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Examining a mailing list in an elementary Japanese language class

MAYUMI HOSHI
Department of Germanic Slavic East Asian Studies, University of Calgary, 2500 University Drive, NW, Calgary, Alberta, T2N 1N4, Canada
(*Email: mhoshi@ucalgary.ca*)

Abstract

This study examines the possible effects of a mailing list discussion on second/foreign language learning in the form of an explorative case study. Forty-six students in an elementary-level Japanese language class at a Canadian university participated. The study consists of three parts: interaction analysis, content analysis, and a student survey. The first two parts referenced the entire mailing list discussion archive. The number of the messages totaled 298. In order to analyze learner interaction, a map of interaction was designed and Levin, Kim and Riel's (1990) Intermessage Reference Analysis (IRA) was applied. Content analysis was then carried out on the topics, context-type, and depth of learning process involved in each message. Lastly, a survey was distributed in order to discern participants' perceptions towards the use of a mailing list for language learning. The results of the interaction and content analysis show how a mailing list discussion can provide a place to reflect on course content, enabling students to increase their linguistic knowledge through an exchange of ideas, thoughts, and opinions via student-centered interactions. The result of the participant survey shows that although the students' participation in and perceptions towards the mailing discussion is not uniform, 35% of the students perceived the value of a mailing list discussion to be high. Through the examination of three different methods of analysis, the study concludes that there is a good potential for the use of mailing list discussions in second/foreign language learning. However, further research is necessary to determine which factors contribute to the successful use of this medium.

1 Introduction

Former research in Computer Mediated Communication (CMC) reveals how CMC promotes autonomy (Marsh, 1997) and equal participation among students (Warschauer, Turbee & Roberts, 1996), resulting in discussions that are student-centered as opposed to instructor-centered as is seen in traditional classroom settings (Selfe, 1990). One CMC tool is the use of a mailing list discussion group, a tool that allows people to exchange information and share experiences in a text-based asynchronous environment. In contrast to other CMC tools such as video conferencing and text-based synchronous conferencing, mailing lists are relatively easy to set up and use in terms of the technology. For this reason, mailing list discussions have today become a reality in a variety of

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educational areas. Although recent study of CMC has shed light on the educational value of this new learning tool, the use of mailing list discussions for learning purposes has not been well researched, especially in the area of foreign language teaching and learning.

The central question of the study was, "Can the use of a course-oriented mailing list discussion enhance the learning of a foreign language for elementary-level learners, and if so, how?" In order to answer this question, this study aimed to obtain a thorough understanding of a course-oriented mailing list discussion in students' L1 (first language, in this case, English) in a Japanese as a foreign language setting through the use of three different methods: interaction analysis, content analysis, and a student survey.

1.1 What is a mailing list?

A mailing list is a text-based, one-to-many, asynchronous communication tool used to interact with others through the use of e-mail messages. A mailing list consists of the e-mail addresses of 'subscribers' to a particular mailing list discussion forum. With the aid of software programs and mailing list service sites available on the internet, messages sent to a specific mailing list address are delivered to every subscriber on the list. The use of a mailing list allows groups of people to discuss issues, share information or ask questions related to a common topic in a way that is different from a traditional face-to-face discussion.

2 Literature review

2.1 CMC analysis

Various methods of CMC data analysis were found in the literature that provided a deeper understanding of the group or community involved in the message exchanges. Within the literature, two different focuses were found: participants' interactions with one another and discourse content.

2.1.1 Interaction analysis

The main purpose in investigating message interaction is to examine whether CMC fosters interaction that increases collaborative learning. Henri (1992: 128) advocates analysis of interactivity because "(it) can lead to an evaluation of the levels of collaboration at work among learners". The absence of interactivity in the CMC learning situation should not be simply regarded as failure. However, the more interactive and the more collaborative the interaction becomes, the more chances there are that one's knowledge will become greater than it was (Henri, 1992).

One of the CMC interaction analysis methods found in the literature is Intermessage Reference Analysis (IRA) which was introduced by Levin, Kim and Riel (1990). By a coder determining whether reference is made to a previous message or not, IRA can answer questions such as: Who interacted with (referenced) whom? How many times was a particular message referenced? Is there a tendency for a particular person's messages to be referenced more often? The same authors also devised a technique of using a

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map to represent the interaction of messages among participants. This map of interaction and IRA were employed in this study to describe how the learners interact on the mailing list.

2.1.2 Content analysis

As Maison (1991) pointed out, most research on CMC archives stops with quantitative analysis based on the number of messages sent, and by whom, or on frequency of logons and so forth. However, this usually provides no evidence that the members actually had a learning experience. In the same vein, Gunawardena and Anderson (1997: 398) argued that "in the past…assessment or evaluation of CMC was based on participation analysis (participation patterns and participation satisfaction.)...However, they do not yield information on the construction of knowledge or the quality of learning experience".

Recently, research has focused on the content of the messages in order to investigate the students' learning experiences expressed in the message exchange. Edwards and Shaffer (1999) examined the message content of an upper-level university computer science course and categorized it into two areas: context and topics. The context area captures which form of activity spurred the participants to write the messages and the topic area captures more specifically the kind of information sought or provided in the message. In Edwards and Shaffer's study, the categories in the context area were homework, exams, and so forth. Those in the topic area were design, debugging, tools, and so forth. This analysis allows the researcher to find out what context and what topics inspire the participants to write messages and participate in that particular CMC discussion.

Another focus of content analysis is on learning process since, with the self-transcribed feature of CMC, one can now read the learner's experience and focus on the process of learning rather than on its product (Henri, 1992). In the process of learning, two different approaches emerged in the literature: surface and deep. The literature initially used these terms to suggest different attitudes toward reading the text but later the idea was expanded to the learning process itself (Marton & Säljö, 1984; Entwistle & Waterson, 1988). The surface approach is "orientation towards memorization, seeing learning as a more or less passive transmission of what is on the paper into the head of the learner" (Marton & Säljö, 1984: 54). The deep approach "refers to the realization of the fact that the studies one is engaged in deal with some aspect of the real world…and thus by studying, one is trying to improve one's understanding of it" (Marton & Säljö, 1984: 54).

Henri (1992: 131) adapted this deep/surface concept to create her analytical model of processing information in CMC. Her model presents the criteria for distinguishing between deep and surface processing when different cognitive skills are at work such as elementary clarification, inference, judgment, and strategies. For example, in the case of judgment, the indicator of surface processing is "making judgments without offering justification" and that of deep processing is "setting out the advantages and disadvantages of a situation or solution." When the cognitive skill of inference is at work, the indicator for surface processing is "proposing solutions without offering explanations", whereas with deep processing, the person "proposes one or more solutions with short-, medium-, or long-term justification".

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As Henri (1992) pointed out, these indicators are on opposite ends of a continuum. Therefore, it is problematic to use her model when coding the students' statements in CMC which fall somewhere between these extremes. Newman, Webb and Cochrane (1995) developed paired indicators by resorting to Henri's analytical models. In contrast to Henri's indicators, which were drawn from cognitive theory, their indicators were developed based on observations of students' common behaviors, resulting in their indicators being more concrete and detailed. For example, where Henri's indicator involves "linking facts, ideas, and motions in order to interpret, infer, propose and judge" (Henri, 1992: 131), Newman *et al*. offer several indicators such as "drawing on personal experience", "referring to course material", "using relevant outside material", "using previous knowledge", and so forth. Additionally, each indicator was assigned either + (plus) for a deep process or – (minus) for a surface process. Newman *et al*. suggest the use of these behavioral indicators to assist in coding students' statements on CMC.

2.2 Mailing lists and education

Several descriptive research articles can be found on the use of mailing lists for educational purposes, although little can be identified within the second or foreign language learning literature. Some studies focus on the usefulness of mailing lists for educators (Burns & Meehan, 1996; Wild, 1999) while others focus on the value they hold for students.

Research on the latter has identified three ways of utilizing mailing lists for students: learners joining professional mailing lists for professional development (Berner, 1997), students subscribing to cross-cultural mailing lists consisting of students from other parts of the world for social study (Rice, 1996), and designing course-oriented mailing lists to provide a new learning experience for students. Within this last area, two studies were identified.

Yungbluth and Bertino (1996) analyzed the archives of an upper-level communication course focusing on how mailing lists can extend the borders of a community. They found that participants gravitated toward various social topics such as athletics, music, politics and racism as well as 'rapport' such as well-wishing and teasing. From their research they concluded that the course-based mailing list created a community different from the face-to-face classroom by extending the boundaries of the classroom community. Edwards and Shaffer (1999) studied a mailing list from an upper-level university computer science course. They reported, after analyzing data from the mailing list archives and a student survey, that a course-oriented mailing list encouraged greater cooperation and peer-to-peer teaching.

All of the research to date found the use of mailing lists favorable for students, claiming that mailing list participation is a new type of learning/teaching environment, one that allows participants to become involved in a new pattern of interaction. The result is a new type of social learning through the facilitation of group problem solving and the sharing of ideas. However, the study of mailing list use for educational purposes is still in its infancy. To date, empirical evidence of how this new type of learning environment is used by the learners is sparse – a sufficient amount of data has not been gathered to establish a methodology to improve the value of mailing list use in the foreign language classroom.

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3 The study

3.1 Research questions

This leads to the question of, "Can the use of a mailing list discussion enhance the learning of a foreign language for elementary-level learners, and if so, how?" In order to answer this question, it was first necessary to acquire detailed data on the use of a mailing list by students. Therefore, the initial question was broken down into three secondary questions, with three different points of view. These questions were: "How do students interact with each other in a mailing list?", "What do they talk about in a mailing list?" and "How do they perceive the use of a mailing list?" From each secondary question, more detailed research questions emerged:

<Interaction between students>

1a. What is the ratio of reference? (Was the mailing list discussion a sequence of monologues or were the previous messages often referenced?)
1b. When the posted message is an inquiry, what is the ratio of response?
1c. Is the pattern of the conversation limited to one-inquiry-one-response or do some messages trigger a good discussion?
1d. What is the feedback/response time? (How quickly does the average message obtain a response?)
1e. Who actively utilized the ML? (Was it the teacher or a particular student?)

<Message contents>

2a. In what context and on what topics did the students write messages? (What context and what topics inspire them to write messages and participate in the mailing list?)
2b. Do the messages indicate that students are experiencing high quality learning, meaning exchanges involving deep learning processes as opposed to surface learning processes?

<Participants' perception>

3a. How important is a mailing list for students?
3b. What are the positive/negative aspects of using a mailing list?

3.2 Situation

The members of the mailing list consisted of 46 students in either lecture one or two of an elementary Japanese language course at a Canadian university in the fall semester of 2001. The course was taught for 50 minutes daily from Monday to Friday for 13 weeks. From Monday to Thursday, it was taught in a traditional classroom setting (one blackboard and thirty student desks). On Friday, the classroom setting moved to a computer lab where each student was assigned a computer with a Japanese language program and internet and e-mail connections. The author of this study was the instructor of these two lectures. Although this course was designed for students with no prior knowledge of Japanese language, it turned out that a few students did indeed have some previous Japanese experience.

To create and maintain the mailing list, a software program offered by the university

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entitled "Majordomo" was used. Instructions on how to subscribe were given to all students in a handout at the beginning of the semester.

Subscribing to the mailing list was mandatory for the students. However, three of the total of 49 students did not subscribe to the mailing list, and thus did not participate in the mailing list discussion. The reasons for their non-participation were not given. No time was spent in the class for mailing list activities. The students were thus required to participate either from home or on-campus computers outside of class hours. The mailing list was unmoderated: all messages sent by the subscribers were posted directly to the mailing list without the owner (in this case the instructor) vetting the content of each message. This was done so the content of the mailing list would not be influenced by the standards and values of the instructor.

No particular topics for the mailing list discussion were provided by the instructor. The students were encouraged to ask whatever questions they had regarding Japanese language or culture, as well as help classmates by responding to others' queries. No set of guidelines such as 'netiquette' were given. It was felt that instructions on what not to do would increase anxiety levels, resulting in fewer message postings and a less true representation of free ideas. The instructor's role was introduced as an observer as opposed to a participant. It was explained that the instructor would read all the postings and would only comment when a message contained misinformation which had not been pointed out by any other participants. Participation in and contribution to the mailing list was evaluated and calculated as 3% of the total final grade.

Finally, it should be noted here that the language used in the mailing list discussion was predominantly English. Although some students used Japanese for short phrases such as greetings, in these cases English rather than Japanese characters were used when typing. Although the instructor did not set any guidelines regarding the language to be used, the students seemed to agree early on the use of English. The reasons were not investigated but the researcher assumes it was due to encoding problems with Japanese characters and the students' low level of Japanese language ability.

3.3 Data collection

The study consisted of three parts, designed to investigate the interaction between the learners, the message content, and participants' perceptions. For the first two parts, the archives of the mailing list discussion during one semester were stored on the researcher's local computer hard drive. At the end of the semester, every message was read and analyzed by the researcher for its interaction type and content. For the third part, a participant survey was conducted at the end of the semester, with the results being interpreted and analyzed in relation to the results obtained from the interaction and content analysis.

4 Analysis I (Interaction analysis)

4.1 Procedures

4.1.1 IRA

In order to answer the questions raised in Section 3.1 (1a to 1e), the researcher first conducted an IRA (Levin *et al.*, 1990) on all the messages exchanged on the mailing list. A

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unit of analysis for this IRA was a theme rather than a message, although the research questions 1d and 1e were investigated using a message as a unit of analysis. This is because there were sometimes two themes in a single message, one aiming to respond to a previous message and another aiming to initiate a new topic. In such a case, each needed to be captured separately so the occurrence of student initiation and response could be calculated correctly.

Each message was assigned a number. When a message contained two or more themes, the first theme was labeled as 'A', the second, 'B', and so forth. For example, message number 8, theme number 1 was labeled as 8A. By examining the numbers, the number of messages exchanged could be calculated and by summing them the total number of times a theme occurred could be calculated.

To record the results of the IRA, the Levin *et al*. message map technique (1990) was used. However, as they pointed out, their message map is "quite complicated and difficult to read" (p. 195). For the purpose of this study, it was necessary to actually read and manually sum up each occurrence of interaction. Therefore, a new message map was devised by borrowing their message map concept. The new message map was specifically designed to make the conversion of data into spreadsheet format easier. As can be seen in Figure 1, in the new message map senders are represented on the horizontal axis while the time and number of messages are represented on the vertical axis. On the map one rectangle represents one message. A message name beginning with a capitalized 'M' represents a message which initiated a conversation and was referenced by other messages. A message name beginning with a small letter 'm' represents a message which referenced another message. 'M4' indicates a number 4 message which was also a root message initiating a conversation. 'm4' indicates a message which referenced message number 4. When a message was a root message, the purpose of the message was categorized according to whether it was a question, an announcement, a request or a statement of opinion, with each then represented by the letters (Q, A, R, S) placed next to the rectangles.

4.1.2 Cluster

In Figure 1, arrows rooted to any 'M' messages represent a cluster of messages. A cluster is a concept similar to a thread since both indicate a group of messages that share a topic. However, 'thread' is more graphical, whereas 'cluster' is more thematic. In an e-mail message application, using the 'reply' function will cause that message to be displayed under the previous message. If participants continue using the reply function, all the messages will be represented as a graphical chain of electronic messages, often referred to as a 'thread'. The researcher did not want to use the term 'thread' since some of the messages in this study were replied to without using the reply function. When this occurs, the message appear as if it were the first message of a thread, and when represented graphically it appears as though the message initiated the topic, which is not true. For this reason the word, 'cluster' was used to support the idea of a thematic group of messages.

In the Levin *et al*. map (1990) detailed interaction within a cluster of messages is indicated with a number of arrows. For the purpose of answering the question 1c, the complicated arrows were unnecessary. The aim here was to focus more on the size of the

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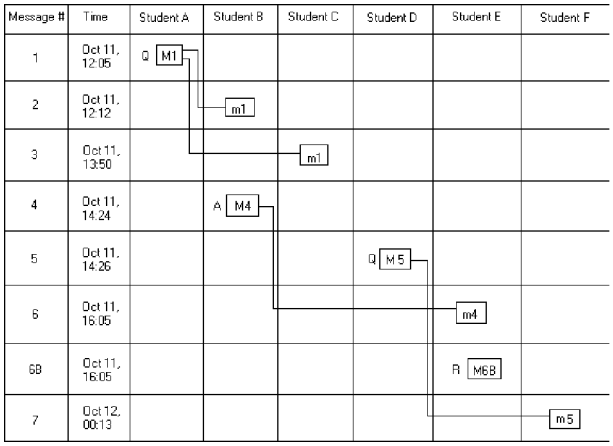


Fig. 1. Message map.

cluster (how many interactions were involved through the triggering of responses by one root message) rather than detailed interactions within a cluster. Therefore, in the new map, within one cluster all arrows are rooted to the message which originally triggered the discussion. By counting the number of arrows, one can easily tell how many interactions were involved.

Table 1 shows how this message map was converted into a spreadsheet format. (Columns such as context, topic and learning process will be explained later in this paper.) After the conversion, each research question was answered by calculating with the aid of the spreadsheet program.

4.2 Interaction between students

4.2.1 General data

The total number of e-mail messages exchanged on the mailing list during the semester was 298. The number of messages involving two themes was 25 or 7.74% of all messages. Messages with more than two themes involved were not found. The total number of different themes found in the messages was 323. There were 146 messages which initiated a topic (146 root messages). Within these 146 initiating messages, there were 102 questions, 39 announcements, 3 requests, and 2 statements of opinion. There were 177 references to other messages.

4.2.2 The ratio of references

First, in the map (see Figure 1), any occurrence of themes beginning with a capital ‘M’ were counted. Then the number of ‘M’s with, and number of ‘M’s without arrows were calculated. Out of a total of 146 ‘M’s, there were 50 ‘M’s without arrows (not referenced at all) and 96 ‘M’s with arrows (referenced). Therefore the ratio of references was found

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Table 1. *Message interaction in spreadsheet format*

Message #	Time	Sent by whom?	Function	Cluster size	Context	Topic	Learning process
1	11/10/01 12:05	A	Q	3	Lecture Reflection	Language	D
2	11/10/01 12:12	B	m1	3	Lecture Reflection	Language	D
3	11/10/01 13:50	C	m1	3	Lecture Reflection	Language	S
4	11/10/01 14:24	B	A	2	Drill	Language	S
5	11/10/01 14:26	D	Q	2	Test	Instruction	S
6	11/10/01 16:05	E	m4	2	Drill	Language	D
6B	12/10/01 16:05	E	R	1	Self Study	Resource	S
7	12/10/01 0:13	F	m5	2	Test	Instruction	D

to be 65.75%. This shows that when a topic was initiated either as a question, an announcement, a request, or a statement of opinion, 65.75% of the time that topic was discussed by another member.

4.2.3 The ratio of replies to questions

As opposed to topics that sometimes do not lead to replies, such as announcements, requests, and statements of opinion, messages with specific questions are clearly seeking replies. Therefore, the ratio of replies for these messages indicates how actively the members of the mailing list were involved in problem solving. This simple calculation does not answer questions such as whether the problem was solved or how it was solved, however.

First, the number of ‘Q’s’ were summed up. Then, within those, the number of messages or occurrence of themes with and without arrows were counted. There were 102 occurrences of 'Q’s', with 88 of these receiving replies. Thus, the ratio of replies to questions in this mailing list was 86.3%.

4.2.4 One-inquiry-one-response pattern

The pattern of a conversation was represented as the number of the messages involved in one cluster. In a one-inquiry-one-response pattern, there are only two messages in a cluster. If the number of messages in a cluster increases, there is a greater possibility of

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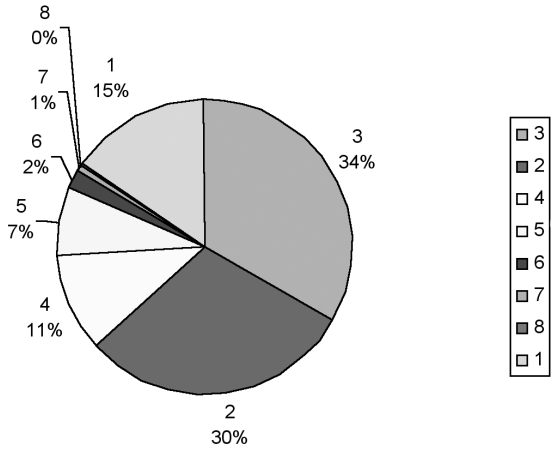


Fig. 2. Number of messages involved in one cluster.

more people being involved, with the conversation taking the form of a discussion. Figure 2 shows the number of messages in a cluster and their occurrence by percentage. Figure 2 shows that although the largest cluster involves 8 message exchanges, most clusters involved three messages or fewer. Although, the most dominant cluster size was 3, a one-inquiry-one-response pattern, which consists of only two messages, was a significant pattern of interaction in this mailing list.

4.2.5 Feedback/response time

The duration from when a root message was sent to when the first response occurred was calculated using simple subtraction. Further responses after the first were not included in this calculation. The average duration of time between the root message and the first response was 5 hours 35 minutes. However, the distribution of time to the first response indicates that 55% of the messages received a first response within an hour and 67 % of responses were within 2 hours.

4.2.6 Who actively utilized the mailing list?

Table 2 indicates the number of messages sent by students and their percentages. For example, the first row shows that one student sent 43 messages in total, and this student's total number of messages represents 14% of all messages. Row 11, which has 7 in the left column, shows that 4 students sent 7 messages and the 7 messages submitted by each student occupy 2% of all messages. The table shows the highest number of messages sent by one student was 43 and the lowest was 0. The instructor sent 29 messages, the second-highest number of messages sent by one person. The average number of messages sent by each student was 5.8. The last column shows cumulative percentage, and shows that 50% of the message exchange was carried out by 7 people, including the instructor. The other 50 % were carried out by the remaining 38 people.

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Table 2. *Message distribution*

Number of messages sent	Number of students	Portion of all messages	Cumulative percentage
43	1	14%	14%
29	1 (Instructor)	10%	24%
20	1	7%	31%
17	1	6%	37%
16	1	5%	42%
13	1	4%	46%
11	1	4%	50%
10	1	3%	53%
9	2	3%	59%
8	3	3%	67%
7	4	2%	77%
6	3	2%	83%
5	1	2%	85%
4	2	1%	87%
3	6	1%	93%
2	7	1%	98%
1	6	0%	100%
0	1	0%	

5 Analysis II (content analysis)

5.1 Procedures

Based on Edwards and Shaffer's (1999) categorization introduced in the literature review, the context and topic analysis was done in order to answer the research questions 2a and 2b in section 3.1. A unit of analysis was, again, a theme in the messages (323 occurrences in 298 messages) and the occurrences of each category in these two dimensions were counted.

5.1.1 Context

In the context area, seven categories were identified: Lecture, Mailing List, Self-study, Test, Assignment, Drill and Lecture Reflection. The following are definitions of each category with some examples for the more complex categories.

Lecture: The content of the message was directly related to what was taught in the lecture. The content was already covered in the lecture and the student simply cannot recall the information on a particular topic. Here is a simple example of a message written in the context of Lecture.

hello..
is there any difference between 'itsumo' and 'taitei'?
or is the meaning of these two words exactly the same?
thank you..
*sayonara!!^---^*

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Since the use of '*itsumo*' and '*taitei*' and how they are different was already taught in the lecture, this message falls into the "Lecture" category.

Lecture Reflection: A student understood what was taught in the lecture but a question or topic for discussion was raised when they were reviewing the lecture content. Therefore the elaboration of the idea is involved in this context. Here is an example of a message written in this context.

To use a counter for newspapers, which one do you use?
SATSU same counter for books/magazines
or
MAI the counter for papers?
Arigatou

This student understood from the lecture how the counters, *SATSU* and *MAI*, should be used. However, in the lecture, how newspapers should be counted was not mentioned. Thus, this message was categorized as Lecture Reflection.

Self-study: The message was written when the students were using material not used in the course and the context of the message is not directly related to the course content. Here is an example of this category:

hey all~
this is probably of topic from all the stuff that's been on the mailing list lately...but i'm so curious....what does 'genki' mean?
I've seen it a lot in anime and stuff ^^ (hopefully it's nothing dirty).
thanks~

The topics in this category can result from outside study resources such as Japanese books, magazines, videos, friends, and websites.

Test: During exam preparation students wrote messages in order to receive/give some help/information related to the exam.

Drill: All students were required to purchase a drill as additional material for this course, although it was not mandatory to work on it. All the answers were posted on a website and the instructor did not check if the students worked on the drill or not. The messages were written while the students were working on the drill. The messages in this context always indicated which part of the drill was referenced.

Assignment: The students wrote messages in order to receive/give some help/information/opinions while they were working to complete some of the assignments or homework. There were two assignments: one to introduce and interpret one aspect of Japanese culture and to present it orally or on the web to the class, and the other to use any study aid for a certain period of time and to report on it to the class. The study aids could be any materials/resources besides the course material, such as other textbooks, dictionaries, web resources, language schools, and so forth.

5.1.2 Topics

Five different topics were identified. The topics and their definitions are given below:

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Language: any topics related to language use. Within this category students talked about Japanese characters, grammar issues such as sentence structures, particles, adjectives, verbs or the usage of certain vocabulary and phrases.

Resource: discussions on resources such as dictionaries, textbooks and cultural events to learn about Japan and Japanese language.

Access: topics on the access to drill answers. The messages were mainly on how to access them and requests to the instructor to post the answers on the website.

Instruction: discussions on how to do certain tasks and task deadline dates.

Technology: topics related to computer technology. Encoding problems on Internet browsers and mailing list subscription problems were identified.

5.2 Process of learning

The second question addressed the issue of the participants' learning experience. For the analysis of the learning process, coding with Henri's analytical model (1992) was conducted with the assistance of the Newman *et al.* indicators (1995) which were introduced in the literature review. A unit of analysis was a theme, but not a message. There were a total of 295 occurrences of themes used. This represents the total themes of 323 minus 28 themes found in the instructor's messages. Every theme of the student messages was read and assigned either 'D' for deep process or 'S' for surface process, based on Henri's model. At this initial stage, messages which were difficult to categorize as either 'D' or 'S' were assigned 'G' for "gray" with the result being 194 for 'D', 85 for 'S' and 21 for 'G'. The 21 themes rated 'G' were reviewed using the Newman *et al.* behavioral indicators. In some cases one message would contain several + and – indicators. Since the purpose of this study was to identify whether a deep learning process was involved in the message exchange, whenever at least one indicator of a deep learning process was identified the message was coded as a deep process, even though some surface learning indicators were recognized as well. The following are examples of messages and their coding procedures.

5.2.1 Surface process

The following message addressed an issue that was discussed in the class. The student raised this issue again without adding new elements. Therefore it was coded as 'S'.

Hi everyone!
I was just wondering how you ask someone to repeat the question.
Julie

The reply to this message:

Hi, Julie.
To ask to repeat the question, you can say 'sumimasen, mouikkai onegaishimasu' to the speaker.
Hope this helps.

This student offered a solution but failed to offer an explanation. Thus, no deep

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cognitive learning process was involved. Here is another example of a message involving surface learning process.

Konnichiha Everyone!
I was just reviewing through Lesson 7 and I really don't understand how we can incorporate double particles into a sentence??? When do we use them?
Doumo Arigatou

This student introduced a new topic for discussion by showing that she was trying to resolve conflicting ideas about particles. However, she failed to offer her own interpretation regarding double particles in this message. There was no evidence of the involvement of a deep cognitive process. Therefore, it was coded as 'S'.

5.2.2 Deep process

On one occasion the class lecture topic was on the different usage of the particle 'wa' and 'ga'. Although the instructor gave explanations with some examples, one student sent a message indicating that he didn't really understand the difference. There were two replies to his message. Here is the first reply:

What I got from the blurb in the book is that both are used to show the subject of the sentence, but that ga puts the emphasis on the subject, and wa puts the emphasis on the object.
In real words, that means I can say either:
Watashi wa Amanda desu.
or
Watashi ga Amanda desu.
The difference is that the first one, watashi wa Amanda desu, means "my name is AMANDA" i.e. Amanda, not anything else.
The second one, watashi ga Amanda desu, means "MY name is Amanda" i.e. that I'm Amanda, nobody else is.
So you would use the first one when telling someone your name, and the second one if someone called your friend by your name instead of you.
Did that make any sense?
-Amanda

In the message above, the author offered examples in addition to the solution. In order to generate the examples, the author linked what she had learned from the lecture or textbook to a real life situation. This showed evidence of deep cognitive processing and so the message was categorized as 'D'. The following is a second reply on the same topic from a different student:

In simple sentences, the topic and subject are the same. However, this is not always the case. Here's an example I found on the web showing this (it's from http://users.info.unicaen.fr/~tlebarbe/Linguistics_Lexicon/ll_t.html):

(i) a Taroo-wa kaeru-o koroshi-ta
Taroo-TOPIC frog-OBJ killed

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'Taroo killed the frog'
b Kaeru-wa Taroo-ga koroshi-ta
frog-TOPIC taroo-SUBJ killed
'The frog Taroo killed'

In (i)a the subject Taroo is marked for TOPIC by wa; in (i)b Taroo is marked for SUBJECT by ga.
It's a very subtle difference, but there is a difference.
I hope this helps...and that it makes sense.
Kent

In this reply, the author did not repeat the information found in the first reply. Instead, the author offered a new suggestion to solve the problem. In order to do this he had to make a connection to what was learned in the lecture to facts and ideas existing outside the classroom, which requires a perception of the problem within a larger context. Therefore, in this case the category 'D' was assigned.

5.2.3 Gray areas

For messages which were assigned 'G' initially, the Newman *et al.* (1995) indicators were utilized for further clarification, as shown below.

Sumimasen,
We learned in chapter 8 that the "verb stem+mashou" is used for "Let's do X"... and we also learned in chapter 10 that "verb stem +mashou" also means "I'll do X" or "We shall do X"... (OC+)
So if we have to translate the sentence to English, should we put "Let's do X" or "I'll do X"? (NP-)
For ex:
nihongo wo osiemashou...
Should I say:
"Let's teach Japanese language"
or
"I shall teach Japanese language"? (JP+)
Doumo arigatou...

In the message above, a value of OC+ is assigned to the message for "referring to course material". NP- is for "repeating what has been said", since this issue has been talked about previously in the lecture. In addition, 'JP+' was assigned for "providing proof or examples" which were generated by the author of this message. For these reasons, the category 'D' was assigned to this message.

5.3 Message content

5.3.1 Contexts and topics

Data analysis shows Lecture Reflection (38%) as the most popular message context,

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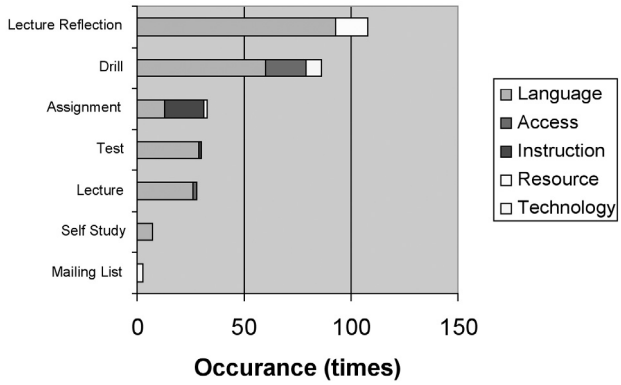


Fig. 3. Contexts and topics.

with Drill (29%) the second most popular. Following these were Assignment (11%), Test (10%), Lecture (9%), Self-study (2%) and Mailing List (1%). Figure 3 illustrates graphically the occurrence of contexts as well as topic categories within each context. Regarding topics, a great majority were on Language (78%), with Access (7%), Instruction (6%), Resource (6%) and Technology (3%) making up the remainder.

5.3.2 Learning process

There were 197 occurrences of themes involving deep processes, which represents 67% of the total email messages exchanged. The remaining 98 occurrences involved surface processes, representing 33% of the total.

6 Analysis III (student survey)

6.1 Procedures

In order to answer the research questions 3a and 3b in section 3.1, the survey was distributed to 40 students who were present at the last lecture of lectures 01 or 02 at the end of the semester. However, only 24 surveys were returned. The survey was conducted anonymously, which may explain the low rate of return.

The survey was made up of two sections. Section one measured the importance of mailing lists as a study resource and section two solicited comments on the positive and negative aspects of the mailing list in an open-ended format.

6.2 Participants' perceptions

In section one, students were asked to rate 13 study resources. The other study resources included the textbook, the lecture, conversation with the instructor/peers during the class hours and so forth. Sources were rated on a scale of 1 (little importance) to 4 (very important). The mailing list received a rating of 11th out of 13 in importance as a study

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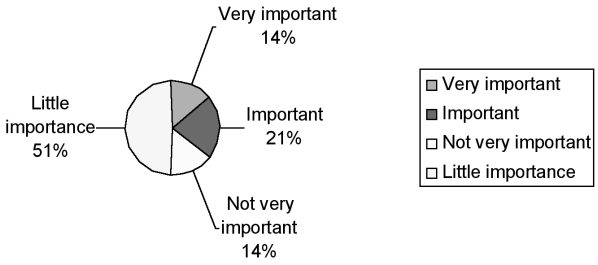


Fig. 4. Importance of the mailing list.

resource. Figure 4 illustrates the distribution of student responses toward mailing lists as a study resource. Of the survey participants, 65% viewed the mailing list as not very important or of little importance as opposed to 35% listing it as either important or very important.

Table 3 illustrates the results of the open-ended section, showing the number of responses each category received. The responses in the positives category show that 57% of the survey respondents appreciated the correct answers in the e-mail exchanges. Some students also found value in gaining different perspectives from others. Some comments on this issue included, "People asked questions I did not think of asking" and "It clarified a lot of issues for me." The perception of 'lurkers', those who did not participate in the discussion but read the messages, was also revealed as shown in comment such as, "What helped me most was what I read of other's questions and answers."

The drawback cited most often in the negative category was the overwhelming number of messages. The comments include, "Way too many to read each day!", "Too overwhelming", and "Didn't have time to read all the messages." Another major drawback recognized from the survey was complaints regarding the fact that participation in the mailing list discussions contributed toward the final grade. Some students complained of unfair treatment caused by some students having restricted or slower access to e-mail: "It is not fair because not everybody has access to the Internet everyday. By the time I open my e-mail, all the questions have been answered already." Another complaint was on the sincerity of some participants in the mailing list, such as "Some people participate only for the marks." Although incorrect answers in the email exchange were corrected by the instructor in the following lecture, some students did not seem to realize this, and pointed out the inability to judge if answers are correct or not as one of the negative aspects.

7 Discussion

Unlike the interaction that takes place within a traditional classroom setting, the interaction in this mailing list was much more student-centered, with 90% of the interaction being carried out by the students. As for feedback time, 86% of inquiries received responses and 55% of feedback was offered in less than one hour.

Although student participation in discussions was not uniform, some students saw high value in being able to read the messages of others and experience different perspectives without participating in the discussion.

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Table 3. *Survey results*

Positive Aspects	Number of responses
Correct answers were provided.	14
Gained different perspectives.	9
Rapid feedback.	7
Learned from other people's question-and- answer exchanges.	7
Fun and interesting to discuss.	2
Great teamwork.	2
Negative Aspects	**Number of responses**
Too many messages.	19
Marking is not fair.	10
Too much dependence on the mailing list.	2
Hard to understand some messages.	2
No verification on answers that were provided (correct or not).	2
Incorrect answers were sometimes provided.	1

From a social constructivist perspective, learning is a socio-cultural activity achieved through discourse with others. (Read Vygotsky 1978 and Glasersfeld 1995 for more information on social constructivism.) This case study demonstrated empirically that a mailing list has the potential to facilitate such learning by promoting rapid and diverse interaction among students. However, as seen in a cluster analysis, most discussion was short and involved only two or three messages. As more messages become involved in a discussion the chance for the knowledge becoming constructed to a higher order with more diversity increases. Further research is required to determine whether a mailing list is an effective method of facilitating such discussions.

Content analysis revealed that after working on the drills or reflecting on the lectures, students developed many questions. The mailing list provided a forum in which to discuss the course content 24 hours a day, something a traditional classroom setting cannot do.

Results of the deep versus surface learning process analysis revealed that the students' interaction was not just surface information exchange. Deep learning processes were involved in 67% of exchanges. Compared with surface learning processes, deep learning processes require more time as well as a quiet environment to reflect, integrate, and make inferences from facts. Further research is required to determine which specific attribute of a mailing list works to contribute to deep process learning.

Topic analysis revealed that students discussed language problems 78% of the time. Because response rates were high most problems were solved through student-centered discussions. Thus, through the use of the mailing list some students acquired their linguistic knowledge without the aid of an instructor. Since many researchers provided evidence that conscious learning and explicit linguistic knowledge can contribute to language acquisition (Ellis, 1990; Ellis, 1994; Doughty, 1991; Long, 1983; McLaughlin,

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1990), participating in a mailing list discussion has the potential to support learners' acquisition of a target language.

There are some limitations in this research. Although behavioral indicators were incorporated for objective analysis, reliability checks were not conducted because only one researcher carried out the study. In addition, because not all surveys were returned the results of the survey do not represent the entire population of subjects. The goal of this study is, however, to describe the various aspects of a new type of learning environment and investigate its potential through three different analysis methods, not to make generalizable claims. In this sense, the study accomplished its aim.

8 Conclusion

This explorative case study was conducted in order to discover the potential in mailing list discussions by observing how students react when provided with a mailing list as a communication tool. Student communication was examined using three different methods: interaction analysis, content analysis and a student survey.

Although 65% of the students viewed the mailing list as an unimportant study resource, the empirical data showing student interaction, message content and student perceptions towards the mailing list illustrates the good potential of course-oriented mailing lists to enhance foreign language learning. Discussions with no limitations on time or location allowed for the exchange of wide-ranging points of view, creating valuable learning experiences for students. The provision of a place to reflect on course content enabled some students to increase their linguistic knowledge by employing deep learning processes. In order to determine which factors contribute to the successful use of this medium, more detailed investigation on the comparison between non-users and active users must be carried out. Solutions for potential pitfalls such as overwhelming numbers of messages and evaluation problems also need clarification. Further study will improve the quality of foreign language learning and teaching that makes use of mailing lists and it is hoped that this study has contributed to the knowledge base of this new form of learning.

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