Warm or Cold Color? The Suitable Colored Background for Thai Sign Language on TV Screen

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ABSTRACT

The purpose of study was to examine use of different background colors for the appropriateness of watching TV program from the hearing impairments. This research was a quasi-experimental; one group posttest only design using a sample of 50 high school deaf students at Setsatian School for the deaf. There was 2 groups of 25 male and 25 female that watched the treatment a TV program, a daily weather forecast with a Thai sign language interpreter on the 6 background colors; purple, blue, green, yellow, orange and red. Colors appear closer to the red were warm while closer to the blue were cold. The suitability of background with sign language interpreters were collected. The collecting data processed and tested the hypothesis in a SPSS for Window, the chi squared test of statistics were used and the p – value less than 0.05 was accepted the alternative hypothesis.

The result showed the satisfaction in background of a sign language interpreter on the TV screen in the first choice of cold color was selected 56 % by male and 72% by female. The total average was 64%. The second choices decreased by 42% and the third choices decreased by 28 %. The first choice of warm color was selected 44 % by male and 28% by female. The total average was 36%. The second choices increased by 58% and the third choices increased by 72 %. The test of Chi – Square statistics showed that no different of the first, second and third selection of color tones. This result found that no different between the cold color and the warm color was selected.

Keywords: colored background, Thai sign language interpreter, TV screen, hearing impairments

1. INTRODUCTION

Thailand has laws Section 36 of the Broadcasting and Television Business Act B.E. 2551 requires the promotion and protection of the rights of disabled and disadvantaged people to access or recognize and take advantage of the television programs. Broadcasting and television businesses are equality with the general public. The announcement made by the National Broadcasting and Telecommunications Commission B.E. 2559. By the National Broadcasting and Telecommunications Commission (NBTC) to promote the protection of the rights of people with disabilities. For sign language interpretations studies have shown that people with hearing

disabilities prefer to choose sign language interpreter services more than closed captions because of the cultural reasons of deaf people, even if subtitles are provided instead of voices. Deaf and hearing impaired people in each country are often comfortable using sign language interpreters because of its familiarity in the deaf communities. (Qure, J. and Quardros, R., 2015, p. 120 -145.)

TV programs contain a lot of information such as hosts, participants, are called the environment in which the program is presented, so it is necessary to determine the size of the display sign language interpreters. The screen frame used to display sign language interpreters is defined as 1of 12 TV screens or more. Federal Communications Commission (FCC) of the United States, or The Office of Communications (ofcom) of the United Kingdom, has not specifically addressed this issue. The present study showed that in European countries, there were 100 different screen designs used to display sign language interpreters, such as interpreter's on-screen size. Different shot sizes are used, including the interpreter's location on the screen. (Bosch-Baliarda, Marta, et al. 2020, pp. 1 - 23) But another important thing is the color of the background as it is an area that needs to be watched, the color of the background must be appropriate. Otherwise, the color of the background may interfere sign language by interpreters. Therefore, the recommended background color should be dark blue, dark gray, dark brown, or dark blue. That were for tv service. (NBTC, [online]) However, there is no research to support what color is suitable for displaying Thai sign language on a TV screen. The research about Thailand media accessibilities reported about the effective promotion on communication technology did not develop the quality of lives of persons with disability. (Bunchuea, Tri and Bunchuea, Kirati, 2016, p. 212.)

2. METHODOLOGY/MAIN CONTENT

This study aimed to use suitable colored background for Thai sign language on TV screen. It was intended to test the color for the suitability of watching TV program with sign language interpreters. This is quantitative research using quasi-experimental one group posttest only design by comparing satisfaction in TV shows with sign language interpreters. The sign language interpreter’s background consisted of cold color and warm color. The cold color were purple, blue, green and the warm color were yellow, orange, and red. The population used in this study was high school deaf students. The sample must be deaf with a hearing level of 90 decibels or more and they were normal eyesight, with 50 persons. Participants were divided into 25 male and 25 female. They selected the first color that the most suitable color, the second selected color, and the third selected color that the least suitable color and then the data analyzed with the SPSS.

Figure1. The task of participants

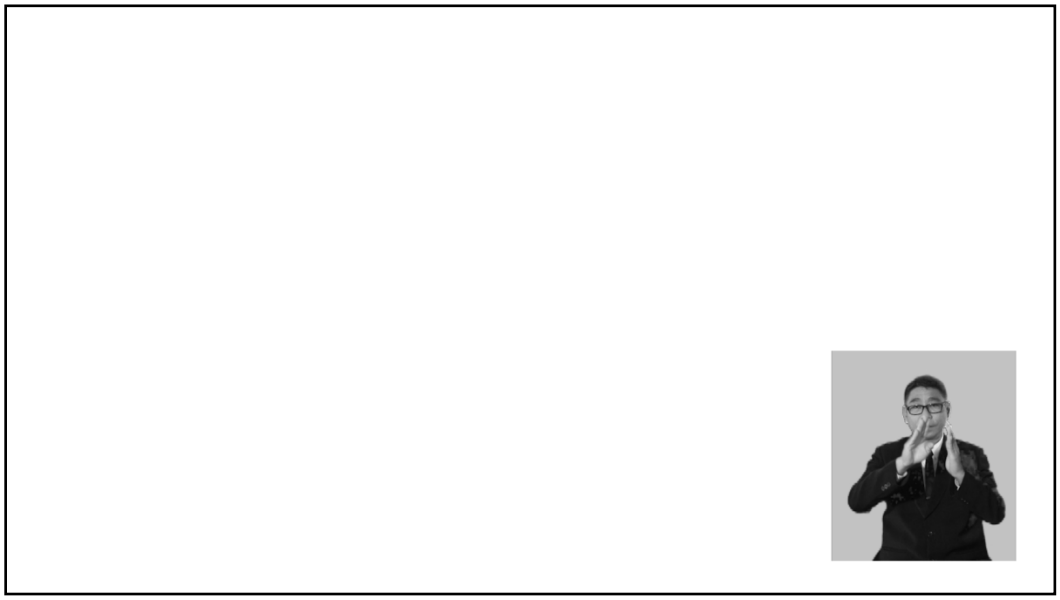

Figure2. The sign language interpreter with background color

3. RESULTS AND DISCUSSIONS

The selecting the most suitable color of the background showed that in the Table 1. The participants selected a cold color 32 people were represented 64% compared to 18 people who selected warm color were represented 36%. The male selected cold color 14 people were represented 56% compared to 11 people who selected warm color were represented 44%. The female 18 people selected cold color were represented 72% compared to 7 people who selected warm color were representing 28%.

Table 1. First selected the color of background

First selected			Colored Background		total
			Warm color	Cold color	
Sex	Male	Number of	11	14	25
		Percentage of	44.0%	56.0%	100.0%
	Female	Number of	7	18	25
		Percentage of	28.0%	72.0%	100.0%
Include		Number of	18	32	50
		Percentage of	36.0%	64.0%	100.0%

The participants selected a cold color 21 people were represented 42% compared to 29 people who selected warm color were represented 56%. The male selected cold color 10 people were represented 40% compared to 15 people who selected warm color were represented 60%. The female 11 people selected cold color were represented 44% compared to 14 people who selected warm color were represented 56%. (see the table 2.)

Table 2. Second selected the color of background

Second selected			Colored Background		total
			Warn color	Cold color	
Sex	Male	Number of	15	10	25
		Percentage of	60.0%	40.0%	100.0%
	Female	Number of	14	11	25
		Percentage of	56.0%	44.0%	100.0%
Include		Number of	29	21	50
		Percentage of	58.0%	42.0%	100.0%

The participants selected a cold color 14 people were represented 28% compared to 36 people who selected warm color were represented 72%. The male selected cold color 6 people were represented 24% compared to 19 people who selected warm color were represented 76%. Female 8 people selected cold color were represented 32% compared to 17 people who selected warm color were represented 68%. (see table 3.)

Table 3. Third selected the color of background

Third selected			Colored Background		total
			Warm color	Cold color	
Sex	Male	Number of	19	6	25
		Percentage of	76.0%	24.0%	100.0%
	Female	Number of	17	8	25
		Percentage of	68.0%	32.0%	100.0%
Include		Number of	36	14	50
		Percentage of	72.0%	28.0%	100.0%

Based on the colored background selection display, the participants selected a cold color in the first priority colored background 64% compared to those who selected warm color 36%. The second choice of colored background, the participants selected cold color 42% and warm color 58%. The latest result of the colored background selection showed that the participants selected 72% of cold color and 28% of warm color. The results suggest that cold color were the most suitable as the background for sign language interpreters because they were selected in the first priority almost one times more than warm color. (see Table 1)

When the participants done them task. The result showed the relation between choosing the color of the background and the tones. It was found that there were no statistically significant differences. As shown in table 4 – 6.

Table 4. The test of relationship between choosing of the first color background and color tones

Chi-Square Tests	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.389	1	.239		
Continuity Correction	.781	1	.377		
Likelihood Ratio	1.398	1	.237		
Fisher's Exact Test				.377	.189
Linear-by-Linear Association	1.361	1	.243		
N of Valid Cases	50				

Table 5. The test of relationship between choosing of the second color background and color tones

Chi-Square Tests	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.082	1	.774		
Continuity Correction	.000	1	1.000		
Likelihood Ratio	.082	1	.774		
Fisher's Exact Test				1.000	.500
Linear-by-Linear Association	.080	1	.777		
N of Valid Cases	50				

Table 6. The test of relationship between choosing of the third color background and color tones

Chi-Square Tests	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.397	1	.529		
Continuity Correction	.099	1	.753		
Likelihood Ratio	.398	1	.528		
Fisher's Exact Test				.754	.377
Linear-by-Linear Association	.389	1	.533		
N of Valid Cases	50				

This result found that no different between the cold color and the warm color was selected. Finding were consistent with studies done by Jadhao, Anand et al. they found the relationship between color perception and memory of normal students that no significant difference about red background and blue background. (Jadhao, Anand et al.,2020) It related with the result of research from Isarida, Takeo and Isarida, Toshiko K.(2007) found a change in background colors was necessary and sufficient to produce context effects. The present research were many information including hosts, participants, and the data of weather forecast. (see Figure 3.) Then participants watched the TV screen that used to display sign language interpreters it made an environmental context to incidental information about the environment in with the focal information was processed. Then this research found that there were no statistically significant differences about the suitable of background colors. The results indicate that the colored background of sign language interpreters should be cold color or warm color.

Figure3. Environmental context with the sign language interpreter and background color

4. CONCLUSIONS

By studying the colored background suitable for displaying Thai sign language poses on TV programs. It was found no difference between the warm or cold tones of the background from the selection. However, it was noted that cold color were selected 32 times, more than warm were selected 18 times. The color of the background in the first order was therefore important to consider. By surveying the used to display sign language interpreters from TV stations in Thailand. There are many TV stations uses a blue background, such as Amarin TV station and Royal Thai Army Color TV Channel 7, but there are no warm colors as the backdrop or background for using the colored background to display sign language interpreters. Although the color avoidance is found in the background. For example, Thai PBS station and Thai TV station Channel 11 the gray background is arranged.

The future research will study about size of background color of Thai sign language interpretation. Because various background colors may have the same satisfaction. The type of TV programs is necessary to classify the characteristics of signing, how to creative and how to use Thai sign language in TV show.

5. REFERENCES

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