# A Study of Children's Media Literacy in Japan Yasushi GOTOH, Takashi IKUTA

Faculty of Education and Human Science, Niigata University, 8050 Igarashi 2no-cho, Niigata City, 950-2181, Japan E-mail: gotoh@eos.ocn.ne.jp ikuta@ed.niigata-u.ac.jp

#### Summary

This session outlines Japanese Children's media literacy. In this paper, we focused on three aspects of media literacy: Skills of Media Utilization, Critical Viewing and Positive Attitude in information gathering, and tried to make a scale of these abilities. As a result of our research of 401 Japanese children, we reached the following four conclusions.

- 1) As a result of the correlation analysis, the correlation coefficient of scale and each item is high. As a result of GP analysis, there are significant differences in all items. Then, the reliability of the scale is confirmed.
- 2) We find out that a person with Positive Attitude has a high level of skills and a high level of Critical Viewing.
- 3) Students with a high level of Skills of Media Utilization and Positive Attitude in information gathering think that the Internet is easy to use, accurate, has up-to-date information, and like it. On the other hand, the low level group feels that TV is easy and accurate, and they like it. They seem to have a tendency to overestimate the information from TV.

## 1. Purpose

In Japan, the spread of communication media is rapid. The proportion of internet users across the nation is more than 80% (Ministry of Public Management, Home Affairs, Posts and Telecommunications 2003). More than 80% of Japanese mobile phones are internet capable; they are not only 'portable phones' but also 'portable internet stations'. Although such new technology is becoming widely used, Muto & Shiraishi (1999) point out it is not as widely used as the daily use of the 'old technology' of television.

Recently, the importance of education in, and research of media literacy has risen more and more. Ikuta (2000) defined media literacy as 'The ability to utilize communication media for both receiving and sending information.' According to Sakamoto (1986), there are three aspects of media literacy: a) Understanding of the characteristics of Media and Critical Viewing, b) Skills of Media Utilization, c) Construction and Production of Media. Due to the proliferation of the Internet, Mizukoshi and Nakahashi(2002) arranged aspects of media literacy as follows: making full use of media, understanding the special characteristics, interpretation, critical understanding, representation and dialogue and communication.

Common factors among all of the above definitions are Critical Viewing, Skills of Media Utilization and Positive Attitude. Media utilization is an ability to make full use of the internet, mobile phones and so on. If the user cannot use these media perfectly, the functions of these media become redundant. Critical Viewing is an ability to judge the accuracy of the information from the media. Masterman (1985) pointed out that "For those who control and work in the media do not simply have the power to set agendas, provide explanations and construct their own versions of events. They have the much more significant power to project these things as natural and authentic – simply part of the way things are ". Even if it is a news program, the information broadcasted is constructed by a producer. A Positive Attitude is the tendency to collect information willingly. For example, TV does not require a Positive Attitude, but it

sends a stream of information which we receive unconsciously. With a Positive Attitude, they will try to confirm the accuracy of information using other media. The internet is not 'unconscious', if the user does not browse, they cannot collect any information. It is supposed that internet users have a Positive Attitude in information gathering. If people have Critical Viewing, they have questions about the information from the media, and try to confirm the accuracy of it. Being curios or having questions about TV programs, they will watch other channels and will check the accuracy. Or they may compare it with information from TV and newspapers, the Internet and so on. It is expected that there is a relationship between Skills of Media Utilization, Critical Viewing and Positive Attitude in information gathering.

There are several studies focusing on the skills of the Media Utilization and Positive Attitude in information gathering in Japan. On the other hand, there are few studies that have tried to develop a scale of Critical Thinking skills for understanding information from the media. Little is known about the relationship between the aspects of media literacy. The relationship between Critical Viewing and Skills of Media Utilization is still controversial. In this paper, we focused on three aspects of media literacy: Skills of Media Utilization, Critical Viewing and Positive Attitude in information gathering, and tried to make a scale of these abilities. The purposes of our research are as follows:

- 1) To develop scales to measure Skills of Media Utilization, Critical Viewing and Positive Attitude in Information Gathering.
- 2) To identify the relationship between Skills of Media Utilization, Critical Viewing and Positive Attitude in information gathering.
- 3) To identify the relationship between media literacy and perceptions of communication media.

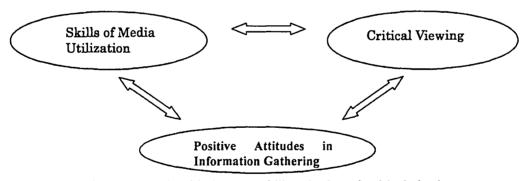


Figure 1 Relationship between skill, attitude and critical viewing

## 2. Method

401 high school students took part in the study. The research was conducted in June 2004 using a questionnaire form.

## 2.1 Skills of Media Utilization

Although there was a former study focusing on Skills of Media Utilization (Suzuki, H., Kawakami, Y., & Fujii, Y. 1994), due to the rapid development of media technology, we cannot fully use these items. So we rewrote and added to the items of this research. Communication with various kinds of media, such as Mobile Phones and PCs was assumed.

- Reading newspapers or checking train schedules using a mobile phone.
- Finding useful information using 'Yahoo' or 'Goo'.
- Finding useful information using the Internet or a digital-encyclopedia.
- Making a bookmark of web pages.
- Making documents using a word processor.
- Making multimedia documents with photographs and movies.
- Making web pages.
- Sending attached files using email.
- Loading and modifying documents using a PC.
- Exchanging email using a PC or mobile phone.

To measure the level of Skills of Media Utilization, the children were asked to select the most suitable response from each item. The responses are as follows, 'I can and often do it', 'I can do it', 'I cannot do it', 'I cannot understand what it means.' Scores were given from 1 point (I cannot understand) to 4 points (I can and often do it). The scores of all 10 items were totaled.

#### 2.2 Critical Viewing

Items concerning Critical Viewing are developed by referring to former research conducted in Japan (Muto & Shiraishi 1999, Dentsu Communication Institute 2003). We tried to include items about the construction of media, and the influence of information from media upon society.

- Even though journalists collect a lot of information, an article is just a part of the collected information.
- \*If the background music changes, impressions of the same TV scene do not change.
- \*The Producer of a TV news show is not concerned about how to attract viewers.
- \*Everybody understands TV programs in the same way; there is no difference between individuals.
- I feel that the image of a product is exaggerated in TV commercials.
- Programs broadcast on TV sometimes start trends.
- The way of sending information in TV programs and newspapers affects a persons' view.
- I sometimes feel that the content of TV programs is exaggerated.
- I sometimes feel that articles in books are exaggerated.
- I sometimes feel that there is injustice in TV programs and newspapers.

To measure the level of Critical Viewing, children were asked to select the most suitable response. These are as follows: 'I agree',' 'I somewhat agree', 'I cannot say', 'I somewhat disagree', 'I disagree.' Scores were given from 1 point (I disagree) to 4 points (I agree). In reversal items, with \* mark, scores were given from 1 point (I agree) to 4 points (I disagree).

The Critical Viewing Score was made by totaling the scores of all 10 items.

### 2.3 Positive attitude in information gathering

Items concerning Positive attitude in information gathering are developed referring to former research conducted in Japan (Muto & Shiraishi 1999, Dentsu Communication Institute 2003).

- In information gathering, I will refer to books and web pages, rather than asking someone.
- I usually watch TV news programs.
- In information gathering, I consider selecting whichever media; books, newspapers, Internet web
  pages, is most suitable.
- \*Just watching TV is enough to gather information.
- To gather new knowledge, I use not only TV, but also newspapers and books.
- To gather useful information, I think little of cost.
- If I am lacking any information about a subject of interest to me, I feel uneasy.
- It is important to check the accuracy of information using other TV programs, newspapers and web pages, even if the information was broadcast by TV.

To measure the level of Positive attitude in information gathering, children were asked to select the most suitable response. These are as follows: 'I agree',' 'I somewhat agree', 'I cannot say', 'I somewhat disagree', 'I disagree.' Scores were given from 1 point (I disagree) to 4 points (I agree). In reversal items, with \* mark, scores were given from 1 point (I agree) to 4 points (I disagree).

The level of Positive attitude in information gathering Score was made by totaling the scores of all 8 items.

#### 2.4 Perception of the media

We measured the perception of the media in the following 4 categories: enjoyment, accuracy, timeliness, ease-of-use. Students were asked to rank newspaper, internet, book and TV. Scores were given from 1(fourth place) to 4(first place).

#### 3. Results

#### 3.1 Skills of Media Utilization.

#### 3.1.1 Correlation analysis

To identify the reliability of Skills of Media Utilization, the correlation coefficient of the total score and each items were calculated. Shown in table!, the correlation coefficient of 9 items was over .5 From this result, consistency of this scale is high. But in 'skill 2: Exchanging email using a PC or mobile phone', the correlation coefficient is .315. In Japan, mobile phones have spread rapidly. But not all mobile phone users have a high level of Skills of Media Utilization. Dentsu Communication Institute (2003) pointed out that there are a large number of mobile phone users with a low level of Skills of Media Utilization.

In this item, the correlation coefficient between word processing and making web pages is low. From this information, the reasons for the low correlation between Skills of Media Utilization and mobile phones can be explained.

Table 1 Correlation analysis: Skills of media utilization

	Skills media utilization	of	Skill I	Skill2	Skill3	Skill4	Skil15	Skill6	Skill7	Skill8	Skill9	Skill 10
Skills of media utilization	1		.508	.315	.645 (**)	.705 (**)	.724 (**)	.684	.600 (**)	.605 (**)	.605 (**)	.511 (**)
Skill1: Making documents using a word processor.	.508(**)		ìí	-0.02	.263 (**)	.232 (**)	(**)	.279 (**)	.100 (*)	.500 (**)	.326 (**)	.142 (**)
Skill2: Exchanging email using a PC or mobile phone.	.315(**)			1	.165 (**)	.148 (**)	0.091	0.097	.269 (**)	0.087	0.082	.165 (**)
Skill3: Finding useful information using 'Yahoo' or 'Goo'.	.645(**)				1	.552 (**)	.400 (**)	.343 (**)	.251 (**)	.335 (**)	.289 (**)	.306 (**)
Skill4: Making a bookmark of web pages.	.705(**)					1	.467 (**)	.440 (**)	.348 (**)	.297 (**)	.333 (**)	.256 (**)
Skill5: Making multimedia documents with photographs and movies.	.724(**)						1	.479 (**)	.338 (**)	.422 (**)	.442 (**)	.262 (**)
Skill6: Finding useful information using the Internet or a digital-encyclopedia.	.684(**)							1	.376 (**)	.304 (**)	.353 (**)	.241 (**)
Skill7: Sending attached files using email.	.600(**)								1	.208 (**)	.257 (**)	.213 (**)
Skill:8 Loading and modifying documents using a PC.	.605(**)									1	.384 (**)	.204 (**)
Skill9: Making web pages.	.605(**)_	•									1	.262 (**)
Skill10: Reading newspapers or checking train schedules using a mobile phone.	.511(**)											l

## 3.1.2 GP analysis

Using the total score of Skills of Media Utilization, we divided the samples into 4 categories. To identify the reliability of this scale, we selected the highest (25%) group and the lowest (25%) group. Then we compared the average score. Fig.2 shows the level of Skills of Media Utilization. There are significant differences in all items. As a result of this, the reliability of this scale is high. The item with the highest score is 'Exchanging email using a PC or mobile phone'. In this item, the difference between the high skill group and low skill group is relatively small. Then, items with high average scores are 'Finding useful information using 'Yahoo' or 'Goo' and 'Making a bookmark of web pages'. Then, 'Loading and

modifying documents using a PC.', 'Sending attached files using email', 'Finding' useful information using the Internet or a digital-encyclopedia', 'Making documents using a word processor'. These are the skills concerning web browsing and word processing. On the other hand, the average score of 'Making multimedia documents with photographs and movies' and 'Making web pages' is low. The opportunities to make multimedia documents and web pages are very few. The overall tendency is of high skills from many opportunities, and low skills from few opportunities. This result is justifiable.

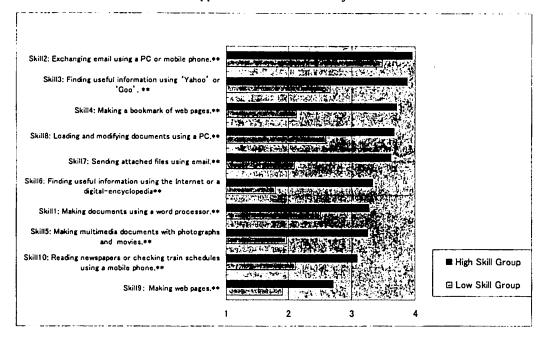


Figure 2 GP analysis: Skills of media utilization

### 3.2 Critical Viewing

### 3.2.1 Correlation analysis

We devised 28 items concerning Positive Attitude in information gathering and Critical Viewing. Using factor analysis, we extracted two factors. One is concerning Critical Viewing, the other is concerning Positive Attitude in information gathering. We selected 10 items concerning Critical Viewing and 8 items concerning Positive Attitude in information gathering. To identify the reliability of Critical Viewing, the correlation coefficient of the total score and each items were calculated. Shown in table 2, the correlation coefficient of 9 items were over .4. From this result, the consistency of this scale is high.

The correlation coefficient of 'Even though journalists collect a lot of information, an article is just a part of the collected information', '\*The Producer of a TV news show is not concerned about how to attract viewers' and '\*If the background music changes, impressions of the same TV scene do not change' is relatively high. These items concern the construction of media.

The correlation coefficient of 'I feel that the image of a product is exaggerated in TV commercials', 'Programs broadcast on TV sometimes start trends' and 'The way of sending information in TV programs and newspapers affects a persons' view' is relatively high. These items concern the effect of media on society. Critical Viewing seems to include two factors: one is construction, and the other is the effect of media on society.

Table 2 Correlation analysis: critical viewing

	Critical Viewing	CVI	CV2	CV3	CV4	CVS	CV6	CV7	CV8	C:V9	CVIO
Critical Viewing  CV1: Even though journalists collect a lot of information, an article is just a part of the collected information.	574 (**)	.574 (**) I	.512 (**) .352 (**)	.416 (**) .372 (**)	.540 (**) .339 (**)	.469 (**) .100(*)	.374 (**) -0.01	.445 (**) .161 (**)	.418 (**) 0.095	.468 (**) .119 (*)	.413 (**) 0.056
CV2: "If the background music changes, impressions of the same TV scene do not change.	512 (**)		1	.205 (**)	.306 (**)	0.098	.169 (**)	0.071	0.02	0.072	-0.01
CV3: *The Producer of a TV news show is not concerned about how to attract viewers.	.416 (**)			1	.181 (**)	0.04	.137 (**)	.112(*)	-0.092	-0.058	-0.074
CV4: *Everybody understands TV programs in the same way; there is no difference between individuals.	.540 (**)				l	0.094	0.061	.126(*)	0.028	.138 (**)	.124(*)
CV5: I feel that the image of a product is exaggerated in TV commercials.	.469 (**)					1	.310 (**)	.341 (**)	.277 (**)	.103(*)	.143 (**)
CV6: Programs broadcast on TV sometimes start trends.	.374 (**)						1	.175 (**)	0.044	-0.022	0.023
CV7: The way of sending information in TV programs and newspapers affects a persons' view.	445 (**)							1	.157 (**)	.124(*)	0.03
CV8: I sometimes feel that the content of TV programs is exaggerated.	.418 (**)								1	.292 (**)	.189 (**)
CV9: I sometimes feel that articles in books are exaggerated.	.468 (**)									ı	.225 (**)
CV10: I sometimes feel that there is injustice in TV programs and newspapers.	.413 (**)										1

# 3.2.2 GP analysis

Using the total score of Critical Viewing, we divided samples into 4 categories. To identify the reliability of this scale, we selected the highest (25%) group and the lowest (25%) group. Then we compared the average score.

Fig.3 shows the level of skills of Critical Viewing. There are significant differences in all items. As a result of this, the reliability of this scale is high. Items with a high average score are 'I feel that the image of a product is exaggerated in TV commercials', 'The way of sending information in TV programs and newspapers affects a persons' view', '\*Everybody understands TV programs in the same way; there is no difference between individuals' and 'I sometimes feel that the content of TV programs is exaggerated'. The average score of the high Critical Viewing group is nearly 5points (full marks).

Items '\*Everybody understands TV programs in the same way; there is no difference between individuals', 'Even though journalists collect a lot of information, an article is just a part of the collected information' and 'I sometimes feel that there is injustice in TV programs and newspapers' have significant differences in the average scores between the high and low groups. It was supposed that the high Critical Viewing group thought that the information in newspapers was constructed so they choose which information to believe.

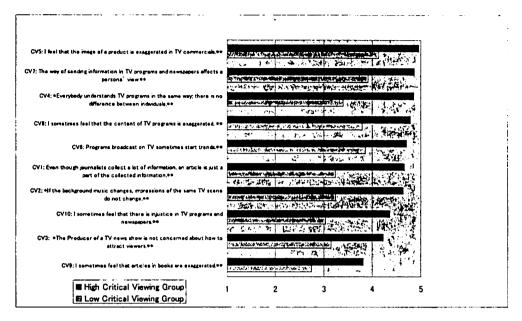


Figure 3 GP Analysis: critical viewing

## 3.3 Positive attitude in information gathering

## 3.3.1 Correlation analysis

To identify the reliability of Positive Attitude in information gathering, the correlation coefficient of the total score and each items were calculated. Shown in table 5, the correlation coefficient of 7 items was over .4. From this result, the consistency of this scale is high.

Table 3 Correlation analysis: Positive attitude in information gathering

	Positive Attitude in Information Gathering	Attinde I	Attitude2	Attitude3	Attitu <b>cie</b> 4	Attitude5	Attitude6	Attitude7	Attitude8
Positive Attitude in Information Gathering	1	.508(**)	.459(**)	.478(**)	.610(**)	.578(**)	.489(**)	.412(**)	.324(**)
Attitude1: In information gathering, I will refer to books and web pages, rather than asking someone.	.508(**)	1	0.051	0.045	.254(**)	.182(**)	.194(**)	.122(*)	.127(*)
Attitude2: I usually watch TV news programs.	.459(**)		1	.169(**)	.135(**)	.271(**)	0.083	0.082	0.093
Attitude3: In information gathering, I consider selecting whichever media; books, newspapers, Internet web pages, is most suitable.	.478(**)			1	.154(**)	.139(**)	.113(*)	0.07	.184(**)
Attitude4: *Just watching TV is enough to gather information.	.610(**)				I	.300(**)	.133(**)	.178(**)	.219(**)
Attitude5: To gather new knowledge, I use not only TV, but also newspapers and books.	.578(**)					1	.206(**)	.102(*)	.237(**)
Attitude6: To gather useful information, I think little of cost.	.489(**)						1	.210(**)	.152(**)
Attitude7: If I am lacking any information about a subject of interest to me, I feel uneasy.	.412(**)							1	.148(**)
Attitude8: It is important to check the accuracy of information using other TV programs, newspapers and web pages, even if the information was broadcast by TV.	.324(**)								1

## 3.3.2 GP Analysis

Using the total score of Positive Attitude in information gathering, we divided the samples into 4 categories. To identify the reliability of this scale, we selected highest (25%) group and the lowest (25%) group. Then we compared the average score. Fig.4 shows the level of Positive Attitude in information gathering. There are significant differences in all items.

As a result of this, the reliability of this scale is high. Items with a high level of Positive Attitude in information gathering are 'If I am lacking any information about a subject of interest to me, I feel uneasy', 'I usually watch TV news programs' and 'To gather new knowledge, I use not only TV, but also newspapers and books'. A person with Positive Attitude seems to have curiosity, trying to collect information from books, newspapers and the Internet. '\*Just watching TV is enough to gather information', 'In information gathering, I will refer to books and web pages, rather than asking someone', 'To gather new knowledge, I use not only TV, but also newspapers and books' and 'To gather useful information, I think little of cost' have significant differences in the average scores between the high and low groups. A person with a low level of Positive Attitude receives information passively, they dislike paying any costs for using other media. This result coincides with the result of media perception.

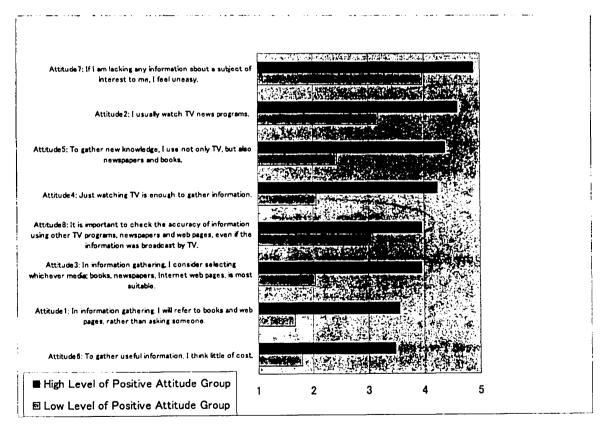


Figure 4 GP Analysis: Positive attitude in information gathering

# 3.4 Relationship between skills, attitude and Critical Viewing

Fig. 5 shows the correlation of Skills of Media Utilization, Critical Viewing and Positive Attitudes in information gathering. There is a significant correlation between Media Utilization Skills and Positive

Attitudes (.316). Those with a high level of Positive Attitude try to use various media, and as a result of these efforts, Skills of Media Utilization will be developed. In particular, in the high level of Positive Attitude group, the average scores of 'In information gathering, I consider selecting whichever media; books, newspapers, Internet web pages, is most suitable' and '\*Just watching TV is enough to gather information' are high. They seem to have a tendency to try to confirm information using various media. As a result of these activities, Skills of Media Utilization will be developed. There is also a significant correlation between Critical Viewing and Positive Attitudes (.374). In the high level of Critical Viewing group, the average score concerning construction of media is high. They are aware of the construction of media. They do not believe one media solely. They try to obtain more information from other media. As a result of this analysis, Positive Attitudes in information gathering might be related to Skills of Media Utilization and Critical Viewing. There is a significant correlation between Media Utilization Skills and Positive Attitudes (.153). But when the correlation coefficient is low, the relationship is not clear. With a high level of Critical Viewing, they try to obtain more information from other media. The correlation coefficient between Critical Viewing, and 'To gather new knowledge, I use not only TV, but also newspapers and books' and 'It is important to check the accuracy of information using other TV programs. newspapers and web pages, even if the information was broadcast by TV' is significant. But it is a fact that sometimes using other media requires no skills. For example, comparing TV and newspapers. In this case, media utilization is not important. These cases might be affecting this result.

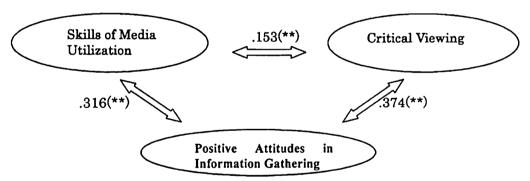


Figure 5 Relationship between skills, attitude and critical viewing

## 3.5 Relationship between Perception of Media and Media Literacy

# 3.5.1 Overall tendency

Next, we'd like to mention the relationship between perception of media and media literacy. The purpose of this analysis is to identify the validity of the scale. If the level of media literacy is high, they use media positively. For example, a person with a Positive Attitude should have an affirmative perception to the Internet. On the contrary, if the level of media literacy is low, a person is passive to the information from the media. For example, a person with a passive attitude should have an affirmative perception of TV. Fig.6 shows the average score in perception of media. In the easy-to-use category, TV is the easiest, then the Internet, newspapers, and books. Traditional printed media, books and newspapers were thought to be

difficult. These media are not popular. In the enjoyment category, TV is most liked, then the Internet, books and newspapers. In accuracy category, newspapers are recognized as most accurate, then TV. The Internet and books were not thought to be accurate. Japanese students feel that mass media is accurate. In the timeliness category, TV and the Internet are thought to be the best. Then, newspapers and books. This result is justifiable.

Next, we'd like to mention the characteristics of each media. TV is most liked and easiest, and the news from the TV is thought to be timely and to have a high level of accuracy. For Japanese students, TV is both a familiar and important media. The Internet is the second most-liked, and easy-to-use, and the news is timely, but the information is not thought to be accurate. The information in newspapers is accurate, but compared with TV and the Internet, the information is not up-to-date. Books are not liked and thought to be difficult, and the information is not up-to-date.

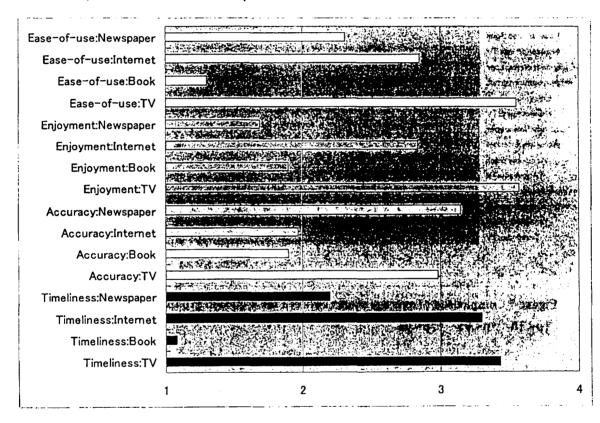


Figure 6 Average score in perception of media

## 3.5.2 Comparison of average scores between the high and low groups

The next analysis is a comparison of average scores between the high and low groups. Fig 7, 8 and 9 shows the average scores in perception of media. We collated the items with significant differences, shown in table 4, 5 and 6. In Skills of Media Utilization, regarding the Internet, the average score of the high skill group is significantly higher than the low skill group. Students of the high skill group feel that the information from the Internet is timely, easy to use, accurate, and they like the Internet. On the other hand, the low skill group feels that mass media is affirmative. They feel TV is easy to use, accurate and they like it. The high skill group has an affirmative perception towards the Internet, and the low skill group has an

affirmative perception towards mass media. This tendency is in common with the Positive Attitude scores. The high Positive Attitude group thinks the Internet is easy to use, accurate, and they like it. On the other hand, the low Positive Attitude group thinks that TV is easy to use and accurate, and they like it. The trend of a passive attitude in the low Positive Attitude group is clear. In Critical viewing, the low Critical Viewing group has affirmative attitudes towards TV. They feel TV is accurate, and they like it. It seems that because of low levels of Critical Viewing, they believe the information from TV unquestioningly. In conclusion, the high level of media literacy group utilizes the Internet, and the low level of media literacy group depends on TV. This result is justifiable. As a result of this analysis, the validity of this scale seems to be confirmed.

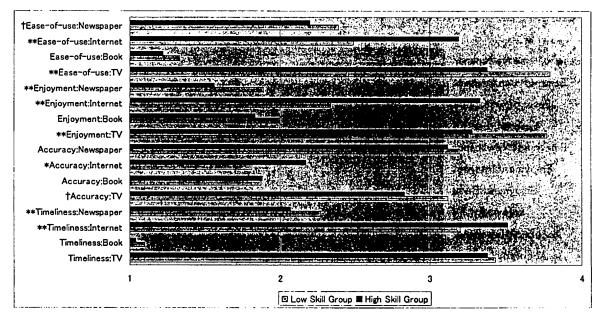


Figure 7 Comparison of average scores between the high skill group and low skill group p<.10 \*p<.05 \*\*p<.01

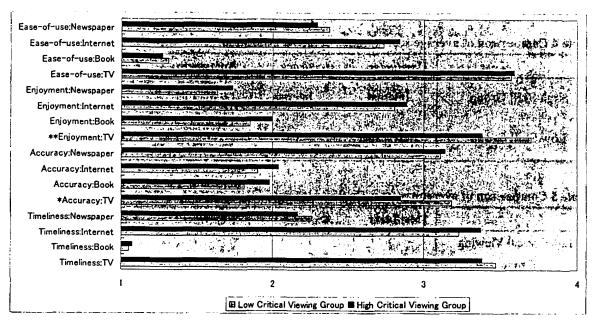


Figure 8 Comparison of average scores between the high critical viewing group and low critical viewing group p<.10 \*p<.05 \*\*p<.01

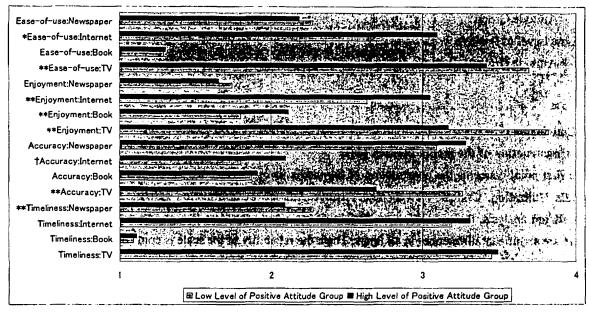


Figure 9 Comparison of average scores between the high level of positive attitude group and low level of positive attitude group p<.10 \*p<.05 \*\*p<.01

Table 4 Comparison of average scores: Skills of media utilization

	Timeliness Accuracy		Enjoyment	Ease-of-use	
High Skill Group	Internet	Internet	Internet	Internet	
Low Skill Group	Newspaper	TV	Newspaper TV	TV	

Table 5 Comparison of average scores: Critical viewing

	Timeliness	Accuracy	Enjoyment	Ease-of-use
High Critical Viewing				
Group				
Low Critical Viewing		<b></b>		
Group		TV	TV	

Table 6 Comparison of average scores: Positive attitude in information gathering

	Timeliness	Accuracy	Enjoyment	Ease-of-use	
High Level of Positive		•		•	
Attitude Group		Internet	Internet	Internet	
Low Level of Positive	Manage		m1 /		
Attitude Group	Newspaper	TV	TV	TV	

### 4. Conclusion

## 4.1 Construction of the media literacy scale

The first point concerns the construction of the media literacy scale. We developed three scales: Skills of Media Utilization, Critical Viewing and Positive Attitude in information gathering. As a result of the correlation analysis, the correlation coefficient of scale and each item is high. As a result of GP analysis, there are significant differences in all items. Then, the reliability of the scale is confirmed.

# 4.2 Relationship between Skills, Critical Viewing and Attitude

The second point concerns the relationship between Skills of Media Utilization, Critical Viewing and Positive Attitude in information gathering. A significant coefficient was discovered. Then, we find out that a person with Positive Attitude has a high level of skills and a high level of Critical Viewing.

## 4.3 Relationship between media literacy and perception of media

The third point concerns perception. Students with a high level of Skills of Media Utilization and Positive Attitude in information gathering think that the Internet is easy to use, accurate, has up-to-date information, and like it. In another word, they make good use of the Internet as a tool for information gathering. We can reason that they have a high level of media literacy. On the other hand, the low level group feels that TV is easy and accurate, and they like it. They seem to have a tendency to overestimate the information from TV. As a result of the above findings, the validity of the scale was confirmed.

#### 4.4 future plans

Finally, we'd like to mention the future plans for this research. The first point concerns reconsidering the items. Particularly, in items of Critical Viewing, a ceiling effect can be found. It is necessary to examine the wording and modify each item. Also, it is necessary to increase the number of items concerning the Internet. We have to add new items about web awareness; the skills in confirming the accuracy of the information on the Internet.

The second point concerns improving the survey. In this research, we measured attitudes and knowledge of Critical Viewing. These are important aspects in Critical Viewing, but there are other aspects. For example, in a real-life situation, how can people be critical and examine the accuracy of the information. Only using questionnaires has limitations. To identify the development of media literacy, we need to survey school children's media literacy. It is difficult to use the questionnaires used in this research with school children. For example, we'd like to develop a new method using movies or videos. We would show the movie to the subjects and then use questionnaires. Another way is to combine questionnaires, observation and a teacher's evaluation. We'd like to further develop the scale of media literacy.

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