Humanistic Aspects of Learning opportunity for CALLL
---Language Learning Strategies and Aspect of Multiple Intelligence---[1]

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Abstract

This paper illustrates an idea of language learning strategies combined with CALLL (Computer Assisted Language Learning Laboratory) for the activation of all the aspects of intelligence. CALLL proposes different cognitive styles and changes language classroom situation dramatically. It will carry out both production-oriented approaches and process-oriented approaches. CALLL provides what CALL (Computer Assisted Language Learning) has not been able to, that is, HUMANISTIC ASPECTS OF LEARNING OPPORTUNITY. Finally, this paper introduces an on-going preparation for the Media Mix Education System (MMES) at Tokyo Kogei University (Tokyo Institute of Polytechnics).

I. Introduction

The use of computers in academic fields has become widespread recently. Undergraduate programs offers computer courses in many colleges. This situation is influencing language classes. CALL (Computer Assisted Language Learning) and CALLL (Computer Assisted Language Learning Laboratory) are of the recent environment in ESL (English as a Second Language) classes. MMES (Media Mix Education System), which we are proposing, is similar to CALLL but is comprised of more components; computers, networks, AV system and LL system.

Many researchers have reported the merits of CALL. In CALL classes, teachers offer various task according to each student's level in one class at the same time. Students study language by themselves effectively and concentrate on their task better than the regular classes. They enjoy learning language. In addition, they are motivated to learn and this learning leads to their language success. Ahmad (1985) describes the potential of CALL as it effects the approaches to different cognitive styles of learners:

> Since psycholinguistic evidence about the way or ways in which human beings learn language is not yet far advanced, we can probably do no better at this stage than to offer leaners a range of activities suited to different cognitive styles. CALL is capable of covering the whole range from expository teaching to discovery learning.

However, on the standpoint of the concept that language is a behavior, CALL does not give us entire satisfaction. So far, computers in CALL rooms are usually stand-alone types and they isolate students and focus their

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attention on their own monitor. CALL works quite well for writing, grammar classes, and to some extent for reading and listening class, however, it does not support speaking or conversation classes. It is challenging to conduct cooperative learning and many researchers have approved its outcome. Sometimes, tasks may centralize a small part of language, such as articles, preposition etc. It is a language class with lack of interaction with classmates or even with teachers and is far from the practical use.

In this paper, we will demonstrate that MMES will be a new style of physical setting for language learning. MMES brings more authentic communication into the classroom by its humanistic aspects.

II. Aspects of Intelligences and Learning Strategies

Gardner (1983) proposed the idea of Multiple Intelligences. He presented seven different intelligences; musical, spatial, bodily kinesthetic, interpersonal, intrapersonal, logical mathematical, linguistic. He also argued that the intelligences tend to be defined socially and culturally according to the needs of the community. Social needs might affect the ultimate goals and the ways of learning a foreign language. The idea of teaching "learning strategies" may fit the idea of Multiple Intelligences. It is possible that teaching "learning strategies" will give more opportunity to get information in many modes using various aspects of intelligence.

Richard (1990), O'Malley (1990) and Oxford (1990) provide the images of learning strategies such as being "special ways of processing information that enhance comprehension, learning, or retention of information (O'Malley 1990)." Oxford (1990) concludes that it is useful to expand this definition by saying that learning strategies are "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations."

In this paper, the idea of language learning strategies is combined with MMES in order to activate all aspects of intelligences by integrated pieces of the mixed media. Our basic assumption is that the aspects of intelligences will be activated more in MMES classes compared to the usual classroom or simple CALL room. As it is still unknown which part or parts of the intelligences should be stimulated by which approaches of teaching to be most effective, MMES will provide the chances where learners can experience many kinds or styles of information or messages. Thus teachers can provide more appropriate kinds or styles of stimulus according to the students" responses.

III. MMES

1. Principles of MMES

The project team of MMES at Tokyo Kogei University (Atsugi, Japan) always considers the following two perspectives for their on-going planning; 1) language is a behavior and 2) indirect learning strategies including cooperative language learning should be emphasized. Recent discourse-based second language acquisition theory emphasizes the process of communicative interaction in language learning. From the interactional point of view, it is assumed that group work is more effective in language class than individual work. So language is a social phenomenon. Computers for ESL must be used to promote interaction that is beneficial for integrating language, cognitive and social development. We also observe in our school that students are more likely to tutor one another in groups for listening tasks. They give their ideas and guesses cooperating with others in listening activities. In

particular, they enjoy speaking with other students over LL system who do not speak each other very much in face to face communication while lowering their anxiety.

Among the multiple intelligences, linguistic and logical mathematical intelligences can be regarded as a tool for direct language learning. On the other hand, the other five may be related with indirect language learning strategies. Based on the idea of Multiple Intelligences, linguistic intelligence is only a part of intelligences and it functions with other six components of intelligence. Logical mathematical intelligences can be said to be directly related with the linguistic intelligence, whereas the other five intelligences can be coordinated with indirect strategies of learning.

Direct strategies directly involve the target language. All direct strategies require mental processing of the language and work with the language itself in a variety of specific tasks and situations. Indirect strategies work in tandem with the direct strategies. They support and manage language learning. This class is made up of metacognitive strategies for coordinating the learning process, affective strategies for regulating emotions, and social strategies for learning with others.

It cannot be said that students in Japan have been adequately prepared for language learning before they come to colleges. They have spent many hours to study English. However, it does not generate their language success in the real life. They were in a competitive situation before they entered college. Their motivation of language learning is mainly to pass university entrance examination. As a result, they were always individual learners and they are always defensive in the class.

It can be said that their failure in language acquisition is due to lack of stimulus or pleasure because of the individual learning and analytical learning of language. In addition to these, language classes in Japanese colleges are usually large (generally more than 30 students, sometimes more than 70) though a lot of research suggests less than 20 is adequate. In order to overcome these problems, we must explore some new teaching situations because we cannot make the class size smaller owing to the school administration. Considering these problems, MMES will be a better education system than the usual classroom with one teacher and too many students.

The computer system used in MMES provides the interlocutors shared information which can be revised or developed by both participants. The interlocutors can communicate with each other through different modes. This cooperative work will develop the use of social strategies by the students. The use of MMES and the experience of cooperative group work will highly motivate students to write a paper in English. MMES will provide visual, audio, graphic and humanistic information whenever the students need them. The media itself can be chosen by the students. If the students devote themselves to the individual task of writing, they can see only his or her writing on the screen, and once they finish their individual work, they can share the information and discuss it. The authenticity of the use of computer in cooperative group work will also motivate them.

2. Groupware[2]

For cooperative learning in CALLL rooms, we would like to put forth that Groupware system should be introduced. Groupware is a special computer system that assists cooperative team work with more than two people (Matsushita 1993). Computers have been supporting the personal information processing for the past forty years, and now it is the time that computers support cooperative works. This system has two aspects, each of which is at opposite poles; the humanity aspect and the technology aspect. If it will succeed, audio-visual, linguistic, and humanistic information such as nonverbal cues will be freely exchanged among participants in the remote areas, and the information will be processed sometimes individually and sometimes among the group. MMES will be a bridge

between the present situation and the future styles of the groupware. As was explained in the prior section, working in groups brings a lot of merits to the students. One of the major ones is that all the students with a wide variety of English skills can work together. More advanced students can focus on the production of comprehensible output and less advanced students have more opportunity to receive modified and comprehensible input. The students will learn to learn from other people effectively.

3. Tokyo Kogei University MMES Project

Our Media Mix Education System (MMES) is an integrated system that consists of Computers and Net-working that assist Groupware and Audio-Visual Equipment (LD, Video, CD, OHP) and LL (Language laboratory) system. MMES enables learners to be exposed to many styles of information sometimes separately and other times in combination as they wish. We can make use of all of the equipment during class or we can select one of the components or some of them according to the activities. Aspects of cooperative learning should be employed in terms of both hardware (physical setting) and software (networking). The group decision process is complex in the interaction because it is not always logical and often includes emotion or facial expressions that can only be observable in the face-to-face communication.

The following is a summary of the system:

1) The system has three independent networks of Computers, AV equipment and LL. The AV system is separated from computer system, so the students see the video monitor or listen to the sound materials without stopping the computer task. The LL system is also separated from the AV equipment. Students can use both the LL and computer at the same time. For example, dictation can be done with word processing function.

2) One terminal is allocated to one student for stand-alone use for individual work or the group-unit work. One extra monitor is shared by two students sitting side-by-side. It is for inter-group networking. Moreover, we will set one large screen in front of the classroom.

3) There are both intergroup networking and intra-group networking. So far computers have been supporting only one person. Therefore a student must print out their writing, stand up and go to his or her friend and ask for advice. In contrast, MMES made it possible to share such humanistic information available without having to print or physically move.

As for intergroup networking, the teacher controls the whole networking. The text file can be transferred both ways from instructor to the students or vice versa. Instructors can monitor what is on the monitor of each student, or of each group. Students can exchange their data or text through the teacher control unit.

As for intra-group networking, we divide students into groups of 12 people for group discussion through micro-phones. The smallest unit is the group of 4 people. Each student sits at his or her own terminal and use their own key board. They can switch the terminals from stand-alone mode to booth-net-working mode. When they switch to the net-working mode, they can enter the text from their own key-board, so they can solve the problem, or write paragraph with their group members. This is more effective to avoid assigning the role of typing, proofing to a particular student compared to sitting together at one terminal. What should be noted as the special feature of the functions is that on information is shared on the screen by every member of the group and the information is processed by an participating computer for groupwork. In this system, any student in the group can enter corrections into the groups' shared text.

4) Two students seated side-by-side share one extra monitor that is built-in-the desk. The extra monitor shows the text from the instructor or a text from the group in another part of the room. When the teacher finds a good writing sample from one group and wants to show it to others, s/he can use the net-working and the extra monitor. For the sake of the extra monitor, the text on the students' monitor does not disappear, so that the students can continue his/her own work. It is also possible that the teacher selects one or some slow learners and shows them some hints or gives advice on the extra monitor only to them. Teacher can show a sample text of advanced group to a slower group. In this system, slower groups will see both groups' writing samples (their own sample and a sample of advanced group) because they will appear on each monitor at the same time.

5) Booths can be arranged for various styles of lessons; lectures, discussions, activities, seminars, and workshops. Our system will consist of V-shaped students booths. 4 people sit at one V-shaped booth. Each booth pivots on its apex (Fig. 1). This make it possible that various participation structure such as group size and structure of interactions is to be composed. Especially, setting in the "face-to-face" creates many additional possibilities. For example, non-verbal information is available. MMES in the face to face position even supplies the information how the interlocutor feels about helping the other person. Thus groupware of the MMES is supported by physical setting of students desks as well as networking system.

IV. MMES, Aspects of Intelligences and Learning strategies

Let us discuss the relations among MMES, language learning strategies and the aspects of intelligences. MMES has four functions, which are computers, networking, the audio-visual system, and LL. These functions provide information in the styles which will promote the use of both direct learning strategies (memory strategies, cognitive strategies, compensation strategies) and indirect strategies (metacognitive strategies, affective strategies, and social strategies).

Theoretically, meaningful communication with comprehensible input and output promote language acquisition and MMES provides a lot of opportunities for meaningful communication. Figure 2 shows how MMES will stimulate each aspect of intelligences in an authentic manner how information is processed. Many styles of information are available through the system, and so are the aspects of intelligences that will receive these integrated pieces of information. In the process of achieving a task goal with MMES, students can get audio or musical, three dimensional. paralinguistic, affective, graphic and linguistic information separately or in combination. These sets of information might be processed by certain areas of intelligences.

The use of the computer itself provides a lot more opportunity for getting comprehensible input and output. Musical information, paralinguistic information, affective information, thinking tools, graphic information will be available in receiving and sending messages. In addition to linguistic information; sound, figures and table illustrations compensate linguistic information. MMES thus provides this integrated information which might facilitate language acquisition/learning by affecting many aspects of intelligences. By applying images and sounds to the given information, stronger mental linkages will be made possible. The sound and the visual information will give the concrete image or more abstract, haveing to do with the functions of the parts of the brain.

Figure 3 shows relations between facilities, learning strategies and Computer systems used in

combination with the LL system making cooperative work on computers possible. By arranging the sequence of information and grouping the new information through the group discussion, more effective association of new information to memory that mere rote memorization will be expected for memory strategies and cognitive strategies. As for the compensation, visual information will compensate linguistic information both for input and output. As for affective strategies, the use of audio-visual information will reward the students' efforts and make them relaxed. By setting the booths in the face to face position, group learning becomes more natural, the students can lower their affective filter, and they can motivate each other, which will promote communication among participants. Non-verbal messages are available in the face-to face position. Students can learn from students whose English is better than themselves in group learning and with non-verbal messages more than with a written message on the monitor from the others through network. They can experience the future form of communication in the classroom setting. As for the social strategies, we can exchange the information on the progress of the individual work, sharing their problems which occur during the process, compensating for the lacking information which will occur naturally. Especially lower level students will be able to participate in the team work tasks and have a lot of opportunity to learn from other students.

V. A sample teaching method with MMES

The explanation of the way learning strategies will be used by MMES by taking the example of a writing activity will clearly show the mechanisms. Richards (1990) comparing the nature of written language and spoken language, suggested the importance of a writer's providing his or her own context, expressing meaning explicitly. He says that whereas spoken language is primarily listener oriented and is used to promote social interaction, written language is primarily transactional or message oriented (Brown and Yule 1983). The goal of written language is to convey information accurately, effectively, and appropriately. To do this, written language has to be more explicit than spoken discourse (Richard 1990)".

In the idea of process oriented approaches, writing is regarded as a form of problem solving which involves such processes as generating ideas, discovering a 'voice' with which to write, planning, goal-setting, monitoring and evaluating what is going to be written as well as what has been written, and searching for language with which to express exact meanings (White and Ardent 1983). The writing process consists of six reoccurring stages: 1) generating ideas, 2) focusing 3) structuring 4) drafting 5) evaluating and 6) reviewing.

In generating ideas' stage, group discussion is efficient. When we discuss what to write about and how to write, we usually use blackboards to take notes of the ideas given by the participants. By using computers, 'spidergrams' can be easily made as the discussion goes on and which will promote the discussion[3]. In the focusing stage, students try to identify their main ideas, and decide what to focus upon in the shared information on their monitors. In the structuring stage, pieces of information are put in order to be made effective. Any students who have his or her idea can arrange the items as he or she wishes and then another student can change the order. During the process, each student can also preserve what he or she wrote on their monitor. This allows the students to compare their own ideas with those of the group. In the Drafting stage, when working alone, intrapersonal communication occurs frequently. This intrapersonal monitoring, however, is limited within the knowledge to the individual. In the drafting stage and reviewing stage which occurs frequently during the writing process, grammatical, sociolinguistics and discourse knowledge are fully activated to monitor what he or she has just written. When students are working together in groups, they can supplement this knowledge by social

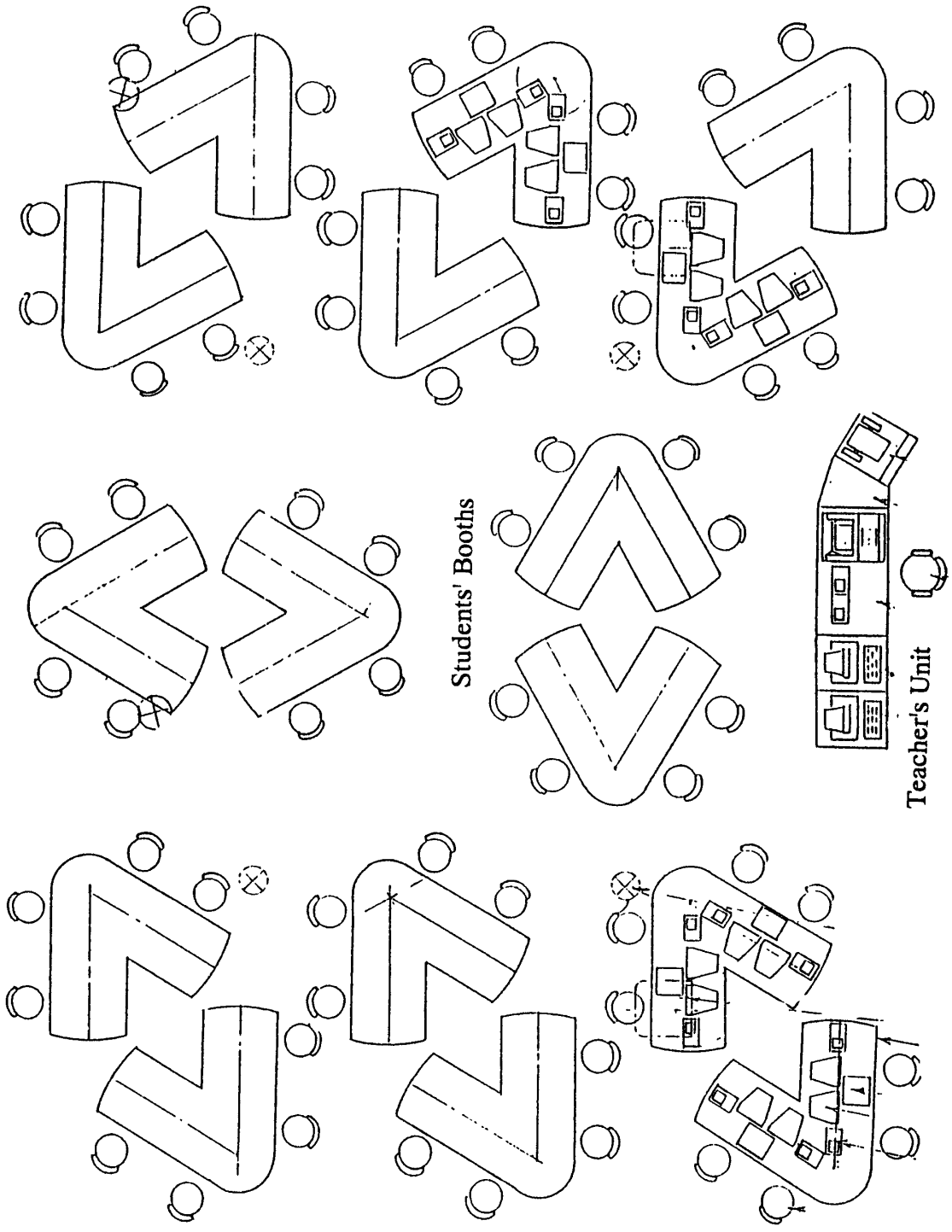

Figure 1.

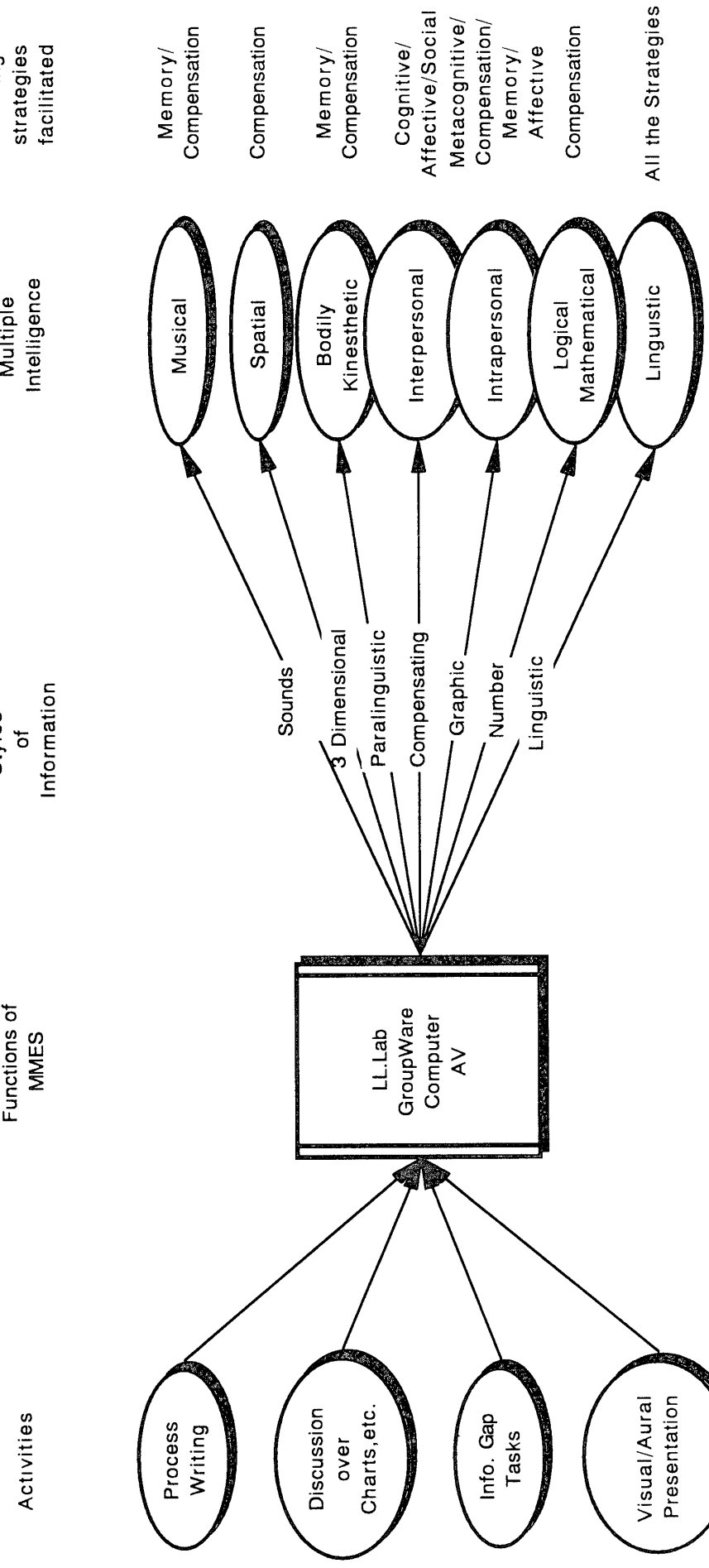

Figure 2. MMES and Aspects of Intelligences
(Gardner, 1983 applied to MMES)

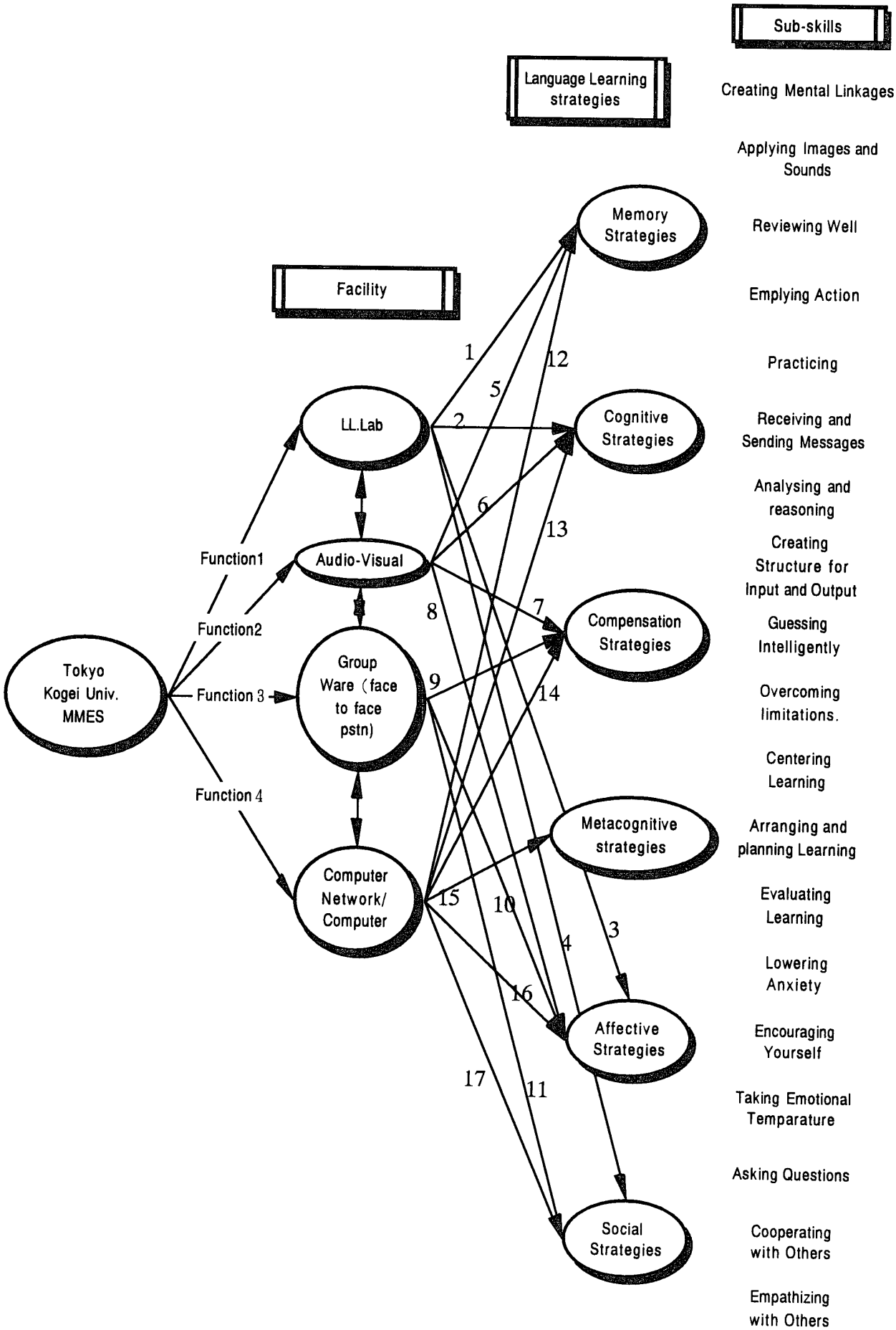

Figure 3. MMES , Learning Strategies and Computer Systems
(Oxford,1990)

strategies with each other, and they will learn how to make their writing reader-oriented. Computers also provide assistance by supplementing the limited vocabulary of the initial learner. The computer can also be used as a memory device. It can store thousands of words and associated meanings, as well it can be used as a clerical aid for presenting data in numerous ways which increase the efficiency of memorization. Information stored or exchanged among students can be used as information resources. Grammar checkers and spell checkers can help students to identify the frequent errors. As for the use of computers as information resources, dictionaries are now being made available for the student to use interactively, and only by typing a word, they can get meanings from the computer.

In the evaluating stage, the draft is being checked. The students learned to be critical about what they write in light of the knowledge used in the drafting stage. The reviewing stage occurs frequently during the process as stated before. The nature of written language generate the necessity of "reviewing" in the writing process. In the reviewing process,, the writer talks to him or herself if what s/he has written conveys what s/he wants effectively, by the use of intrapersonal intelligences.

With MMES, however, these processes can be experienced as groupwork tasks. If the reviewing process is done by several students through activating interpersonal intelligence of the Gardner's model of intelligences, they can become more objective and reader oriented. If the structuring process is done with other students, the original writer will focus more on the reader-oriented discourse than when the writing was done alone. This process is sometimes omitted in the paper-pencil writing assignment. In the cooperative teamwork for writing with MMES, the learners can discuss with each other the diagrams, or the spidergram to be reader-oriented. The discussions about the over all plans for writing a paper, and those that occur in the reviewing process or the discussion about the placing of figures and tables in an effective manner, not only facilitate meaningful communication but is also authentic in that the situation and the process are similar to the groupware the students will experience in this future type of the office. In writing an academic paper, for example, styles and discourse of academic papers can be a topic for the discussion. The students can share a format and discuss while practicing where to put each paragraphs, etc.

VI. Conclusion

What we have been talking about is just a beginning scratch of our future CALL experience. This prospect is still in the test tube in an ideal classroom situation. We would like to report how the Groupware will work and the media mix education system works, or what types of problems we will face. These topics will be available as soon as possible.

Notes

1) This paper is based on our presentation 'Groupware for the Media Mix Education System' at JALT 6th Annual May Conference (May 29, 1994, Tokyo) and at 94 Korea TESOL Conference (October 15, 1994).

2) This aspect has a;ready been called Computer supported cooperative work, Technological Support for Collaboration or Collaborative Computing.

3) With a software called "Inspiration", spidergrams (brain storming) can be written easily and quickly

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