USING OF TELECONFERENCE AS A MEDIUM TO ESTABLISH AN "E-GLOBAL-LEARNING-SYSTEM":
An Experience of 1000guru-Association on Facilitates Open and Distance Learning Activities With Schools in Indonesia

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ABSTRACT

Information communication and technology (ICT) has been used in various fields. The use of teleconference for teaching and learning activities is currently not a new topic in global world. In Indonesia, through IMHERE Program from Directorate of Higher Education, some universities have been connected with a network of teleconference as a medium of disseminate knowledge. However, when compare to university, the use of teleconference is not yet well-known in schools in Indonesia.

This paper aims at presenting the experiences on the use of Teleconference as a medium of teaching secondary school pupils new information on different subjects they discovered in international learning environment. This activity is carried out by Indonesian students who study abroad e.g. students who study in Germany, Japan, Canada, Australia and USA. This paper will also analyse the feedback from the beneficiaries of the teleconference program, to gather opinion about the prospect, challenges in the administration, organisation, and the pedagogy implication of the use of information communication and technology in schools in Indonesia. The author will also give suggestions or recommendations on the best strategies of improving the use of information technology in schools. This is important to further promote and establish the e-Global-learning-system in Indonesia.

Keywords: Teleconference, learning activities, open and distance learning, 1000guru.

INTRODUCTION

In Indonesia, like other developing countries in the ASEAN region, there are vast growing of information and technology in many sectors, including also within the education field. One positive contribution of the telecommunication development is to enable the educational sector to implement several strategies in conducting learning process such as applying by making use of teleconference to support open and distance learning process (Commonwealth of Learning 2004). It is no doubt that in the last few years the use of teleconferencing technology has advanced rapidly.

The use of teleconference, both audio-conference and videoconference, nowadays has become an alternative to deliver teaching and learning process. The reasons for using teleconference are based on several considerations, especially concerning the cost-effective, time and its coverage, access and the way of the learning interaction, such as possibility to arrange of the real-time interaction, immediacy, motivation, and collaborative learning (West 1999; Martin 2005; Bates 2005; Townes-Young & Ewing 2005; Laurillard 2002; Brown & Liedholm 2002; Guri-Rosenblit 1999; Rosen 1996).

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The videoconference, for instance, is able to connect various places - borderless, across the region and countries (Marotta 2006). According to Clark (1999) and Conventry (1994) there are some reasons of using video-conferencing in education. Those reasons are as follows:

> Videoconferencing is another tool, which can assist in delivering quality teaching and learning both in distance and conventional teaching form.
> Video conferencing provides more opportunity to implement of students responsibility for their learning activity, working in groups and doing tasks.
> It opens up possibilities for collaborative teaching and learning, to make best use of resources.
> It can provide "live" and "virtually" support for students at remote sites.
> It can give access to expertise not available within the institution.
> It can provide students from other institutions and in remote areas with access to specialist teaching and activities.
> It can provide students with opportunities to work with their peers from other institutions and countries. This supports group work, collaborative and international projects.

Based on the consideration of the advantages in terms of coverage area and costs, some Indonesian students who are studying abroad, such as in Germany, Japan and the Netherlands, initiated to use teleconference as a media to share what they have learned during their study to their fellow students in Indonesia. Other backgrounds that serve as basis to conduct the educational teleconference are:

> The motivation of some university students and professionals who studying and working abroad to help the development of education in Indonesia
> The distance now has not been a matter anymore to share knowledge from faraway places to their origin, Indonesia.

Those students have formed a non-profit voluntary association called 1000guru (1000teachers). This particular organisation consists of professionals, graduates and master program students in various countries. The 1000guru members are those who have vision, mission and commitment to support Indonesia, especially in broadening the knowledge and insight of students toward science and technology. The membership of this organisation is voluntary. At first, this teleconference activity was made to deliver the materials that able to motivate students in Indonesia to study more intensive and have the desire as well as eagerness to continue their study abroad. This motivation is given directly by the Indonesian students that are studying abroad in various universities. Through this activity, it is highly expecetd that the students' direct experiences may stimulate the students in Indonesia to study harder and to be able to continue their study abroad.As the result of teleconference activities, the schools in Indonesia have got positive benefits, so that finally they agree to explore more toward the content of teleconference materials and add more materials related to the school's curriculum such as chemistry, physics, computer, social study and applied science.The requests of our local schools, in this term schools in Indonesia, are positively responded by the Indonesia students (member of1000guru). They agreed to prepare various materials based on schools' requests. The teleconference materials which were designed and developed by the volunteer teachers (Indonesian students) are in accordance with their major specifications such as Textile technology, Computer logic, Microbiology, applied Chemistry, Deoxyribonucleic acid (DNA), Forestry etc.

OBJECTIVES OF 1000GURU

The students, who initiated and estabilished the 1000guru association have settled two main objectives of 1000guru. The first objective is to share the "dreams", vision to raise the learning spirit as well as to motivate students in Indonesia to pursuee it and another objective is to facilitate whoever who has interest to share their knowledge and professionals/ experiences with teachers and students in Indonesia.

Program of 1000guru
The 1000guru focuses its activity on five main programs, they are:

> - Conducting teleconference with schools in Indonesia.
> - Creating, producing and disseminating educational videos.
> - Publishing and distributing 1000guru educational magazine
> - Initiating, assisting and establishing sister school program.
> - Providing and facilitating communication and discussion forum among volunteers via social network media (e.g. mailing list, Facebook).

For the teleconference activities, there are some schools listed and involved in this program which vary from Senior High School, Vocational Senior High School, Islamic-based High School, Junior High School, Islamic-based Junior High School and Islamic Boarding School.

The first teleconference program was conducted in June 2009. On July 2012, three years after its first initiation, there are around 90 teleconference programs successfully conducted with some partner schools in Indonesia. The membership for 1000guru is open to public, informal and flexible. In general, the 1000guru association has three main components (see figure 1) and these are described as follow:
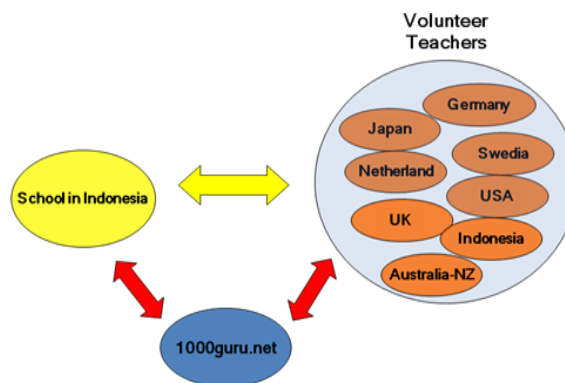

Figure: 1.
Component of the 1000guru assosiation

The first component is the schools in Indonesia. The second component is the association of administrators/facilitators, and the last component, is the voluntary teachers. The schools that become target of 1000guru program are the high schools (grade X-XII). However, now days, the association is accommodating the request of participation from junior high school (grade VII –IX) as well. As October 2011, there are more than 95 voluntary teachers have been dedicating their times and efforts on helping up on improving 1000guru program.

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These teachers are spread all over the world. Furthermore, the 1000guru administrators are voluntary teachers who dedicating themselves to help maintaining website, information, mailing list, 1000guru publication, etc. in addition to their primary voluntary tasks (Huda and Yanto The 2011).

THE WORKING MECHANISM OF 1000GURU

As a voluntary and non-profit organization which was fully initiated by the Indonesian students abroad, the working mechanism of 1000guru, such as in providing volunteers and volunteering teachers (Indonesian students), are arranged and conducted directly cross countries such as from Japan, USA, Australia and Germany. Meanwhile, the school participating mechanism (referring to schools that are participating in the teleconference program) undertaken by students who have completed their studies abroad and have returned to Indonesia.

Those students have responsibility to find schools, which are interested in teleconference program. Besides, they also make a direct contact or build networking with several schools that are interested in participating on the program being offered by 1000guru.

The mechanism of providing teaching and learning material is solely the Indonesian students' responsibility and each teleconference material will be openly offered through 1000guru's official websiteThe schools being interested in the materials are required to apply for the program based on their needs and requirements.

Furthermore, they will be asked to arrange the schedule of program.Intentionally, to make the learning materials for teleconference more interesting and flexible to deliver, most of the learning materials have been created in the form of educational videos that are designed and developed by the students themselves. These programs are based on their specific study. Some of the learning materials provided are as follows:

> - What is Textiles: Textiles, clothing and Textile Engineering?
> - Get to know about Computer Study.
> - Joyful Learning.
> - Waves in our daily Life.
> - Treatment of Drinking Water.
> - Wildlife conservation in Indonesia.
> - Deoxyribonucleic acid (DNA).
> - Integrated Circuit (IC)
> - Advertising.

In order to avoid the organization and working mechanism of 1000guru being overlapped with the task of teacher in the school, the agreements between member of 1000guru and teachers in Indonesia are established as follows:

> - Voluntary teacher (teacher of 1000guru) is not and never being to substitute the task of school teacher.
> - Material to be given is very varying and sometimes has not been adjusted with the school curriculum.
> - The main task of voluntary teacher is to share the knowledge and experiences in order to motivate the students through their real experience examples.

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Taking the principle of easy and free, the 1000guru make use this teleconference program as a learning process media. Simply, the teleconference activity will be explained in the following chart (see figure 2):
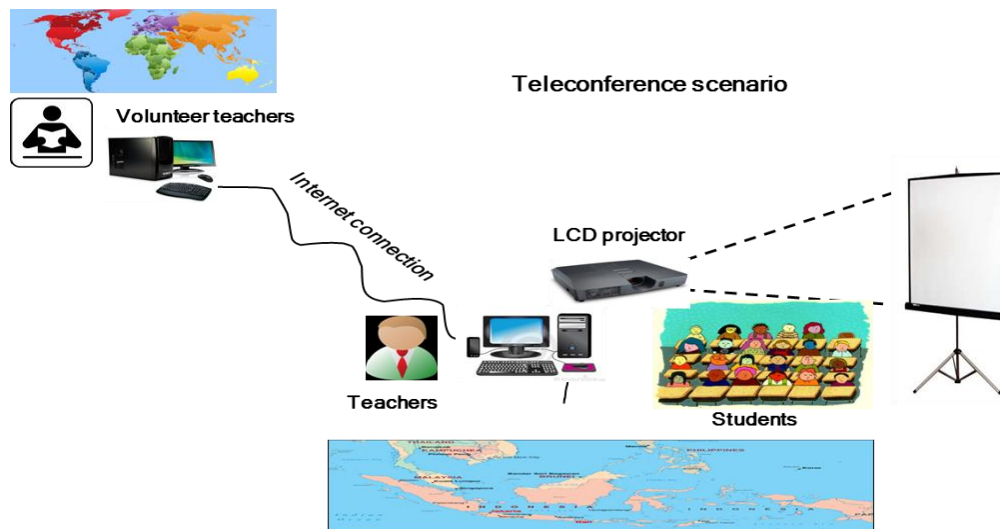

Figure: 2
Teleconference Scenario

Teleconference Scenario

To deliver a video conferencing requires special equipments. However, we can use computer based personal video conferencing. For conferences with a small number of participants, (e.g. two points/sites).

The equipment needed to conduct teleconference can be divided into two (see figure 3 and 4); they are hardware and software. The hardware for teleconference activity is as follow:

Figure: 3
Equipment of teleconference

The following softwares can be used to deliver the teleconfence:

Figure: 4
Open source software for teleconference

The teleconference technology provides some software, which can be used to deliver video/audio teleconference. Most of this software is free or open access software, such as Skype, Yahoo Messenger, MSN Messenger, Wiziq and Google talk, etc. The Teleconference, which conducted by 100guru mostly use Skype and Yahoo Messenger programs.

Principally, there are two alternatives to deliver the teleconferences by using Skype program, namely:

> ➢ Audio and video teleconferencing. This method involves only two sites (presenter/volunteer teacher and the school). Two sites here refers to the number of participant location, which linked by the conference, not to the number of people participating (Clark 1999).
> ➢ Audio teleconference. If the participant of the teleconference is more than two sites, then audio conference is the best way to deliver the teleconference. Audio conference can accommodate up to 25 sites at the same time (parallel) in a teleconference. Materials presented by presenter will be deliver by Teamviewer program. The advantage of Teamviewer program is that it allows the presenter to control the computer of participant of teleconference in other sites. This control can be done by activating remote support tool in team viewer program.

In order to use the remote support tool, presentation materials (e.g. PowerPoint file) should be sent to the school a day prior to the scheduled of the teleconference. The schools are supposed to save the presentation file in computerwhich will be used in teleconference.

During the teleconference activity this file can be controlled by presenter from their computer.

This remote support mode facility provides optimal results to the school, especially when there are no video clips or other multimedia content in the presentation file.

Based on our experiences the teleconferences can be delivered in two types:

- ➢ **Point to point (PtP). This type involved two sites onlythat directly linked presenter/volunteers teacher and school. Both teleconference modes (audio-video conference or audio conference) from Skype program can run the point to point teleconference and also to deliver the presentation run by TeamViewer program. To minimize the disruption caused by the instability of bandwidth internet connection, teleconference should be done using the audio mode only. During the presentation, the participant (teacher and student in the school) listen and view/watch the presentation by using TeamViewer program, which fully controlled by the presenter (volunteer teacher). Video streaming (Skype or Yahoo Messenger) will be used in the dialog sessions to answer and respond the questions from the audience, after the presentation finished. The broadcast interaction between presenter and students are supported through webcam of teleconference participants.**
- ➢ **Multi points/sites. This type refers to the number of teleconference participant, which involve three or more points/sites. The technical scenario for delivering the presentation basically is similar to point to point teleconference, but the mode of teleconference use audio mode only. The same software (TiemViewer) will be used also for this presentation using. Since the site of teleconference is more than there, the presenter also can control more than one of the participant's computers with remote support tool. We have been conducted some teleconferences, which involved three or more sites (locations). For instance, a teleconference between Dresden-Germany with two schools in Indonesia (SMU Muhammadiyah 2 Yogyakarta and SMK Bhina Bakti Juwana Pati, Central of Java) or a four sites teleconference, which involved two volunteers teachers in different countries (USA and Japan) and two schools in Indonesia (Madrasah Aliah Negeri Kediri, East Java and SMK Bhina Bakti Juwana Pati, Central of Java). Another teleconference is among Germany, Japan and SMK Bhina Bakti Juwana Pati, Central of Java, Madrasah Salafiyyah Syafi'iyah Khoiriyah Hashim Seblak Jombang, East Java Karawang (West Java).**

LEARNING ENVIRONMENT OF 1000GURU TELECONFERENCE

In general, there is no significant difference between the learning activities using teleconference and the conventional learning. The difference of both learning activities is only by medium used to deliver the learning material. The basic components of learning, namely the interaction of teachers and students, is keep on going as usual, although there is no direct contact between students and teachers in the same place, but with the help of media teleconference presenters can view and interact with the audience and also students can see the teacher. The learning process occurs in real time (synchronous learning) or learning process occurs at the same time.

As stated above, the material of **teleconferencing is not** to **replace subjects in school**, **but it could be used as additional topic/material, which are not included in the school curriculum or have been adjusted, in order to meet the school curriculum. Therefore, the designs of the teleconference subject/material are more flexible referring to the implementation or the setting of classroom for the teleconference activity. Schools were given the freedom to determine, whether the teleconference will be conducted in class or elsewhere. Some of the teleconferences were conducted in the classroom or in school's hall.After successfully conducted three teleconferences, the 1000guru's team has done an evaluation of student perception and response regarding to the teleconference.**

The perception and response regarding teleconference activity are important and interesting fact that must be knew, because there are few studies that analyze the effectiveness of videoconferencing from the student's perspective as an instructional delivery method (Dogget 2007). Some student responses present below:

"By attending this teleconference, I can get additional information about discovery, invention and innovation in physic subjects. This teleconference has given me a broad insight. I hope our school plans another teleconference and sure I will attend again" (Imawan, Grade X, SMK Bhina Bakti Juwana Pati)

"I strongly agree with this activity because we can get the lessons from the beyond. The way to deliver the teaching material was quite different and not monotonous. I think the subject presented is very useful in everyday life" (Jamil Abdul Rozak, Grade X, SMK Bhina Bakti Juwana Pati).

"I'm happy and proud of myself, because I have opportunity to attend a teleconference in our school. The teleconference motivates me to achieve my goal to get a best achievement in my school". (Eko Susilo, Grade X, SMK Bhina Bakti Juwana Pati).

From these student responses on their first encounters with this video conference technology, it can be concluded that the videoconference as an informative, interesting, exciting, excellent and special things for the student.

This evaluation result is quiet similar to research finding from Luck and Laurence (2005), who investigated Videoconferencing as a "tool" for sharing expertise in teaching and learning activity.

On the other side, the positive feedback and response described by one volunteer teacher in Hawaii, USA, (Mr. Hery Yanto), regarding to the benefit of 1000guru teleconference activity for students especially to encourage them to interact in the teleconference through asking question with using English. The following is an example of dialog during the teleconference between Hawaii and SMAN 1 Jambi, Sumatera:

Students: How can we change our society that is used to indiscipline with time?

Volunteer teacher: We cannot change the community/society at one time. Slowly, we can do that by starting from our self. Try to be discipline. Come on time, and start the meeting on time. In the US, we are not tolerating with coming late. If you think you cannot make it on time, you can reschedule the meeting. This is common. You should apologize when came late to a meeting and briefly in one sentence or two explain why you are late. Don't do it again and again.

Student: What are the differences between English pidgin with English?

Volunteer teacher: English pidgin is the way Hawaiian people speak or use English. It is kind of blend between Hawaiian language and English language. It is not accessible for people who don't understand about English pidgin. English pidgin is a type of daily communication language that only can be understood by a certain community of Hawaiian or a local people. In school, everybody have to speak the Standard English.

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Some experience of Indonesian Teacher about the Teleconference Program
Since its first launching in June 2009, there has been several teleconference programs conducted and there has been plenty schools acquired some benefits through the teleconference program. Following are some experiences expressed by teachers whose schools where they teach have been involved with the 1000Guru's Teleconference Program.

Fatia Nurilmi Magistra/XI IPA1 Moeha, Kediri, East Java stated the benefit of teleconference program, as follow:

"From several teleconference programs I have joined, the materials are very interesting. For instance is the subject of chemistry. Students are not given the formula or material they have seen or given in class to memorize, but instead they are given the fact that Chemistry can be really applied in real life. Of course the school has given and provided the laboratory work, material illustration and other supporting equipment— but those are not enough considering there are so many school subjects given and not provide enough opportunity for student to explore in the real life.. By joining the teleconference, students can learn how their school subjects might be applied in real life, it will raise the students' spirit to learn "more". They will learn "more seriously", to find out the real fact and to understand completely that the school subjects they have been learning at school will never be useless".

Harto, (Teacher from Vocational Senior High Bina Tunas Bhakti Juwana Pati, Central Java). The experiences we got in joining the teleconference program is reflected well after we receive the impression message of the participants (students) that have joined the program. Those are:

  ➤ The students feel a "new atmosphere" in conducting the learning process;
  ➤ The students have acquired new perspective about information technology and communication world;
  ➤ The students are able to convey additional material that has not included in the learning plan;
  ➤ The students are motivated through the experiences sharing by the source person.

Indeed, there are some implications appeared through this program such as:

  ➤ The learning schedule for the program must be adjusted with the schedule planned by 1000guru;
  ➤ There has been adjustment and arrangement in the learning activity related with the schedule adjustment itself;
  ➤ It requires the readiness and preparation regarding the infrastructure, facilities and human resources.

In its reality, those factors have been well managed so far, as long as the 100guru-Association is able to coordinate and condition it with all related parties" Rohmatunnazzilah (Teacher, Senior High School of Muha 2 Yogyakarta) expressed her experience in replying a question from a teacher from Riau; this young teacher doubts whether the teleconference will be well accepted or not, got negative response by the bureaucrat in the Government Educational Institution.

There is one thing to ensure me not to doubt this program; it is that it will give colorful perception towards my students' way of thinking. In order to have the program fixed and more splendid, I think, the schools, that have been enrolled in this program (especially the teachers that are actively enrolled), must make quick review on how the teleconference has become a part of supporting program of learning and educational process in Indonesia.

This will be very crucial element to conduct in order to keep the continuity and significance of the program in Learning Activity and not only become a template program and seen as an irrelevant program based on the Learning Activity.

The following questions can be used as a reference:

> On which part are the teleconference program counted and considered as a part on the Learning Activity?
> How can teachers/students acquire the benefit after joining the teleconference program?
> Will lecture activity through teleconference become a permanent program in the future so it will be able to realize the arranged plan?

As the in-charge person for this program in our school, to enable teachers in finding the essence and relationship of the program with Learning Activity's planned and implemented, I need to find the appropriate pattern and form between the teleconference and the learning pattern of each school subject. To see the various topics provided which still may be extended, I am very sure that each school subject will be able to make use this 1000guru facility as a supporting activity to enrich the Learning Activity.

The first question can be answered by putting the teleconference into every unstructured meeting and independence program. The teleconference program has an integrated learning pattern; this may be related to the working activity or daily life. Surely, these two elements are very relevant with the curriculum substances being developed nowadays. On the other hand, the fact that most teachers are still having difficulty to provide this integrated pattern is a reason to use the materials provided by 1000guru as a significant supporting materials. This statement can also answer the second question as well. As an additional point, students will have closer encounter with the real life, one of which is stated in the curriculum as a part of developing life skill competence. The third question in my opinion must be perceived by the fellow 1000guru friends, for this relates to the long-term program that is worthy of taken into consideration.

CHALLENGE OF 1000GURU

So far the main problems encountered in the implementation of teleconference is time and internet connection issue. Since the teleconference involve two or three different sites, the time differences to be one important issue. For example, the time differences between Indonesia and Germany or the USA or Japan.

As an illustration, for the teleconferencing, which involve volunteer teacher from Europe, for instance from Germany, we arrange and schedule the teleconference at 14.00 local time (Indonesian time) or 07.00 CET (time difference +6 GMT). Most of teleconference activities are conducted after the completion of learning activities at school. It is also easier for the presenter at Europa to arrange their time, and the teleconference can be commenced at 7 a.m. CET.

The quality of internet connection becomes important issue of delivering the teleconference, in this context the internet connection in the school in Indonesia. It is realized, that this technical problem cannot be avoid and considered as the most difficult factor to control. In general, in order to make better preparation, a day prior to the teleconference schedule, we usually make an "a teleconference trial". We use this strategy to make sure as well as to examine the connection between the presenter and the school.

Specifically, the major obstacles in conducting the teleconference program are as follow:

> There are some schools that have not been able to provide or do not have internet connection.
> The existing internet connection does not support the program (the signal and other element related with the internet are not good enough and need to be improved)
> Arrange the teleconference schedule, due to time and location difference between the schools and voluntary teachers.

The teleconference program may open the opportunity for the following activities:

> Conducting Workshop, Seminar or Symposium;
> Training program for teacher and head teacher;
> As an orientation for new students and also to provide the alumni an opportunity for an annual meeting or annual conference.

Beside the teleconference program, 1000guru is also attempting to establish the program of Sister School.

This program tries to build networking between schools in Indonesia and schools in other counties, i.e. schools in Germany, USA, Japan, Netherland and Australia, etc.

Other challenges being faced is regarding to the need of Volunteer, such as:

> Voluntary teachers for all subjects/field
> Webmaster, who responsible to maintain, update and develop the website
> Fostering and establishing for the pilot model school
> Production of educational video
> Video Editor team

CONCLUDING REMARKS

The experience of 1000guru-Association on facilitates open and distance learning activities with some schools in Indonesia has proven a point that:

> The internet technology can be used for the open and distance learning activity by schools in Indonesia
> The schools being involved in the teleconference program have got some the positive benefits of using this teleconference program in their learning activity.
> The school's involvement is expected in order to support the improvement of learning process through the teleconference program.

Finally, some important recommendations need to be considered in order to establish an e-Global-learning-system through the using of teleconference. For instance: the need to extend the 1000guru program to a broaden area (wider coverage area) and in the future, the teleconference activity may involve more schools outside of Java, considering that currently the partner schools for this program mostly located in Java island only.

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