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The Benefits of Anime Background in Comprehension with Manga in Japanese

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THE BENEFITS OF ANIME BACKGROUND IN COMPREHENSION WITH
MANGA IN JAPANESE

A Thesis Presented

by

TOMOAKI ITO

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

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Department of Languages, Literatures, and Cultures

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ABSTRACT

THE BENEFITS OF ANIME BACKGROUND IN COMPREHENSION WITH MANGA IN JAPANESE

MAY 2020

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The purpose of this study is to examine whether manga and anime can be used as learning materials. Manga is one of the biggest entertainments in Japan and is read all over the world. Many Japanese language learners read manga for fun and use it as a learning material. Similarly, several Japanese language learners watch anime for fun and use it as a learning material. Due to the fact that Japanese language learners use manga and anime as learning materials, this study examines whether using manga and anime together provide high contribution for inferring novel words. There were 6 participants analyzed in this study. The result showed that using both materials together had positive effects on Japanese language learners' inferencing skills if there is no huge difference for the amount of information between manga and anime. However, if there is a huge difference for the amount of information, most Japanese language learners did not get any effect. These results indicate that using manga and anime together provide high contribution.

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CHAPTER 1

INTRODUCTION

1.1 About Manga

Manga is read all over the world. Manga is divided into several panels on each page. Manga artists can draw whatever they want, such as characters and landscape and can depict the story with its sequence. It is possible to depict stories without speech bubbles, but it is more common to use them. The significant difference from regular books is the ratio of illustrations. The main part of manga is its illustrations. Although it depends on the manga artist, there is generally less text in manga than in books. In other words, just looking at illustrations could give readers the story line. In addition, manga can describe expressions within a few panels of illustrations which would need copious amounts of words and phrases to describe.

Reading manga is a leisure activity for native Japanese. Perhaps there are several Japanese language learners who do not like reading at all. Manga could be an effective breakthrough for those learners because they are interested in it. However, manga is not used in class. Textbooks are always used in class, and reading materials are often used from the textbooks. Nevertheless, Kumano (2010) reported that the impetus for 70 to 80 percent of students in Spain for taking Japanese courses was manga and anime. In fact, at the University of Massachusetts Amherst, I have seen many Japanese language learners reading manga in their extensive reading class. It seems that they preferred and enjoyed reading manga. Because of these reasons, it can be assumed that manga has some potential value as a learning material.

It seems that anime is one of the biggest impetus for Japanese language learners to start studying Japanese. In fact, Kumano (2010) reported that 10 Japanese language learners at college in the U.S got a survey for the reason why they started studying Japanese, and 75% of them answered interest in Japanese culture. The study also reported 75% of them who answered interest in Japanese culture answered that they were influenced by anime. It can be said that manga and anime are impetus for learners to start studying Japanese. Because of this reason, it is assumed manga and anime are deeply relevant to Japanese language learners. This research will look at the relationship between watching anime and subsequent comprehension of manga in learning Japanese language as a foreign language.

CHAPTER 2

THEORETICAL FRAMEWORK

While it seems that reading only text would be easier, it is common to understand better when one reads a text with illustrations than when one reads a text without illustrations. The theoretical framework for this study is based on dual-coding theory. A discussion of the theory and how it applies to reading with the aid of illustrations and my research are as follows.

2.1 Dual-coding theory in Reading

“Dual-code theory is to store memories in your mind in terms of both pictorial and verbal codes” (Sternberg, Sternberg, and Mio, 2012). This theory is constructed by two different mental infrastructures. One is for expressing and forming of nonverbal objects and events. On the other hand, the other is specialized for processing of language. The nonverbal infrastructure is used for the imagery system because this infrastructure deals with scenes and the generation of mental images as well as in other modalities such as auditory, haptic, and affective (Goetz, Paivio, and Sadoski, 1991). The verbal system is often used for language. These two systems are separate but are interconnected. Hence, these systems perform independently, in a parallel manner, or comprehensively.

These two systems, nonverbal and verbal, have different systematical and processing characteristics. The information in the verbal system is organized to take the way that helps sequential and syntactic processing. On the other hand, the information in nonverbal system, especially vision, is organized in nested sets with information

available in order to process in a synchronous or parallel manner. Interconnection between these two systems does various cognitive activities.

The sensory system detects verbal and nonverbal stimulus and activates mental representation. These mental representations are divided into two types. The first type is called logogens which are located in the verbal system, and the second type is called imagens which are located in the nonverbal system. For example, when we hear “dogs,” most of us are easily able to visualize an image of dogs. This is classified as logogens in the verbal system. Similarly, when we hear “bowwow” or barks, most of us are easily able to visualize an image of dogs. Natural objects, in this case sound, are classified as imagens in nonverbal system. These two types are theoretical constructions that correspond to the basic units within each system and are considered to have several neurological foundations. The size and modality of these units are various. Hence, logogens can correspond to phoneme, grapheme, morpheme, words, phrases, or a larger similar unit of language. Similarly, imagens can express a natural object such as sound, a part of a natural object, or things that are classified as a natural object.

The organization can function within the system or between the systems. The organization within the system is called associative. Words or phrases can be associated through one’s experience or learning with other words or phrases. For example, “once upon a time” may evoke other words or phrases such as a long time ago, princess, prince, or happily ever after. These associations depend on one’s experience. Similarly, mental images can evoke other associated images. For example, a mental image of a knife and a fork might evoke an image of a canteen or a dining experience. These associations also depend on one’s experience or situational constraints.

Language can evoke imagery, and imagery can evoke language. These relationships are not only one to one but also one to many. Hence, there is a possibility that a language can evoke numerous images or cannot evoke any images at all. Similarly, a mental image can evoke much language or any language at all. These interconnections enable the flexibility of human cognition.

2.2 Summary of the Studies

Paivio advocated dual-coding theory (Goetz, Paivio, and Sadoski, 1991), which is consisted of the verbal system and the nonverbal system. The verbal system processes linguistic information, and the nonverbal system processes visual images. These two systems have an interconnection. When we see or hear words, we are able to visualize it. Similarly, when we see an image, the image tends to be verbalized. This theory asserts that language evokes numerous amounts of images from a word or a phrase and vice versa.

As it is mentioned in Chapter 1, manga describes a story and a situation with illustrations and words and phrases. Readers obtain this two information to read through the story. It can be said that Dual-coding theory, which language evokes numerous amounts of images from a word or a phrase and vice versa, is deeply related to manga. If we relate the information that we want learners to learn to illustrations and words through manga, it is assumed that it will be easy to evoke the information with the illustrations and words. By utilizing this feature, this research will investigate whether manga is suitable to learn Japanese as a foreign language for Japanese language learners.

CHAPTER 3

LITERATURE REVIEW

3.1 Learning Method by Using Manga

Murata (1993) divided manga text into two groups, the information that Murata wanted college students to learn and the characters' action. Then, Murata discussed difference of understanding between the essential part which meant the contents that the college students were supposed to learn, the non-essential part that only had situation settings, and text without illustrations. The study discovered that the participants understood the information that Murata wanted them to learn better when it was depicted by illustrations. Also, showing the illustrations that only had situation settings worked well for learning. The study concluded that the amount of work to process situation setting through manga was less than text-only that forced readers to compose inner framework of situation settings. In addition, including illustrations that readers were supposed to learn accelerated the comprehension for learning. This study indicated that manga could be an effective learning material.

Nakazawa and Mochizuki (1995) found out that the pleasure of manga was acknowledged as a good learning material. Nakazawa and Mochizuki showed fifth grade students manga, a novel, and schoolbook explanation text that had the same content and compared the result of the pre-test and the post-test. The largest grade increase for both pre-test and post-test was schoolbook explanation text, followed in order by manga, and novel. However, most participants evaluated that manga was the most helpful learning material among three learning materials. The result indicated that

manga as a learning material gave familiarity to readers and did not force readers to be aware of studying.

In addition, Kogo (1993) targeted college students and divided them into three groups, a) reading manga for learning, b) reading manga without any learning purpose, and c) reading the text version of the manga without any learning purpose. The study found out that readers remembered peripheral information such as the characters and the storyline well when they read manga without any purpose. The study also discovered that most participants evaluated that they got more understanding of manga when they read manga without any purpose. This result is similar to Nakazawa's and Mochizuki's research. The study also showed that manga was an efficient learning material since the amount of time readers spend for b) reading manga without any learning purpose was shorter than c) reading the text version of the manga without any learning purpose.

3.2 Learning Method by Using a Video and Manga

Fuse and Okabe (2009) used a video to make manga. This video was used as a learning material to target college students. The video was about a college student who got involved in trouble and solved the problem in his everyday life. Fuse and Okabe made this video into manga. They divided the participants into two groups. The first group was only given the video, and the second group was given the story part of the manga before the video. After that, the second group was given a resolution part of the manga after the video. The study found out that using the video and the manga together was more effective than using only the video. Also, most participants evaluated that manga was useful for understanding the video.

Fuse and Okabe (2010) discussed students learning through watching both videos of the manga and by reading the manga. The study discovered that the learning effect by using both materials was high since the learners could review the same topics over and over. The learners accepted favorably the manga learning material and wanted to use it when the topics were difficult. The study also found out that most participants wanted to watch the video rather than the manga in class. They seemed to understand the advantage of both learning styles. They liked to watch the video in class and preferred to read the manga as a supplement. They also felt visual learning made it easy for them to understand the contents in class. Although the video and the manga had graphical explanations, there were advantages for the participants who read manga. One advantage was that learners could take their time and look at the graphic explanation carefully. On the other hand, the video was more effective for understanding the big picture. The study concluded that using both video and manga together was effective for learning.

3.3 Summary of the Studies

Murata (1993) discussed manga was worth using as learning material for college students. From just reading books, the participants had a hard time to understand the situation setting. The amount of work for processing the situation setting was too much when readers only had text. However, using manga for describing situation setting reduced the amount of work that readers needed to process. Moreover, describing essential parts, meaning what readers were supposed to learn, on manga made readers understand well. Kogo (1993) discovered that reading manga without any purpose for learning was helpful for memorizing peripheral information such as characters and

storyline. However, Nakazawa and Mochizuki (1995) reported that schoolbook explanation text was better for comprehension than manga. Despite of that, many learners evaluated that manga worked better than schoolbook explanation text. The result indicated that manga as a learning material had a potential for, at least, fifth grade elementary students and college students to study without being stressed out since manga did not force readers to be aware of studying.

Fuse and Okabe (2009, 2010) found out that learning through watching both videos of the manga and reading the manga improved learning effect. Most learners favorably accepted the manga since they could repeat the same topic with manga over and over. In addition, the studies discovered that learners used the manga and the video learning materials for the different purpose in accordance to the goal and preferred explanation with figures. Manga was a great tool for checking figures carefully since manga was highly flexible. Meanwhile, videos were helpful for understanding the entire contents. Hence, it is assumed to say that using both the manga and the video learning materials enhance learning effects.

3.4 Significance of My Study

The previous studies found out that manga has some potentials as a learning material and using the manga and video learning materials together improved learning effect. This thesis will investigate how effective use of manga and video learning materials together is to Japanese language learners. In this study, manga for pleasure is used as a manga learning material. and anime is used as a video learning material. According to Kumano (2010), many Japanese language learners use manga as a learning material. In fact, there were many learners who preferred to read manga.

However, it is not clear whether they actually understand the contents or not. This thesis will investigate whether Japanese language learners truly understand the contents of the manga they read by giving them comprehension tests. To study which level of manga they understand, this study will be a good reference for the use of manga. Our research suggests that sequencing the combination with anime preceding manga may enable learners to overcome vocabulary deficits because learners are already aware of anime characters and settings and can focus on inferring the meaning of novel words.

3.5 Research Questions

Several scholars discovered that manga could be a great tool for learning. The study also reported that the use of manga and video learning materials together was effective for learners as well. In this research, manga for pleasure was used, and anime was used as a video learning material. Anime is a type of animated short story or a full-length movie and has been as widespread as manga in Japan. According to Kumano (2010), many Japanese language learners use anime as one of their learning materials in addition to watching it for fun. Unlike manga, the movement of each character and their facial expressions are vivid so that it is more obvious what the characters are doing and how they are doing than manga. Because of this, there should be a decent number of learners who watch the anime first and read the manga to understand deeply. In fact, Yoshimura and Domier (2017) mentioned that most participants in their extensive reading class choose manga because they have watched the same story in anime before. However, it is not clear whether manga is a useful tool for Japanese language learners. Therefore, we would like to investigate the effect of manga for them.

In general, when Japanese language learners choose the manga that they want to read or the anime they want to watch, many of them will choose what they are interested in. If they are interested in it, they will try to understand it with any means. In addition, despite the difficulties, famous and popular manga and anime are read and watched. However, it is not clear whether these famous and popular manga and anime are at their language level or too challenging for them. This study will investigate whether the information from anime is effective for learners to understand contents in manga.

Dual-coding theory is deeply related to text and illustrations. When one reads words or phrases, one can evoke the image, and vice versa. In other words, if language learners can read the text in context with the illustrations, there is a possibility that they may be able to understand better even though the language level is higher than theirs. In this study, anime is used for developing the relationship between text and illustrations. It is assumed that obtaining the information from illustrations of manga and anime works better than obtaining the information from graphics of manga alone. Therefore, we would like to investigate the effects of illustrations from manga and anime on learning language. The following research question has guided the research for this report:

Can Japanese language learners better infer novel words by reading manga when they have access to peripheral information such as anime characters and overall storyline from anime?

CHAPTER 4

METHOD

4.1 Participants

All 6 of the participants were undergraduate students at the University of Massachusetts, Amherst. The participants were taking a Japanese language course at an intermediate level designed for 2nd year students. These participants were divided into two groups, Group 1 and Group 2, by the order they arrived. Each group contained three participants. The participants were given the overview of the experiment, and they were asked to sign the consent form to participate in the study. The consent form further explained the details about the procedure of the experiment. According to the regulations enforced by the institutional review board (IRB), each participant was assigned a number (1, 2, 3...). The experiment would have been suspended at any moment when the participants felt uncomfortable or unpleasantness. While it was a two-hour experiment, all participants completed the assignments.

4.2 Material

All tasks were given to the participants on a computer. The following tasks were given to each participant: a participant survey, four manga and two anime, and four reading comprehension tests. Although there were two groups in this experiment, the materials that were used in this experiment were the same; the only difference was the order in which the manga and the anime were given to the participants.

In this experiment, four different manga which were described as Manga A, Manga B, Manga C, and Manga D and two anime were used. Manga A was *Sonna mirai wa uso de aru*. Manga B was *Bokutachi no maō wa futsū*. Manga C was

Chibimaruko-chan Kimi wo wasurenaiyo. Manga D was Kono subarashī sekai ni shukufuku wo!. Manga A and Manga B were not made into anime. Manga C and Manga D were made into anime although the episode chosen from manga and the corresponding episode in the anime were different. The reason why different episodes from the manga were given to the participants was only to give the information of the characters and the overall storyline. If the same episodes had been given, it would have affected their comprehension on the content because they would have had some opportunities that they obtained more information other than the characters and the storyline.

4.2.1 Participant Survey

The participants took a survey before the tasks were given. The survey consisted of the questions shown in Table 1. The participants responded to questions 1 through 4 on a 5-point scale.

Table 1: Participant survey

#	Question
1	How often do you read manga?
2	If you answer 2, 3, 4, or 5 in the previous question, how long do you read manga in a week?
3	How often do you watch anime?
4	If you answer 2, 3, 4, or 5 in the previous question, how long do you watch anime in a week?
5	When you read manga, do you tend to choose manga that also has an anime version?
6	If you answer “Yes” in the previous question, what kind of manga that has the anime version have you read in the past? Also, please list the manga that has the anime version you have read.
7	If you answer 1 in Question 5, do you read the manga version first, or do you watch the anime version first?
8	Have you ever read the manga called “Sonna mirai wa uso de aru”?
9	Have you ever read the manga called “Bokutachi no maou wa futsuu”?

-
- | | |
|----|--|
| 10 | Have you ever read the manga or watched the anime called “Chibimarukochan”? |
| 11 | Have you ever read the manga or watched the anime called “Kono subarashii sekai ni shukufuku wo!”? |
-

The participant survey was made based on the previous studies (Nakazawa, 2004). The questions 1 and 2 were for checking how much the participants were used to reading manga and watching anime. This would be able to reveal their manga literacy skills. The questions 3 through 5 sought to find out whether the participants tend to watch popular anime and read the manga. In Japan, popular manga among men and women of all ages tend to be made into anime. On the other hand, non-popular manga tend not to be made into anime. If the participants chose manga that also was made into anime, this would imply that Japanese language learners tend to choose manga that is also popular in Japan. Moreover, to list the manga that the participants read in question 6, the study was designed to investigate what type of popular manga they read. The question 7 was to find out whether the participants watched anime as a reference for reading manga. The questions 8 through 11 sought to find out whether the participants had already known the manga that was used in this experiment.

4.2.2 Manga and Anime

Manga that were not popular or relatively unknown for Japanese language learners were chosen. We avoided popular manga because the participants may have already known the storyline and the worldview in the manga so that it may have influenced the results. In addition, the length of manga and the total amount of words were a concern. Since we assumed that this experiment would take time, and many

reading tasks would be given to the participants, short length manga with few words and phrases were chosen.

In the past, it was rare to see manga that had Japanese reading aids. Nowadays, many manga have Ruby or Furigana to help younger audiences read kanji. Since it is assumed that most of the participants were not familiar with kanji, the manga that has furigana were used in this experiment.

In addition, we used the manga that has the similar theme. Although the characters' ages are different from Manga A and Manga C, the setting is school. The stories are about friends at school and exchange students. It is assumed that the participants can easily feel an affinity with these topics. The story in Manga B and Manga D takes place in otherworldliness. There are several human characters, but most of the characters are outside of the human world such as a demon king and a goddess. This familiarity, theoretically, would decrease the participants' cognitive workload.

To find out the difficulties of the manga, the software called MeCab was used, and the words and phrases in each manga were morphologically analyzed based on what the participants had learned at that time. The textbook called Genki was used in the Japanese language course designed for the beginner and the intermediate levels. Difficulties were measured by the number of vocabulary that the participants had learned and had not learned yet from the textbook. The vocabulary that were investigated for this study were verbs, adjectives, and nouns from the textbook from chapter 1 to 16. The number of learned vocabulary was less than the number of unlearned vocabulary in all manga. Among these manga, manga that relatively had less unlearned vocabulary are classified as an easy level. On the other hand, manga that

relatively had more unlearned vocabulary are classified as a difficult level. Below are the results of morphological analysis.

Table 2: Manga A “Sonna mirai wa uso de aru” (22 pages)

	Total words	Learned	Unlearned
Verbs	45	22 (48.9%)	23 (51.1%)
Adjectives	20	9 (45.0%)	11 (55.0%)
Nouns	65	30 (46.2%)	35 (53.8%)
Total	130	61 (46.9%)	69 (53.1%)

Table 3: Manga B “Bokutachi no maō wa futsū” (16 pages)

	Total words	Learned	Unlearned
Verbs	69	28 (40.6%)	41 (59.4%)
Adjectives	14	9 (64.3%)	5 (35.7%)
Nouns	163	49 (30.1%)	114 (69.9%)
Total	246	86 (35.0%)	160 (65.0%)

Table 4: Manga C “Chibimaruko-chan Kimi wo wasurenaiyo” (16 pages)

	Total words	Learned	Unlearned
Verbs	39	18 (46.2%)	21 (53.8%)
Adjectives	24	14 (58.3%)	10 (41.7%)
Nouns	87	39 (44.8%)	48 (55.2%)
Total	150	71 (47.3%)	79 (52.7%)

Table 5: Manga D “Kono subarashī sekai ni shukufuku wo!” (17 pages)

	Total words	Learned	Unlearned
Verbs	47	15 (31.9%)	32 (68.1%)
Adjectives	11	6 (54.5%)	5 (45.5%)
Nouns	120	35 (29.2%)	85 (70.8%)
Total	178	56 (31.5%)	122 (68.5%)

Manga C was not continuous and instead consisted of standalone episode. On the other hand, Manga D was continuous. The first episode was chosen for reading, and the second episode was chosen for anime. The purpose of using the anime was to let the participants know about the characters, worldview, and the main point of the stories in advance so that they could use the anime as prior knowledge when they read the manga.

The entire anime were in Japanese with English subtitles. Theoretically, this would decrease the participants' cognitive workload. The length of the anime of Manga C was 10 minutes and 20 seconds, and the length of the anime of Manga D was 23 minutes and 40 seconds with the opening and closing theme songs. In general, the length of anime is about 20 minutes without its theme songs. Since the anime version of Manga C has two stories in one anime, each episode is shorter than regular anime such as Manga D.

4.2.3 Reading Comprehension Tests

Reading comprehension test was given to the participants after they read the manga. Each test has 5 questions about the story, and all questions were multiple choice. The participants were not allowed to go back to the manga while they were taking the tests. Since they could not go back to read the manga, each test had the main characters' faces and names on the top of each test. This would prevent the case that the participants could not answer because they did not remember the name of the characters. There was no time limit for the reading comprehension tests although all participants finished each reading comprehension test within 10 minutes.

4.3 Procedure

The experiment was held at Language Teaching & Research Lab at UMass Amherst. The participants were divided into two groups. There were three participants in each group. The participants had the experiment with a computer at the lab. The lab was quiet for participants to read manga in a foreign language and to answer questions for their comprehension.

Each participant was seated in front of a computer. The participants were asked to submit the informed consent and were instructed to do a survey before doing the experiment. After that, the participants were divided into two groups. The difference between Group 1 and Group 2 was the order of the readings. The reason why the groups were divided into two groups and we changed the order of the readings was to prevent any negative influences on the reading comprehension results from fatigue. Out of the four manga two of them (Manga A and Manga B) were not made into anime, meaning they had text and static illustrations only but did not have an anime version. The others (Manga C and Manga D) had text, static illustrations, and were made into anime. The voice in these anime was Japanese, but these anime had English subtitles. According to the tables mentioned in Chapter 4.2.2 Manga and Anime, the participants should know 46.9% of vocabulary used in Manga A and should know 47.3% of vocabulary used in Manga C. These manga were considered easier than Manga B and Manga D. The participants should know 35.0% of vocabulary used in Manga B and should know 31.5% of vocabulary used in Manga D. These manga were considered more difficult than Manga A and Manga C. The participants in Group 1 read Manga A and took a reading comprehension test. The participants were asked to read Manga B and take a reading comprehension test. After that, the participants were asked to watch the anime of Manga C, read Manga C, and take a reading comprehension test. Lastly, the participants were asked to watch the anime of Manga D, read Manga D, and take a reading comprehension test. For Group 2, the participants were asked to read Manga B and take a reading comprehension test. After that, they read Manga A and took a reading comprehension test. Then, they were asked to watch the anime of Manga D,

read Manga D, and take a reading comprehension test. Finally, they were asked to watch the anime of Manga C, read Manga C, and take a reading comprehension test. At the completion of the experiment, the reward for the experiment was given to each participant, and the experimenter thanked the participants and directed them to leave the lab.

The reason why the groups were divided into two groups and we changed the order of the readings was to prevent any negative influences on the reading comprehension results from fatigue. The order of the difficulty level in Group 1 was easy, difficult, easy, and difficult. Meanwhile, the order of the difficulty level in Group 2 was difficult, easy, difficult, and easy. Since Japanese was the foreign language for the participants, it was assumed that they would get tired as they read manga for a long period of time. We let Group 1 read manga with an easy level when the participants were not tired and let them read manga with a difficult level when they were tired. On the other hand, we let Group 2 read manga with a difficult level when they were not tired and let them read manga with an easy level when they were tired in order to prevent any negative influences.

List of experiment procedure

Group 1	Group 2
Survey	Survey
Read Manga A (Easy)	Read Manga B (Difficult)
Comprehension test for Manga A	Comprehension test for Manga B
Read Manga B (Difficult)	Read Manga A (Easy)

Comprehension test for Manga B	Comprehension test for Manga A
Watch Anime version of Manga C (Easy) *different episode from the reading material of Manga C	Watch Anime version of Manga D (Difficult) *different episode from the reading material of Manga D
Read Manga C (Easy)	Read Manga D (Difficult)
Comprehension test for Manga C	Comprehension test for Manga D
Watch Anime version of Manga D (Difficult) *different episode from the reading material of Manga D	Watch Anime version of Manga C (Easy) *different episode from the reading material of Manga C
Read Manga D (Difficult)	Read Manga C (Easy)
Comprehension test for Manga D	Comprehension test for Manga C

CHAPTER 5

RESULT AND DISCUSSION

5.1 Result from the Experiment

The main purpose of this study is to investigate whether knowledge about the characters, worldview, and the main point of the stories, is useful for understanding manga deeper. Therefore, we should focus on the results from the experiment in accordance with the research questions. Below is the result that shows the score of each participant for the reading comprehension tests.

Table 6: Manga A “Sonna mirai wa uso de aru”

	Unidentified participants by numbers						Average test score
	1	2	3	4	5	6	
Score	80%	100%	60%	80%	100%	80%	83.3%

Table 7: Manga B “Bokutachi no maō wa futsū”

	Unidentified participants by numbers						Average test score
	1	2	3	4	5	6	
Score	20%	80%	40%	40%	80%	40%	50.0%

Table 8: Manga C “Chibimaruko-chan Kimi wo wasurenaiyo”

	Unidentified participants by numbers						Average test score
	1	2	3	4	5	6	
Score	20%	100%	0%	40%	80%	80%	53.3%

Table 9: Manga D “Kono subarashī sekai ni shukufuku wo!”

	Unidentified participants by numbers						Average test score
	1	2	3	4	5	6	
Score	20%	100%	80%*	40%	100%	80%	70.0%

Table 10: The percentage of learned and unlearned words

	Total words	Learned	Unlearned
Manga A	130	61 (46.9%)	69 (53.1%)
Manga B	246	86 (35%)	160 (65%)
Manga C	150	71 (47.3%)	79 (52.7%)
Manga D	178	56 (31.5%)	122 (68.5%)

Manga A, Manga B, and Manga D came up to our expectations. The percentage of learned vocabulary in Manga A, which is easy without anime, was approximately 47%. In addition, the average of the score for the comprehension test was 83.3% which is highest. The percentage of learned vocabulary in Manga B, which is difficult without anime, was approximately 35%. The average of the score for the comprehension test was 50.0% which is lowest. None of the participants answered all questions correctly. The percentage of learned vocabulary in Manga D, which is difficult with anime, was approximately 32%. However, the average of the score for the comprehension test was 70.0% which is the second highest. Although Participant 3 had already watched the anime before the research, the average of the score was still 68.0% without the score of Participant 3. It can be said that most participants did well on the condition with all anime.

On the other hand, an interesting result came out from Manga C. The percentage of learned vocabulary in Manga C, which is easy with anime, was approximately 47%. Despite of that, the average of the score for the comprehension test was 53.3% which is the second lowest. Unlike Manga D, it seems that most participants did not get any effect from watching the anime.

5.2 Analysis into the Result

As it is said above, since most participants did not get any effect from the anime version of Manga C, they did not understand Manga C well. The biggest reason why they did not get any effect could be the number of the anime characters that were shown up in Manga C. The anime characters in Manga C can be divided into two groups. The

first group is the protagonist's group. There are 16 anime characters including the protagonist's family member. The other group is the international student's group. There are 6 international students. In other words, there are 22 anime characters in Manga C. Figures from 1 to 7 show the anime characters which appeared in Manga C, in the anime version of Manga C, in Manga D, and in the anime version of Manga D.

Figure 1: The anime characters which appeared and were deeply involved in the story in the anime version of Manga C

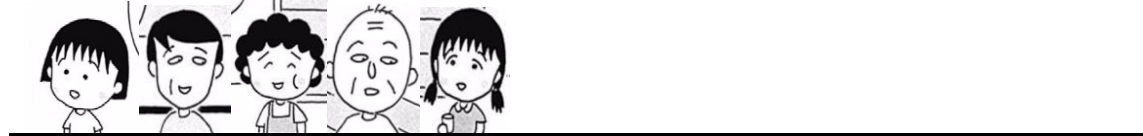


Figure 2: The anime characters which appeared but were not involved in the story in the anime version of Manga C

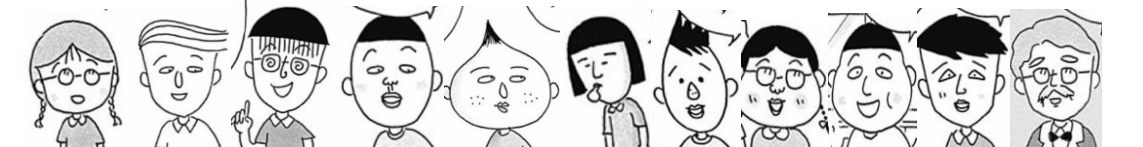


Figure 3: The anime characters which appeared in Manga C

Protagonist's family



Protagonist's friends



International students



Figure 4: The anime characters which appeared in both manga and anime of Manga C



Figure 5: The anime characters which appeared in manga but not in anime of Manga C



Figure 6: The anime characters which appeared in anime of Manga D



Figure 7: The anime characters which appeared in Manga D



The number of anime characters in Manga C is much higher than Manga D which only have three anime characters at most. On the other hand, there are only three anime characters that were deeply involved in the story in the anime version of Manga C. It seems that the information from anime was not performed properly because there was a difference between the amount of information from the anime and the manga.

On the other hand, it can be said that the anime of Manga D provided high contribution. The reason why the anime worked for most participants on Manga D, even though Manga D was technically more difficult than Manga C when one considers the vocabulary as the factor to determine its difficulty, could be the types of the stories in the manga such as realistic or fantastical. Below is the list of what manga the participants had read so far at that time, which will further explain the reason why most

participants understood Manga D, which is classified as fantastical manga, better than Manga C, which is classified as realistic manga, in terms of what they had read on Table 11.

Table 11: The list of manga the participants had read

The list of manga	
Participant 1	Yugioh, Pokemon, Dragon Ball, UtaKata, Kamichama Karin, Full Moon wo Sagashite, Karin, Magi, Naruto, etc
Participant 2	Kuroko No Basuke, Kakegurui, <i>Yume Nikki</i>
Participant 3	Tokyo Ghoul, Kuroko no Basket
Participant 4	None
Participant 5	Orange, Naruto, Fairy Tail, <i>Kimi ni Todoke</i> , Seven Deadly Sins, Assassination Classroom, Shugo Chara, etc
Participant 6	Fullmetal Alchemist, Death Note, The Melancholy of Haruhi Suzumiya, Attack on Titan, etc

The protagonist in Manga C is a third-grade student in elementary school. The settings are often either school or her house. The manga depicts her daily life comically. Meanwhile, the protagonist in Manga D is a high school student who dies from an unfortunate accident. The settings are a different-dimension world. The story in this manga entails living with many unique people. Although Manga C has more words and phrases that the participants should know than Manga D, Manga D seems more popular among young people in terms of the manga topic used because it is similar to what the participants were reading as described Table 11. The number of fantastical manga that the participants read is extremely high on Table 11. Twenty-one in twenty-three manga are fantastical story and settings. It is assumed that the participants prefer to read manga that has fantastical elements. Hence, it is considered that most participants understood Manga D better. On the other hand, the participants tend not to read manga that has realistic elements such as Manga C. There are only two realistic manga which are italics

and bold on Table 11. Because of that, comprehension of Manga C was extremely low. Kumano (2010) also mentioned that Naruto, Bleach, and One Piece were the top three anime and manga series according to the ranking of popular anime and manga in 2009 in foreign countries. Yoshimura and Domier (2017) reported that their students in the extensive reading class preferred to read fantastical manga such as, Dragon Ball, Silver Spoon (Gin no Saji), and Assassination Classroom (Ansatsu Kyōshitsu) as well. These manga have fantastical elements in comparison to Manga C. The characters in these manga are unrealistic such as, in Naruto the main character is a Ninja, in Bleach the main character is the Grim Reaper, and in One Piece the main character is a pirate. Although the protagonist in Manga D is a high school student, other main characters are unrealistic people such as, a goddess and a witch. Thus, Manga D has a fantastical story and characters similar to the popular manga mentioned above. On the other hand, the protagonist and other characters in Manga C are third-grade students. As it shows on Table 11, the manga that the participants prefer to read is fantastical such as Manga D. Because Manga C was not their preference, it is presumed that most of the participants preferred Manga D to Manga C, and therefore, they understood Manga D better.

Yoshimura and Domier (2017) had a survey that was targeted for 49 students about how they chose manga in their extensive reading class. The study found out that approximately 60% of the students answered that they chose manga from the front page or the illustrations. Judging from the survey and the experiment, perhaps an interest in the story is of more importance than the amount of known vocabulary or familiarity with the story.

5.3. Analyzing Research Question

Can Japanese language learners better infer novel words by reading manga when they have access to peripheral information such as anime characters and overall storyline from anime?

Judging from the result, it can be assumed that Japanese language learners can understand manga better by knowing anime characters and storyline before they read the manga. Manga D is a good example. Although the percentage of learned vocabulary in Manga D was slightly lower than Manga B, the average of the test score in Manga D was higher than Manga B. However, most participants did not get the effect from the anime of Manga C. It is said above that most participants did not get the effects because there was difference in the amount of information about the anime characters between anime and manga in Manga C. Because of the difference, the information from the anime was not enough to understand the manga well. In addition to the difference, the characters shown up on anime were not deeply related into the main story part of the manga version. In the anime, there were three anime characters including the protagonist. Although the story continued with these three anime characters in the anime, these anime characters—except the protagonist—did not get involved directly in the story in the manga. Because of these reasons, most participants did not do well on the comprehension test in Manga C. Therefore, for answering the research question, if there is no huge difference for the amount of information between anime and manga, it

is assumed that Japanese language learners are able to understand manga better by watching anime first to obtain peripheral but useful information.

5.5 Limitation of the Study

First of all, the sample size was small since the participants were recruited only from one Japanese language course. Moreover, the participants needed decent Japanese reading skills and knowledge to read manga. Because of these facts, we could not recruit learners from the beginner courses. The result would have changed if we had more participants.

The second issue was the lack of the types of the questions. In this experiment, all questions were multiple choice. Thus, the participants may have been able to get a correct answer even if they did not know the answer. However, if other type of questions such as short answer questions and essay questions were used in the reading comprehension test, the experiment would have taken too long since the participants were not used to reading Japanese as a foreign language for a long time. Therefore, multiple choice was used for the reading comprehension test.

The third issue was the time. The participants were given a survey, four manga, two anime, and four reading comprehension tests. Every participant took more than two hours to complete the experiments, the least amount of time being two hours and ten minutes and the most amount of time being two hours and forty-five minutes. Although the materials were divided into two different levels, and the anime had the subtitles in English, reading manga and watching anime in a foreign language for more than two hours may have wielded influence over the result.

The fourth issue was the difficulty deciding method. In this experiment, the difficulty of the manga was calculated based on the learned and unlearned vocabulary in the Genki textbook. However, learning vocabulary in the textbook in class does not necessarily mean that all students have mastered the vocabulary.

CHAPTER 6

CONCLUSION

6.1 Conclusion

Many scholars discovered that manga was helpful to use as a learning material. Since manga did not make learners aware of studying, they could comfortably use it. Manga was evaluated well by most learners, and they preferred to use manga more than to use a schoolbook. Moreover, the studies found out that using manga and video learning materials was more effective than using only the manga. Learners used the video to understand the entire contents and used the manga to understand the contents more deeply. Most learners favorably accepted these learning materials because the purpose of the use of each material was clear. Hence, the studies concluded using both materials together was highly effective.

The research showed that obtaining peripheral information such as characters and storyline from the anime beforehand and reading the manga with the information were helpful for understanding the content even though the level of difficulty was slightly higher than the readers' reading comprehension level. The research also showed that it was difficult to get this benefit when there was a difference in the amount of peripheral information from the anime and the manga. Most participants did not get the benefit since there was a difference in the amount of the information for the characters from Manga C, which was classified as an easy level with anime. On the other hand, several participants got the benefit from Manga D, which was classified as a difficult level with anime. It can be said that the peripheral information from the anime helped Japanese language learners understand the manga. They would be able to understand

the manga that is higher than their language level if we eliminated the distinction of the peripheral information from the anime and the manga and gave them a moderate amount of the information.

We would have to consider where to use these materials and the level of the learners in order to put a class into practice. It takes 20 minutes to watch one episode of anime. One episode of manga normally has 13 to 15 pages depending on manga. This would take at least 15 minutes to read them for the learners. It seems that finishing these processes would take around 35 minutes, and this is almost the same length as one regular class. In addition, it seems that there was a huge gap for the comprehension among the participants although all 6 participants were chosen from the same course.

However, learners could learn many things through these materials. They could learn things that are not taught in class and are not in Japanese language textbooks such as onomatopoeia, cultural norms or cues, slang, and taboo. Moreover, most anime and manga are aimed for native Japanese speakers. Since the speaking speed on anime is at everyday conversation level, learners could artificially experience native Japanese conversation speed. They could learn informal expressions from manga. As it is mentioned above, it seems these materials would not be helpful if learners' language level is not high enough. Therefore, it is assumed that it would not be too late to put the class into practice after learners study basic grammar and vocabulary.

There are some points that instructors need to pay attention to in order to use manga as a learning material. First, instructors need to find out which genre learners are interested in. For example, in this research, most participants preferred fantastical stories such as Manga D. If both manga and anime are used together as a learning

material, instructors need to check whether there is too much difference of peripheral information between the manga and the anime. If there is too much difference in the information, despite of the learners' level, there may be a possibility that they do not understand the story. In order to prevent that, instructors are required to know their learners' preference and the materials they use for learners. Second, there is a limitation of the capacity of how many learners one instructor can check their status in detail. Yoshimura and Kobayashi (2018) reported that there was a limited number of students one instructor could check in to provide appropriate advising in detail. Teaching methods are needed to change depending on learners' interest and the number of learners. If instructors are aware of these points and give proper advice to learners, manga could be useful for them to learn a language as a learning material.

APPENDICES

APPENDIX A
PARTICIPANT SURVEY

1. How often do you read manga?

1. Never
2. Once a week
3. Twice or three times a week
4. Four times or five times a week
5. Every day

2. If you answer 2, 3, 4, or 5 in the previous question, how long do you read manga in a week?

1. Less than 1 hour
2. 1 hour to 2 hours
3. 2 hours to 4 hours
4. 4 hours to 6 hours
5. 6 hours or more

3. How often do you watch anime?

1. Never
2. Once a week
3. Twice or three times a week
4. Four times or five times a week
5. Every day

4. If you answer 2, 3, 4, or 5 in the previous question, how long do you watch manga in a week?

1. Less than 1 hour
2. 1 hour to 2 hours
3. 2 hours to 4 hours
4. 4 hours to 6 hours
5. 6 hours or more

5. When you read manga, do you tend to choose manga that also has an anime version?

1. Yes
2. No

6. If you answer “Yes” in the previous question, what kind of manga that has the anime version have you read in the past? Also, please list the manga that has the anime version you have read.

7. If you answer 1 in Question 5, do you read the manga version first, or do you watch the anime version first?

1. I read the manga first before I watch anime.
2. I watch the anime first before I read the manga.

8. Have you ever read the manga called "Sonna mirai wa uso de aru" (そんな未来はウソである)?

1. Yes
2. No

9. Have you ever read the manga called "Bokutachi no maou wa futsuu" (僕達の魔王は普通)?

1. Yes
2. No

10. Have you ever read the manga or watched the anime called "Chibimaruko-chan" (ちびまる子ちゃん)?

1. Yes
2. No

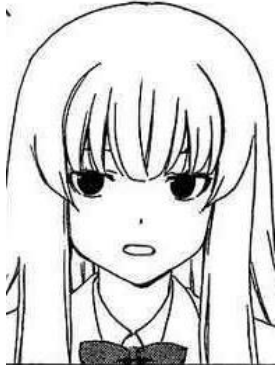
11. Have you ever read the manga or watched the anime called "Kono subarashii sekai ni shukufuku wo!" (この素晴らしい世界に祝福を!)?

1. Yes
2. No

APPENDIX B

COMPREHENSION TESTS

そんな未来はウソである (Sonna mirai wa uso de aru)



Ōhashi-san



Satō-san



Eguchi-san

-What was the special skill Ōhashi-san (a white hair girl) had?

1. She can see a bit of future.
2. She can tell whether people lie.
3. She can get away from trouble.
4. She can get snacks from her friends.

-What was the special skill Satō-san (a long black hair girl) had?

1. She can see a bit of future.
2. She can tell whether people lie.
3. She can get away from trouble.
4. She can get snacks from her friends.

-What did Eguchi-san (a short black hair girl) watch out for?

1. A white hat
2. A black hat
3. A guy with a black hat
4. A guy with a white hat

-Why did Eguchi-san give a snack to Ōhashi-san?

1. Eguchi-san wanted to be a friend with Ōhashi-san.
2. Eguchi-san did not like the snack.
3. Ōhashi-san divined what would happen to Eguchi-san.
4. Ōhashi-san wanted the snack.

At the end of the story, what did Ōhashi-san see when she saw Satō-san's eyes?

1. Ōhashi-san would hang out with Satō-san and Eguchi-san.
2. Ōhashi-san would go to eat ice cream with Satō-san.
3. Satō-san would have the ice cream she could not eat the day before.
4. Satō-san would go to eat ice cream with Eguchi-san.

僕達の魔王は普通 (Boku no maou wa hutsuu)



Isaac

Lucifer

Akihiko

-What did Isaac (イザーク), an old brother, talk to his younger brother, Lucifer (ルキフェル), about?

1. Their father's health
2. Isaac will be the demon king.
3. Lucifer wants to be a kindergarten teacher.
4. How they invade the Earth

-Why did Akihiko hang out by himself outside?

1. Akihiko did not have friends.
2. Akihiko wanted to play by himself.
3. Akihiko was waiting for his friends.
4. Akihiko could not eat school lunch.

-Why did Akihiko want to see Isaac again?

1. Akihiko was encouraged by Isaac.
2. Akihiko wanted some souvenirs from Hell.
3. Akihiko wanted to introduce his mother and the principal.
4. None of the above.

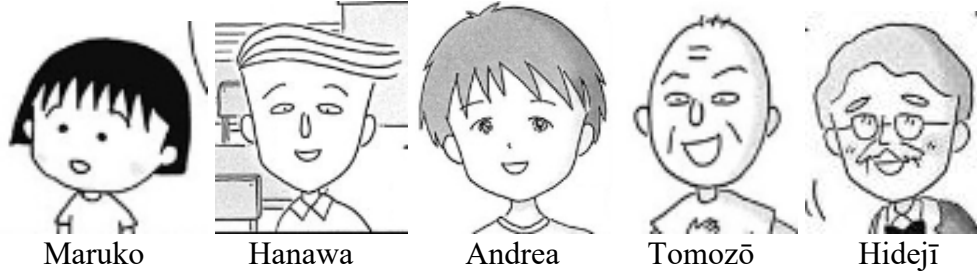
-What made Isaac feel he was alive?

1. When Isaac did something good
2. When Isaac was thinking about invading the Earth
3. When Isaac saw humans are crying
4. When Isaac was thinking about school lunch

- Why did Lucifer refuse to become the demon king?

1. Lucifer liked the current position.
2. Lucifer did not study to be the demon king.
3. Lucifer thought being the demon king was boring.
4. Lucifer wanted to be a kindergarten teacher.

ちびまる子ちゃん キミを忘れないよ (Chibimaruko-chan kimi no koto wa wasurenaiyo)



-Why did Hanawa ask Maruko and his friends if they would host the international students?

1. Hanawa wanted international students to have more traditional Japanese life experience.
2. Hanawa did not want to take care of the international students.
3. Hanawa wanted to his friends to have a chance to host the international students.
4. Hanawa did not have enough rooms to let the international students stay.

-Why did Andrea become interested in Maruko?

1. Andrea wanted to know more about Maruko.
2. Andrea thought Maruko was Italian.
3. Maruko looked alike one of Andrea's best friends.
4. None of the above.

-Why did Maruko's family refuse to host the international students at first?

1. It was too much work to host the international student.
2. Maruko's house was too small to let the international student stay.
3. Maruko's family thought the international students would not get good experience by staying with them.
4. Maruko's family did not like foreigners.

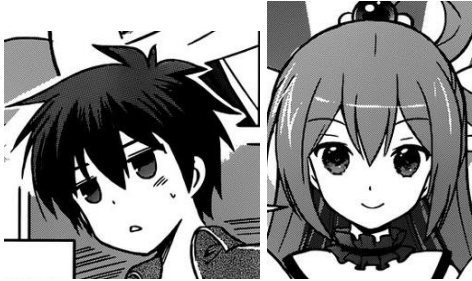
-Maruko wanted to host _____.

1. Mark (マーク)
2. Julia (ジュリア)
3. Andrea (アンドレア)
4. Shinny (シンニー)

-Why did Tomozō (Maruko's grandfather) suddenly decide to host Andrea?

1. Tomozō had a few Italian friends who know Andrea.
2. Tomozō wanted to learn how to make Italian dishes.
3. Tomozō wanted to help Hidejī (Hanawa's servant) because of their friendship.
4. Tomozō wanted Maruko to have good friendship with Andrea.

この素晴らしい世界に祝福を！(Kono subarashii sekai ni shukufuku wo!)



Kazuma

Aqua

-How did Kazuma think he died?

1. Kazuma was hit by a truck.
2. Kazuma was hit by a tractor.
3. Kazuma was killed by a female high-school student.
4. Kazuma died from a heart attack.

-What did Kazuma try to do to a female high-school student?

1. Kazuma tried to save her life.
2. Kazuma tried to go to school with her.
3. Kazuma tried to ask her for a date.
4. Kazuma tried to hurt her.

-How did Kazuma die?

1. Kazuma was hit by a truck.
2. Kazuma was hit by a tractor.
3. Kazuma was killed by a female high-school student.
4. Kazuma died from a heart attack.

-What did Aqua ask Kazuma to do in the parallel world?

1. Do whatever Kazuma wants.
2. Defeat the demon king.
3. Contribute to the prosperity of the parallel world.
4. Join the Rebel alliance and defeat the Imperial military.

-What was the great perk that Kazuma was originally supposed to get?

1. Receive a huge amount of money.
2. Take Aqua to the parallel world.
3. Bring one powerful weapon or super human ability.
4. None of the above.

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