se comunicar deles é bem diferente que a nossa. E o lugar em que estão também é muito diferente.
81	A linguagem é bem diferente.
82	Que elas também gostaram de ver o eclipse e terem se comunicado com nós. Foi uma oportunidade única.

83	Achei interessante e divertido Compartilha com outros países, idéias e perguntas.
84	Percebi que as línguas deles são totalmente diferentes, o jeito de vestir e cada opinião.
85	Imprecionante pois conseguimos comunicar com outros países.
86	Que as diferenças de um país para o outro existem e divemos conviver com eles.
87	Achei muito legal.
88	Que as línguas deles são bem diferente das nossas

Table B.11: Khalifa University - Abu Dhabi, United Arab Emirates

89	It was a great experience that showed us how similar people from different cultures can be.
90	Interesting and we had fun with them
91	It was very good but I wish if the sound is more clear and the translation could be by microphone
92	It was great!
93	It's the best way to get the most benefit from the information we learned.
94	
95	Maybe you could include a larger number of countries around the world and make it more international

Table B.12: Elementary Schools in Manado, Indonesia

96	Happy because we could share information
97	Very happy
98	Very happy, because I have never talk to students abroad
99	Very happy
100	Happy
101	I am very happy because they are smart and funny, and they looked like they like us too.
102	Very happy
103	Because of solar eclipse
104	I am very happy to be able to talk with friends from abroad
105	Very happy even though just from camera. Their pictures are really nice
106	Very happy to talk with friends from abroad
107	Very happy
108	Happy
109	Very happy because I can make new friends
110	Very happy and it was a nice experience
111	I am very happy because I was able to talk and share with each other
112	I am very happy because this is the first time I saw them talking to Indonesian people.
113	Very happy
114	I am very happy because I was able to talk with friends from abroad
115	Very happy. And I got new friends
116	I am very happy because I was able to talk with friends from overseas
117	Very happy
118	Very-very-very happy and able to share opinions, experience and so on

119	Very happy
120	Very happy because they are really nice and appreciate other friends' opinions.
121	I think this is very nice. We can exchange ideas among students in different languages.
122	I am very happy
123	I am very happy to be able to ask questions and heard answers from them. And we can learn many things about drawing from them.
124	Very happy because we were able to communicate
125	I am very happy to get a new experience. Also I can learn from other languages.
126	Very happy and I will not forget this memory forever.
127	I am very happy because I can talk with friends from elementary schools abroad.
128	Happy and quite nervous
129	Happy and excited
130	Happy

Question 4 – Tell us all your impressions or thoughts about participating in this event.

Table B.13: Sumiyoshi Elementary School - Hiyoshi, Japan	
1	日食が凄いいキレイで感動しました。自分が38歳になったときにまた見れるので楽しみです。
2	日食がすごいと思った。
3	ダイヤモンドリングはすごかったから次の日本のかいき日食では全国の人が見られるようになればいいのになと思いました。
4	日食がすごくキレイでびっくりしました！また見たいです！！
5	今回はなまで日食を見れなかったからこんどはなまで見たい
6	歳後に言っていたことなんですけど、私もパソコンなどの力を借りて、世界の人たちとこれから先もっと会話をしたり、日本の文化をしょうかいしたりして、地球人の関係を深くしたいと思いました。めったにない最高の思い出ありがとうございました
7	日食がは、いっしゅんだと思ってたけど、けっこう長くて、意外でした。
8	色々な記者の人やカメラマンが来ていたのを見て、改めて皆既日食を見れたことはすごいことなんだと思いました
9	かいき日食をはじめてみたので「すごい」「きれい」などを感じました。
10	日食が川崎（日吉）で見れなかったから残念だったけど、硫黄島のは見えて良かったです。それに、外国とも、けっこうすぐに交流とかができてすごいなと思いました。すごいとおい国や場所とも交流ができて、昔の社会では「ムリ」って考えてたことをかんたんにできたから、現代すごいなと思いました。
11	地球にはこんなにきれいなものがまだ残ってたんだと思いました。地球温暖化、自然破かいなどがきぐされる中、やっぱりまだきれいなものはあるんだなと思いました。
12	日食を見た感想がどの国の子も同じだったので、どの国も同じだと思った。
13	月や太ようだけでこんなにキレイな物が見れるなんてすごかったです。毎日あたりまえのようにある月、太ようがすごきたいせつにしていきたいと思う！

14	なんで、年に1回なのか、毎日かいき日食がみれないのかふしぎです。
15	天文学というのは（日食に限らず）偶然が重なって、神秘的な現象が見られるんだと改めて実感しました。
16	やっぱり、今回の日食のやつは、すごく心に残ったし、交流も、世界の国の同じぐらいの子供といっぱい話しあって、すごくこの世界の国とも交流をふかめられたと思います。これからも、もっとほかの国と交流を深めあってって、こう言う日食のようなきかいがいっぱいあると、楽しくなると思いました。（ふかめられると思う）
17	昨日はめったに見られないダイヤモンドリングが見えたり、他の人達と会話ができてとても楽しかったです。また次の日食が見られたらいいと思いました。
18	12才で日食を見て、次の日食は26年後に、また見れるので、人生で日食を2回みれると思うとうれしいです。
19	世界はサイコー 日食見れてよかった。
20	日食の変化があるたびに考えていい勉強になりました。他の国と交流も出来たので良かった。
21	ちがう学校の子は、日本と考えることがだいたいにいる人だなあと思いました。
22	すごいみんなが日食をたのしみにしていたということがわかりました。
23	日食など、外国の人とふれあえた。
24	世界でとても日食を楽しみにしているんだなと思った
25	いろんなアジアの子供達とインターネットを通じて話ができて、いっしょに日食の勉強をしたので、たくさんの人とふれあできたのでとても良かった！
26	何年かに1回だけ見られる日食を見てよかった。
27	日食はこうゆうのなんだなーって思った。また見て見たい。
28	なぜかとブラジルのとなりぐんまを書いてあった。
29	-
30	かいき日食を見てよかった。中継だったけれど他国の人と一緒に見れたから（その外国の人達）つながっている感じがした。言葉も違って、服装も違って…。同じ地球の中に個性（その国独特の）があっておもしろいなあ…と思った。
31	ない
32	またきかいがあったら外国の小学校などと交流したいと思っています。
33	日吉では実際には見れなくて、残念だったけど、硫黄島で画面だったけれど、見れて、本当に良かったです。とても感動しました。夜のようになるとは知らなかったの、どんどん夜になっていく硫黄島を見てとてもびっくりしました。本当にありがとうございました。
34	月が太陽をかくして、6秒くらいだったら、そのまま、また明くなんだって思っていたけれど、ダイヤモンドリングがでて、びっくりしました。本当のダイヤ見たいに光っていてきれだなって思いました。本当にありがとうございました。
35	今回は、「日食」ということを通じて世界の子供達と交流できたのでまた、別のことで交流できたらいいかなーと思った。
36	世界の国々のいろいろな人と話したりできてとても楽しかった。またいつか、やってみたいと持った。みんなが書いた星が見れて良かった。
37	20年後にまたかいき日食がおこるから、これをいかしていきたい

38	太ようは、どうやってようすとかかわるのかなと思いました。でもくもりだったけど本のきかいでようすをみれたからよかったです。
39	日食はまだ見れるのかと考えました。
40	世界各国の子どもたちが、同じ時間に同じ日食の映像を見てるってすごいと思った。
41	世界の国々のみんなとふれあえてとても楽しかったです。他の国々のみながかいた星を見れて、みんなとても想像力があると思いました。
42	また今度生きていたら、生で日食を見たいです。
43	日食を生で見られなかったけど、中けいをしてとてもキレイに見れたので良かったです。真っ暗になっていた時はとてもビックリしました。とてもいい思い出になりました。また 26 年後も見たいです。
44	いろいろな国の人と話してみてもみんないろいろな考えを持っているんだなー。と思った。
45	自然ってやっぱりすごい！って思いました。交流では、おどろきのことがいっぱいあっていろいろかんじたりした。
46	・日食の事でちがう国との交流ができる事はスゴイのかなあと思いました。・これからも交流ができるのかと思いました。
47	どこの国のすごく絵がうまい！！
48	-
49	日食を普通に（テレビを通して）見る事が出来たので 26 年後もまたいろいろな人といっしょに見たいです。
50	この前までは日食はあまり興味がなかったけど、勉強していくにつれてだんだん興味がわいてきた。日食ってすごいな、と授業を通して思った。
51	世界には日食を見たくても、見れない人がいます。カメラを通してみんなに日食の感動を伝えようじゃありませんか。
52	夜と同じような状態だったけれど地平線にしずんだのではなく、月が太陽をかくした「日食」という特別な夜になったんだなと思った。自然にこんなものができたんだから、すごいワクワクして見ました。
53	世界の子どもたちと会話しながら、日食を見るのはめずらしく、世界にたいして考えるけいけんになった。
54	こん回は生中けいでみただけだから 26 年後の東京で見られるかいき日食と 2012 年に見られる金環日食がみたいです
55	今回では、とても日食に興味をもちました。今度は本物を見てみたいです。また、交流では、いろんな国とふれ合ったのは、始めてなので楽しかったです。
56	同じ場所にいるように感じてとても楽しかった。またこんな機会があったらいいな…と思った。
57	世界の子供達と交流できて、おもしろかったです。また、普通だったら、雲でみえたなかったけど、生放そうで見れたので本当にありがとうございました！うれしかったです。
58	未記入
59	またこのように世界の人たちと交流できるきかいがあればいいなあと思いました。日食はぼくが生きている時にまたあるからこんどは晴れているときに見たいなあと思いました
60	日食見れて本当によかったです。こうゆう体験をさせてもらえて、本当によかったです。いろいろな国の人達とふれあうことで自分の人生が、ちょっといいふうに変わるような気がします。本当によかったです。
61	日食のことを前日授業でやって日食のことは当日も行ったので、日食のことはもうパーフェクト！！です。この授業で、日食のことだけでなく、他の国とも交流ができて、本当によかったです。クイズや自分の国の紹介をしたりして場所が遠くても、心と心は近くにあると思いました。このきかいだけでなく、他のことでも、他の国の人と交流をしたいです。このように日食+他の国の人との交流などのきかいをつくってくれて、ありがとうございました

62	未記入
63	ほかの国にと、ふれあえて楽しかった。
64	いろいろな月、太陽、地球の関係をもっと知りたいです。
65	慶応だいがくメディアデザイン研究所の人がサポートしてくれたので、感謝しています。
66	はじめてのかいき日食でしたので心がドキドキしていました。とてもまぶしい光。また 26 年後みたいです。
67	何人もの人が日食を見るのが楽しみだったのかなと思いました。
68	日吉の慶応の人たちのおかげでかいき日食が見ることができたのでうれしかった。日吉では日食が見ることができなかったけど硫黄島中継で見ることができてうれしかった。
69	夜のかいき日食の時はどのように見えるか ダイヤモンドリングはどのようになって見えるか
70	ぼくはこの授業で世界の人たちと交流してみんなでかいき日食を見て、とてもこうふんしました。ぼくも科学者になりたいです。
71	日食を始めて見てとてもすごいと思った。分ぶん日食でもいいから見たかった。
72	世界の人と話せたり考えたりした事がよかった！かいき日食の美しさともえずらしさで、みんなで中けいを見れてうれしかったです。

Table B.14: Brazilian Elementary School Nippaku Gakuen - Gunma, Japan

73	Eu achei legal, porque essa é uma oportunidade muito grande.
74	Eu gostei muito deste evento. Muito importante!
75	Eu gostei muito de participar desta atividade. É uma única chance que deve ser aproveitada.
76	Eu achei muito legal, pois eu nunca pude ver um eclipse solar. E também eu vi que as pessoas os outros países são diferentes de nós.
77	Gostei, por que é uma experiência inesquecível.
78	Eu achei divertido, e bem legal em ver o eclipse.
79	Achei muito legal e interessante, e percebi que em vários lugares à um estilo diferente.
80	Gostei muito porque aprendi várias coisas sobre o eclipse e também foi a primeira vez que vi um. Mas, pena que não foi total foi parcial.
81	Eu achei muito legal e é uma oportunidade única e sempre que der pretendo ver de novo. E o mais interessante que achei, foi que todo ano acontece e nem sempre é tão longo.
82	Gostei muito, pois foi muito interessante ter se comunicado com várias crianças.
83	Queria fazer isso novamente, foi interessante. Quero que meus parentes tenha também esta oportunidade de ver a eclipse com outras pessoas de outros países.
84	Achei inesquecível coisas iguais a essa e pra guardar pra sempre.
85	Muito legal.
86	Ameeeeei! Di paixão!

87	Achei legal, porque pude observar o eclipse na primeira vez.
88	Eu gostei bastante porque aprendemos mais sobre o Sistema Solar.

Table B.15: Khalifa University - Abu Dhabi, United Arab Emirates

89	It was a wonderful event that carried memorable moments and one in a lifetime experience.
90	I really enjoyed this activity and I recommend everyone to participate at this type of activity
91	I was very glad to participate in this events. It's truly very fantastic to communicate with other people with different cultures.
92	Sugoi! Loved it, very well organized and exciting.
93	I think it's beneficial and we will try to discuss the idea of communicating with other students around the world in our college.
94	-
95	It was very interesting and I'm so impressed by the technological development of Japan! Thank you!

Table B.16: Elementary Schools in Manado, Indonesia

96	Watching total solar eclipse from the beginning until the end
97	I was very excited when the moon started to block off the sunlight to the earth
98	It was very impressive when I was able to communicate with people abroad
99	Very happy when watching the solar eclipse
100	I want to see solar eclipse
101	I think about the very amazing solar eclipse, because this is the first time I am seeing a very beautiful solar eclipse. This becomes an inspiration for me and my friends.
102	Meeting friends from abroad and showing their and our creative works
103	When we watch the solar eclipse, we are very happy
104	Very happy to meet friends abroad and watching solar eclipse live
105	I am very happy to talk with friends abroad. I am also very happy to be able to watch the solar eclipse.
106	I was very impressed to see the solar eclipse live broadcast, even though not directly ^ _ ^
107	Very happy
108	Able to watch solar eclipse and meet friends from abroad
109	I am very happy because I could see live solar eclipse and meet other friends
110	I felt really excited and happy watching the solar eclipse because I never saw it before. I am really thankful for everyone who made this event possible.

111	I thought about why solar eclipse can occur. Also I was very amazed at the solar eclipse 'ring'
112	I want to be able to see the next total solar eclipse on March 1, 2016
113	When total solar eclipse occurs and when the sun appears again
114	I am very happy today. I hope I can see the next solar eclipse.
115	Very happy when the solar eclipse occurred. I thought how it would be if it happens in my place.
116	I am very happy to meet friends from overseas, watching solar eclipse and share stories together
117	Very happy
118	I am very impressed to be able to see all friend's faces. And I really want to tell them this: "For friends in Japan, Brazil, Thailand, Philippines, Bangladesh, United Arab Emirates, and Malaysia, thank you for your participation. Nice to meet you all and see you again in another time. Thank you."
119	Very happy
120	Excited, happy, curious
121	This is very fun. I wish someday there will be another event like this. This event is so much fun beyond words. See you next time all!
122	When we took pictures together. And I saw friends from other schools abroad
123	I thought about how solar eclipse happens. And I am very happy because I can watch total solar eclipse and talk with friends from abroad.
124	Very happy, very amazed because this is the first time I see something like this. Thank you ^.^
125	I thought about why we cannot see solar eclipse directly?
126	I am very happy to be able to see solar eclipse live. And I wish God allows us to meet our friends from abroad again in the next chances.
127	Happy, excited and proud with these facilities
128	Truly very happy to see total solar eclipse live, even though just from a broadcast. Thank you ^.^
129	When we took pictures together
130	It is very impressive to see the live solar eclipse because this is my first time to see it live.

Table B.17: Words used in Japanese children surveys

分類		Q1	Q2	Q3	Q4	小計
a 副詞	小計	52	62	57	78	249
	あと	2	2	2		6
	あまり			1	1	2
	改めて				1	1
	いきなり		1			1
	一番	2	9			11

	いつか				1	1
	一瞬	2	2		1	5
	いっぱい	1		1	1	3
	いろいろ			2	1	3
	お互いに			1		1
	キラキラ			1		1
	けっこう	3	1		2	6
	偶然				1	1
	くやしい		1			1
	最後に		1		1	2
	しっかり		1	2		3
	実際	2		2	1	5
	すぐ				1	1
	少し	3	3	2		8
	ずっと	1				1
	全て			1		1
	すんなり			1		1
	全然		1	2		3
	全部	2	1	1		4
	そのまま				1	1
	それぞれ			1		1
	だいたい			1	1	2
	たくさん			2		2
	たぶん	1				1
	だんだん	1	2		1	4
	特に	1	1			2
	ちょっと		1		1	2
	どきどき				1	1
	とても	6	16	9	16	47
	どんどん				1	1
	なかなか			1		1
	なかよく	2	1			3
	なぜ	4			1	5
	なんで				1	1
	なんとなく			1		1
	初めて	2	6		4	12
	びっか	1				1
	びったり	1				1
	ぶつう			1		1
	ほとんど	1				1
	ました		1			1
	まず	1				1
	また	1	1	2	18	22
	まだ				3	3
	みんな	7	2	16	9	34
	もう				1	1
	もし			1		1
	もちろん	1				1
	もっと				3	3
	モヤモヤ	1				1
	やっと		1			1
	やっぱり	3	7	3	3	16
	わくわくして				1	1
c 判定詞	小計	25	31	20	16	92
	しかも			1		1
	じゃ			1		1
	だ	6	1	4	3	14
	だから	1				1
	だけど	1		1		2
	だった	2	4	1	4	11
	だろう			1		1
	で	3	1	1	2	7
	である	1				1
	でした	1	2	2	1	6

	です	6	18	1		25
	でも		5	4	1	10
	な	3		3	3	9
	の	1			2	3
d 指示詞	小計	21	9	17	24	71
	あの	1				1
	あんな			1		1
	こう	1				1
	こういう			1	1	2
	ここ	1	2			3
	こっち		1			1
	この	1		1	3	5
	このように				2	2
	これ	2	3		4	9
	こんな			1	1	2
	こんなに				2	2
	そこ	1				1
	その	1		4	2	7
	それ	1	2	1	1	5
	そんなに			1		1
	どう	4			1	5
	どういうふうに	1				1
	どうして	1				1
	どういうふうに	2				2
	どこ	1	1	5	1	8
	どの			1	3	4
	どのように	1			2	3
	どんな	2		1	1	4
j 形容詞	小計	57	77	100	133	367
	明るい		1			1
	明るく	1	1		1	3
	明るくて	1				1
	あたりまえの				1	1
	いい	1		1	8	10
	意外	1		1		2
	意外に			1		1
	一緒だ			1		1
	いっぱい				2	2
	意外でした				1	1
	一緒に		1	2	3	6
	いろいろな	5	1	8	7	21
	うち			1		1
	美し				1	1
	うまい			3	1	4
	うまく			1		1
	うまくて		1			1
	うれしい				1	1
	うれしかった	1	2		4	7
	多かった	1		1		2
	多くて			1		1
	大きい			1		1
	同じ	1		9	6	16
	同じだ			2	1	3
	同じだった			1	1	2
	同じな			2		2
	おもしろい	1		1	1	3
	おもしろかった		1	1	1	3
	輝かしく		1			1
	完全に		1			1
	簡単に				1	1
	貴重な	1	2			3
	きれい				1	1
	きれいだ		8		1	9
	きれいで	1	4		2	7

きれいな				3	3
きれいに				1	1
暗く	6	2			8
黒く	1				1
くわしく	1	1			2
元気			1		1
最高				1	1
最高な				1	1
さまざまな			1		1
残念だった				2	2
残念でした		2			2
自然に				1	1
上手だった			2		2
神秘		1		1	2
すごい	1	4	13	14	32
すごかった	1	2	3	2	8
すごく	2	6	3	5	16
すばらしかった	2				2
大切			1		1
大切に				1	1
大変だろう			1		1
たくさんの			1	1	2
楽しかった	2	1	8	6	17
楽しく			2	1	3
楽しみだった				1	1
楽しみです				1	1
楽しみに	1			2	3
小さい			1		1
小さく	1				1
近い		1			1
強い		2			2
ていねいな			1		1
遠い		1	1	1	3
遠く			1		1
遠くて				1	1
独特				1	1
特別な				1	1
ない		1	1	1	3
長い	3	1			4
長かった		1			1
長くて				1	1
なかった	1	2		1	4
なくて			1		1
恥ずかし			1		1
パーフェクトです				1	1
不安だった			1		1
不思議に			1		1
不思議だった	1				1
不思議です				1	1
深く	1			1	2
ふつうだったら				1	1
ふつうに			1	1	2
別の				1	1
変な		1			1
本当		1	1	1	3
本当に	3			7	10
本当の				1	1
待ち遠しい	1				1
真っ暗に				1	1
まぶしい				1	1
満足な		1			1
身近に	1				1
難しい			1		1
難しかった			1		1

	珍し				1	1
	珍しく				1	1
	めったに		1		2	3
	ものすごく		2			2
	やさしかった		1			1
	やばかった		1			1
	豊かで			1		1
	よかった	3	17	9	16	45
	よく	9				9
	よくて			2		2
	楽だった			1		1
	悪くて	1				1
m 連体詞	小計	6	2	15	11	34
	いろんな	1		5	2	8
	ちょとした	1				1
	次の				3	3
	ほかの	3	2	10	6	21
n 名詞	ほんの	1				1
	小計	407	352	359	390	1508
	あ			1		1
	あいさつ	2		1		3
	間	1	1			2
	相手			2		2
	朝	1				1
	アジア				1	1
	頭			1		1
	あたり	1				1
	いい			1	1	2
	硫黄島	6	11		4	21
	1	2	4		2	8
	1 時間 30 分		1			1
	一生			1		1
	今		2			2
	生き物			1		1
	意見			2		2
	イベント			1		1
	意味		1			1
	インターネット	1		4	1	6
	インドネシア		3			3
	動き	1				1
	宇宙			1		1
	絵		4	15	1	20
	衛星	1	1			2
	映像	6	9		1	16
	英語			3		3
	おかげ			1	1	2
	お互い			1		1
	驚き				1	1
	思い			2		2
	思い出				2	2
	終わり	1				1
	海外	1				1
	外国	4	3	4	4	15
	皆既		1			1
	皆既日食	13	20	2	12	47
	会話	2	1	12	3	18
	科学者				1	1
	画像		1			1
	学校			2	1	3
	形	1				1
	カメラ	1		1	1	3
	カメラマン				1	1
	画面				1	1
	川崎				1	1

考え			2	1	3
感じ	1	1	1	1	4
環境			1		1
関係				2	2
感謝		1		1	2
感想	1			1	2
感動	1	8	2	3	14
気			3	1	4
機会			1	6	7
危惧				1	1
記者				1	1
技術			1		1
きっかけ			1		1
昨日		1	1	1	3
気持ち			1		1
キレイ	2	1			3
教室			1		1
興味			1	3	4
協力			1		1
金環日食				1	1
クイズ	3			1	4
クレヨン		1	3		4
群馬				1	1
慶應				1	1
慶應大学メディア研究所				1	1
経験	1				1
景色	1				1
現象	1			1	2
言語			2		2
国	10	2	42	18	72
国々			3	3	6
雲				1	1
くもり				1	1
暗		1			1
経験				1	1
子		1	2	2	5
興奮				1	1
交流	14	2	9	19	44
こうゆう			1	2	3
声		1			1
心		18	3	4	25
個性				1	1
答え	1		2		3
こと	47	46	42	22	157
言葉	3	1	11	1	16
言葉使い			1		1
子ども	14	2	2	6	24
5年生			1		1
この前				1	1
コミュニケーション	1				1
コロナ	11	4			15
今回	2		2	5	9
今世紀	1				1
今度		1	1	4	6
オ				1	1
最後	1				1
最初		1	1		2
最長	1				1
先				1	1
サッカー		2			2
サポート				1	1
38歳				1	1
時間	9	1	1	1	12
しくみ	1				1

時差	1				1
自然	1			1	2
自然破壊				1	1
実感			1	1	2
質問	1		1		2
自分	1	2	4	3	10
社会				1	1
1 2				1	1
授業				4	4
種類	1				1
瞬間	2	5			7
紹介	1			2	3
小学校				1	1
小学生		1	4		5
状態				1	1
しんしん			1		1
人生				2	2
心配			1		1
図工			1		1
世界	21	6	8	15	50
世界各国				1	1
世界中			1		1
説明	1				1
全国				1	1
前日				1	1
先生			1		1
想像			1		1
想像力			1	1	2
空	1				1
ダイヤ				1	1
ダイヤモンド		1			1
体験	1		1	1	3
ダイヤモンドリング	10	59	1	4	74
太陽	12	6		6	24
互い			1		1
他国		1	2	1	4
たじたじ			1		1
度				1	1
デザイン			1		1
テレビ				1	1
東京都	1				1
違い	2				2
力				1	1
地球	2		4	3	9
地球温暖化				1	1
地球人				1	1
近く				1	1
地平線				1	1
中継	3	9	1	4	17
中心			1		1
直前		2			2
直後		1			1
通信	1	1	1		3
通訳	1		8		9
月	10	1		5	16
つながり	1				1
て			1		1
手			2		2
テレビ		2			2
天気	1				1
電波	1				1
天文学				1	1
当日				1	1
東京				1	1

動物	1				1
遠く			1		1
時	12	9	5	5	31
特技			1		1
ところ	2	5	2		9
友達			1		1
となり				1	1
な			1	1	2
中	1	1		2	4
長生き			1		1
生		4		4	8
生中継				1	1
生放送		1		1	2
なん			1		1
何			3		3
何回	2				2
何事			1		1
何人			1	1	2
何年				1	1
何分	1				1
2	1	2		1	4
20				1	1
26年		2		5	7
2012年				1	1
日食	50	30	1	46	127
日本	5		4	3	12
日本語			2		2
日本人			1		1
人間			2		2
年				2	2
の	3	6	5	6	20
場所	1			3	4
発信	1				1
発想			2		2
発達			1		1
発表	1				1
パソコン				1	1
話	1		2	1	4
パンフレット	1				1
光	4	2		1	7
びっくり	5	3	5	4	17
人	12	10	35	22	79
人々	2				2
日吉	1	3		4	8
秒	1			1	2
服装			1	1	2
部分日食		1		1	2
ブラジル				1	1
プロミネンス	1				1
文化	1		1	1	3
平和			1		1
変化				1	1
勉強	19		1	3	23
方		1			1
ほか	3	2	1	2	8
ぼく	3	1		3	7
ぼくたち			2		2
星	2	2	11	2	17
本			1	1	2
本物	1	1		1	3
毎日				2	2
まわり	6				6
昔				1	1
無理				1	1

	目		1			1
	元			1		1
	もの	2	2		4	8
	やつ	1			1	2
	指輪	1				1
	よう	1				1
	ようす	2	2		2	6
	4 6 年	1				1
	夜	2	2		5	9
	理想			1		1
	6					0
	6 : 3 9	2				2
	6 分間	1	1			2
	和			1		1
p 助詞	私	1	2	4	1	8
	小計	455	327	453	506	1741
	か	17	1	14	15	47
	が	74	80	76	65	295
	から	5	7	5	14	31
	くらい				1	1
	ぐらい	1			1	2
	けど	11	9	12	9	41
	けれど		2	7	4	13
	し	3	2	2	1	8
	しか	2	2	1		5
	じゃ				1	1
	だ				1	1
	だけ	3	1	2	5	11
	だって			1		1
	って	2	1	3	7	13
	て				1	1
	で	21	28	23	32	104
	でも	2	3	4	2	11
	と	60	29	87	84	260
	な	6	2	12	13	33
	なっ				2	2
	なあ	2	1	9	5	17
	ながら	1			1	2
	なくて				1	1
	なんか			1		1
	など	6	1	6	6	19
	なんか			1		1
	なんて	3	1		1	5
	に	35	35	20	33	123
	の	89	48	71	73	281
	のは	1				1
	のに	1				1
	は	37	23	34	45	139
	また				1	1
	まっ		1			1
	まで	3	3		1	7
	も	17	12	21	24	74
	や	14	3	4	4	25
	より		2	2		4
	を	39	30	35	53	157
s 接尾詞	小計	126	114	126	188	554
	あった				1	1
	ありがとうございました				5	5
	ある			1		1
	い		5		3	8
	以外	1				1
	いき			1	2	3
	いく		1		2	3
	いた	3	1	4	5	13

	いたら				1	1
	いって		1		1	2
	いて	3	3	2	1	9
	いる	11	1	21	6	39
	回		1		2	3
	方	3	1	2		6
	がって			1		1
	きた				1	1
	くる	1	1			2
	くれた	1		2	1	4
	くれて				1	1
	後		2		6	8
	さ			1	2	3
	さん			3		3
	し				1	1
	した	2	1	1	2	6
	して	3	1	6	5	15
	せて				1	1
	そう			1		1
	そうな			1		1
	た	2		3	3	8
	たい		3	4	19	26
	たかった	1	1		1	3
	たくて				1	1
	たち	13	4	10	12	39
	たり			2		2
	つ	1	3			4
	て		1			1
	的な		1		1	2
	度		1			1
	ない	4	2	12	3	21
	なかった	5	7	3	6	21
	なく	1	1		3	5
	なくて	2		3		5
	なった	2	1			3
	なったら	1				1
	なり		1			1
	なって	2	2		1	5
	なる	5			3	8
	なれば			1	1	2
	番	1	1			2
	ぶり	1				1
	ました	34	21	26	36	117
	ます	1	8		5	14
	ませ	1			1	2
	み	1		1	5	7
	みたら			1		1
	みて				1	1
	もらった	1				1
	もらって			1		1
	よう				1	1
	られ		1		2	3
	られた	1			1	2
	られたら				1	1
	られて			2		2
	られる				6	6
	る	1		7	1	9
	れ	4	6	1	5	16
	れた	5	24		5	34
	れたり	1				1
	れて	3	6	1	9	19
	れる	4		1	6	11
v 動詞	小計	220	178	258	299	955
	合い			1		1

合う	1				1
あえる	1		1		2
あった	1				1
会った			1		1
あったら			1	2	3
あったり		1	2		3
あって	1	1	1	3	6
あふれて	1				1
改めて	1		1	1	3
あり		1	1	1	3
ある	1	1	4	7	13
あれば					0
言いあったり		1			1
い				1	1
いい			1		1
いう	9		7	4	20
言える			1		1
いかして				1	1
行き			1		1
生きて				2	2
いた			1		1
いたり					0
行った	1				1
言ったり	1				1
言って			5	1	6
行って			1		1
いて	1		6		7
いる	1		5	1	7
写した	1				1
生まれて	1	4			5
応じて			1		1
起きる	2				2
起こる		1			1
おこって	1				1
おこった	1				1
おこなった				1	1
おこる	1			1	2
おさえる	1				1
驚き			1		1
教えて	2				2
覚え			1		1
覚えて		1			1
思い	8	8	16	21	53
思う		2	1	4	7
思った	2		13	12	27
思って	1	1	6	3	11
返って	1				1
書いた		1	3	2	6
書いて			1	1	2
かくさ	2				2
かくした				1	1
かくして	1			1	2
かくれたら	1				1
かくれる	1	1			2
欠けて		1			1
書けて			2		2
重なった		2			2
重なって	1	1		1	3
勝てて		1			1
借りて				1	1
かわしたり	1				1
考え	3	1	1	1	6
考えたり				1	1
考えて	1		7	2	10

考える			5	2	7
感じ	2		3	1	6
感じた	1		4		5
感じたり				1	1
感じて	1			1	2
変わら			1		1
変わる				2	2
感じる	1				1
がんばれば			1		1
気づいた			1		1
来て		1		1	2
配ら	1				1
限ら				1	1
欠け	1				1
重なる	3				3
重なって	1				1
感じ	1		2		3
聞けた	1				1
聞けたり		1			1
聞こえた			1		1
超えて			1		1
こわそう			1		1
さ			1	2	3
し	4	6	4	12	26
沈んだ				1	1
知った	2				2
した	5	3	7	2	17
したり	2	1	1	3	7
知って			1		1
して	6	2	12	6	26
しゃべったり			1		1
しゃべって			1		1
しゃべれ			2		2
しゃべれた		1			1
知ら	1	1		1	3
知り				1	1
知れた	1				1
知る	1				1
信じて		1			1
過ごせる			1		1
住む			2		2
住んで			1		1
ずれる	1				1
する	4		4		8
住んで	1		1		2
対して		1		1	2
楽しみ	1				1
たったら				1	1
違う	4		17	2	23
近づく		1			1
違った			2		2
違って	1	1	2	2	6
ついて	3				3
通じ	3		4		7
通じ合って			1		1
通して				1	1
通じて			1	2	3
使う			1		1
つくって	1			1	2
つくれた			1		1
伝え				1	1
伝える			1		1
つながって	3	1	4	1	9
つれて				1	1

でき	4		2	4	10
できた	5	6	4	7	22
できたら			1	1	2
できたり	1		1		2
できて	2		4	5	11
できる	3	1	5	3	12
出た		2			2
出て				1	1
出る	2	1			3
通して		1	2	2	5
なった	3	2	1	3	9
なって	2	3	2	4	11
なり	11	1		2	14
なる	5	3			8
なれた		1			1
似て			1	1	2
残って		4		1	5
残った		5	1	1	7
残り		9			9
始まった		1			1
始まって		1			1
話し			1		1
話し合ったり			1		1
話し合って				1	1
話して	1		7	1	9
話したり		1		1	2
話す			2		2
話せた		1			1
話せたら			1		1
話せたり			1	1	2
話せて			3		3
話せる	1		2		3
離れた			1		1
はみ出る	1				1
晴れたら		2			2
晴れて				1	1
光った		1			1
光って	3	2		1	6
光り	1				1
深め				3	3
振った			1		1
振ったら			1		1
ふれあい			1	1	2
ふれあう	1			1	2
ふれあえた				1	1
ふれあえて		1	2	2	5
ふれあった				1	1
負けた		1			1
待って		1			1
まとまり	1				1
学び	2		1		3
学べ	1				1
見	17	41	3	43	104
見え	2	1		1	4
見える	2			2	4
見えた		5			5
見えたり		1		1	2
見えて		2		1	3
見せ		1	1		2
見せて			2		2
見た	3	14		3	20
見たら	1				1
見たり	1	1	1		3
見て	8	7	1	57	73

	見る	2	2	1	6	11
	持ち				1	1
	持って				1	1
	持っていった	1				1
	もらえて				1	1
	もらった		1			1
	もらって			1		1
	やったら	1				1
	やって	3		1	3	7
	ゆう	2				2
	よって	2		2		4
	呼ぶ			1		1
	わいて				1	1
	わかった	8		1		9
	わから	1		5		6
x 助動詞	わかり	6		2	1	9
	小計	36	28	49	74	187
	ず				1	1
	そうです	1				1
	です	7	14	12	27	60
	の	4		2	7	13
	のだ	1				1
	ので	11	9	10	18	48
	のです	1				1
	のに	2	1	5	1	9
	ふうに				1	1
	みたいで			1		1
	みたいでした		1			1
	みたいに		1		1	2
	ような	1		1	3	5
	ように	1	1	1	4	7
	よさ			1		1
	わけじゃ			1		1
	わけで			1		1
	んだ	6		13	9	28
	んです		1	1	1	3
	ん	1			1	2

NOTES

¹ Ministry of Foreign Affairs of Japan website. “10th Global Youth Exchange Program”

<http://www.mofa.go.jp/policy/culture/people/youth/gye/sympo2003.html>

² 10th Global Youth Exchange Program, 2003. *World Peace in the 21st Century - Building Our Society through Synergy of Diversity - Final Proposal*. Ministry of Foreign Affairs of Japan.

³ Price, J. and others, 2003. *Get Global! A Skills-Based Approach to Active Global Citizenship*. ActionAid.

⁴ Ipso MORI. <http://www.ipsos-mori.com/>

⁵ Price, J. and others. *Get Global! 03*

⁶ cultural exchange. Dictionary.com. *Dictionary.com Unabridged*. Random House, Inc. http://dictionary.reference.com/browse/cultural_exchange (accessed: January 09, 2010).

⁷ Commissioner’s Advisory Group on International Culture Exchange, 2003. *About the Future and Promotion of International Cultural Exchange*. Agency of Cultural Affairs, Japan.

⁸ Ibid.

⁹ Aoki, K. and Kimura, M., 2008. *Telecollaboration 2.0: Using Facebook for Intercultural Exchange*.

¹⁰ Amemado, D., 2008. *New roles of Faculty, Students and Administrators for a Cultural Change in University Teaching in the Digital Era*.

¹¹ Anderson, P. “What is Web 2.0? Ideas, Technologies and Implication for Education”. JISC Technology and Standards Watch, February 2007. 32-36

¹² Tokyo Metropolitan Board of Education website (in Japanese). <http://www.kyoiku.metro.tokyo.jp/press/pr081009s.htm#gaiyo>

¹³ Ito, M. and others, 2008. *Living and Learning with New Media: Summary of Findings from the Digital Youth Project*. Cambridge, MA: MIT Press. 35

¹⁴ Ibid. 39

¹⁵ United Nations (UN) website. “International Migrant Stock: The 2008 Revision”. <http://esa.un.org/migration/index.asp?panel=1>

¹⁶ International Organization for Migration (IOM) website. “Fact and Figures”.
<http://www.iom.int/jahia/Jahia/about-migration/facts-and-figures/lang/en>

¹⁷ Ibid.

¹⁸ Immigration Bureau of Japan website (in Japanese). “Statistics”
<http://www.immi-moj.go.jp/toukei/index.html>

¹⁹ Brazilian Chamber of Commerce in Japan website (in Portuguese). “Educação para Todos” (Education for All). 2007.
http://www.ccbj.jp/index.php?option=com_content&task=view&id=1384&Itemid=42

²⁰ UNESCO, 2009. *First Collection of Good Practices – Education in Support of Intercultural Dialogue*. 25

²¹ School on Internet Asia (SOI Asia) project. <http://www.soi.asia/>

²² Illich, I., 1971. *Deschooling Society*, chapter six, “General Characteristics of New Formal Educational Institutions”

²³ Trucano, M., 2009. “How do you evaluate a plan like Ceibal?”, EduTech – A World Bank Blog on ICT use in Education.
<http://blogs.worldbank.org/edutech/evaluating-ceibal>

²⁴ Plan Ceibal. <http://www.ceibal.edu.uy/>

²⁵ Rótulo, M., 2009. “Ayer fue entregada la última laptop”, La Republica (online),
<http://www.larepublica.com.uy/politica/384391-ayer-fue-entregada-la-ultima-laptop>

²⁶ Magellan Plan, 2009. Interamerican Development Bank.
<http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2158259>

²⁷ Bendley, T. *Learning Beyond the Classroom* (London: Routledge, 1998), 1

²⁸ Ito, M. et al, 2008. “Geeking Out”. *Living and Learning with New Media*. 28-34

²⁹ UNESCO, 2009. *Second Collection of Good Practices – Education for Sustainable Development*. 13

³⁰ Ibid.

³¹ KDDI Foundation. <http://www.kddi-foundation.or.jp/>

³² Keio University. <http://www.keio.ac.jp/>

³³ NPO Canvas. <http://www.canvas.ws/>

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- ³⁴ Nipponica (in Italian). <http://www.nipponica.it/>
- ³⁵ Kamonohashi Project (in Japanese). <http://www.kamonohashi-project.net/>
- ³⁶ Projeto Bem-te-vi (in Portuguese).
<http://www.povosdomar.com.br/bemtevi/projeto.html>
- ³⁷ Skype. <http://www.skype.com/>
- ³⁸ International Year of Astronomy 2009 website (in Japanese).
<http://www.astronomy2009.jp/>
- ³⁹ Asian Interconnection Inniciatives Project – AI3. <http://www.ai3.net/>
- ⁴⁰ Naoi, T., 2009. “皆既日食関連イベント「Global Kids Eclipse 2009」の報告”,
Kyouiku Bijutsu n°808, Kyouiku Bijutsu Shinkoukai, 25-28
- ⁴¹ International Year of Astronomy 2009 website.
<http://www.astronomy2009.org/>
- ⁴² National Astronomical Observatory of Japan – NAOJ website (in Japanese),
<http://www.nao.ac.jp/>

BIBLIOGRAPHY

- 10th Global Youth Exchange Program, 2003. World Peace in the 21st Century - Building Our Society through Synergy of Diversity - Final Proposal. Ministry of Foreign Affairs of Japan.
- Amemado, D., 2008. New roles of Faculty, Students and Administrators for a Cultural Change in University Teaching in the Digital Era.
- Anderson, P. "What is Web 2.0? Ideas, Technologies and Implication for Education". JISC Technology and Standards Watch, February 2007. 32-36
- Aoki, K. and Kimura, M., 2008. Telecollaboration 2.0: Using Facebook for Intercultural Exchange.
- Bendley, T. Learning Beyond the Classroom (London: Routledge, 1998)
- Brazilian Chamber of Commerce in Japan website (in Portuguese). "Educação para Todos" (Education for All). 2007.
http://www.ccbj.jp/index.php?option=com_content&task=view&id=1384&Itemid=42
- Commissioner's Advisory Group on International Culture Exchange, 2003. About the Future and Promotion of International Cultural Exchange. Agency of Cultural Affairs, Japan.
- Dictionary.com. Dictionary.com Unabridged. Random House, Inc.
[http://dictionary.reference.com/browse/cultural exchange](http://dictionary.reference.com/browse/cultural%20exchange) (accessed: January 09, 2010).
- Illich, I., 1971. Deschooling Society, chapter six, "General Characteristics of New Formal Educational Institutions"
- International Organization for Migration (IOM) website. "Fact and Figures".
<http://www.iom.int/jahia/Jahia/about-migration/facts-and-figures/lang/en>
- Immigration Bureau of Japan website (in Japanese). "Statistics"
<http://www.immi-moj.go.jp/toukei/index.html>
- International Year of Astronomy 2009 website. <http://www.astronomy2009.org/>
- International Year of Astronomy 2009 website (in Japanese). <http://www.astronomy2009.jp/>
- Ito, M. and others, 2008. Living and Learning with New Media: Summary of Findings from the Digital Youth Project. Cambridge, MA: MIT Press.
- Ministry of Foreign Affairs of Japan website. "10th Global Youth Exchange Program"
<http://www.mofa.go.jp/policy/culture/people/youth/gye/sympo2003.html>
- Naoi, T., 2009. "皆既日食関連イベント「Global Kids Eclipse 2009」の報告", *Kyouiku Bijutsu* n°808, Kyouiku Bijutsu Shinkoukai, 25-28

National Astronomical Observatory of Japan – NAOJ website (in Japanese),
<http://www.nao.ac.jp/>

Price, J. and others, 2003. Get Global! A Skills-Based Approach to Active Global Citizenship.
ActionAid.

School on Internet Asia (SOI Asia) project. <http://www.soi.asia/>

Tokyo Metropolitan Board of Education website (in Japanese).
<http://www.kyoiku.metro.tokyo.jp/press/pr081009s.htm#gaiyo>

UNESCO, 2009. First Collection of Good Practices – Education in Support of Intercultural
Dialogue. 25

UNESCO, 2009. Second Collection of Good Practices – Education for Sustainable Development.
13

United Nations (UN) website. “International Migrant Stock: The 2008 Revision”.
<http://esa.un.org/migration/index.asp?panel=1>