Analysis of Sound Editing in Safety Induction Video at PT ABC Batam

Febria Hanum, Rina Yulius, Fandy Neta and Muchamad Fajri Amirul Nasrullah
Departments of Informatics Engineering, Politeknik Negeri Batam, Batam, Indonesia

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Abstract: PT ABC Batam is a company that manufactures various kinds of fish fishing lures. The company's production department always interacts with supporting equipment such as machinery, chemicals, and other equipment, so good management of OHS is needed. To increase the awareness of workers and visitors from the risk of danger, an induction safety video was made at PT ABC Batam. A video cannot be separated from the audio that has the role of completing information or messages. For this reason, an analysis is needed to measure the level of audience acceptance of the role of audio in conveying information, attracting the attention of the audience, and inviting the audience to watch safety induction videos. The method used in the analysis is the Quasi-Experimental type Experiment method with the Nonequivalent Control Group Design model. The subjects of the study were 40 visitors to PT ABC Batam. The results showed the control group of approximately 40% of the audience expressed disagreement for all questions presented and the experimental group for more than 80% of the audience stated strongly agree for all questions presented. The results of calculations between the control and experimental groups show an increased viewer acceptance of the role of audio in a safety induction video so that Ha was accepted, which means that the audio's role was significant in conveying information, attracting the attention of the audience, and inviting the audience to watch safety induction videos.

1 INTRODUCTION

Work safety, health, and safety, or abbreviated as K3, become the obligations and needs of companies in all forms of work activities. A company must implement K3 to create a workplace that is safe, efficient, productive, and protected from work accidents.

PT ABC Batam is a company that manufactures various kinds of fish fishing lures under the brand name of PT ABC Batam. The production department always interacts with supporting equipment such as machinery, chemicals, and other equipment, so good management of OHS is needed. To further increase awareness and maintain the comfort of both workers and visitors from dangerous risks, a safety induction video was made at PT ABC Batam. An induction safety video is a video that shows an exercise on occupational safety and health aimed at visitors visiting the company. The purpose of making this safety induction video is to communicate the general occupational safety and health hazards that exist during the visit so that visitors who watch are aware of and can take control of these hazards.

In making this safety induction video, implementing sound/audio structuring in the form of voice over, back sound, and sound effects are very important to convey information, attract the attention of the audience, and invite the audience to watch this safety induction video. Good sound design is expected to strengthen the mood or mood to be achieved by a video (Effendy, 2009). Therefore, an analysis is needed to measure the level of audience approval of the role of audio in conveying information, attracting the attention of the audience, and inviting the audience to watch induction safety videos.

This background encourages the need for scientific research to evaluate how to make an induction safety video of PT ABC Batam by implementing sound management and measuring the level of audience acceptance of the role of audio in a safety induction video? To answer this research question, the Quasi-Experimental type experimental method is used with the Nonequivalent Control Group Design model. This study aims to implement sound management in PT ABC Batam's induction safety

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video and measure the level of audience acceptance of the role of audio in a safety induction video.

2 LITERATURE REVIEW

Safety induction is the introduction of the basics regarding occupational safety and occupational health (K3) to new employees or visitors who want to enter the company's area. This is done so that visitors understand the company's existing conditions and are required to comply with all applicable regulations (Safety Shoes Website, 2019).

The video comes from Latin, video-vidivisum means to see (has the power of vision); can see (Kamus Besar Bahasa Indonesia, 2019). Video is a merging of images per frame so that the screen looks alive. Video has a function to present information, explain complex concepts, explain the process, teach skills, shorten or extend time, and influence attitudes (Aryad, 2011). So, an induction safety video is a video that contains a simulation of the introduction of the company's environment and control of hazards associated with K3 management, which is addressed to visitors who are visiting.

A video cannot be separated from the audio that has the role of completing information or messages. Audio is a visual aid that can be heard (Kamus Besar Bahasa Indonesia, 2019). Audio can be interpreted as a medium for conveying messages in the form of auditive symbols, both verbal (into words or spoken language) and non-verbal (Sadiman, et al., 2009). So, audio is an intermediary used to convey information through the sense of hearing. The audio used in making this safety induction video is in the form of voice over, back sound, and sound effects.

2.1 Voice over

Voice over is a sound production technique by reading texts by voice talent to deliver messages (Indovoiceover, 2018). Voice over is also interpreted as an additional narration in the form of a human voice that reads a narration related to the video made. Voice over in the media acts as a messenger can function as informative or entertaining. Voice over will be based on narration or script that is made by adjusting the picture or video (Fachruddin, 2012). A good script will help the process of delivering a message.

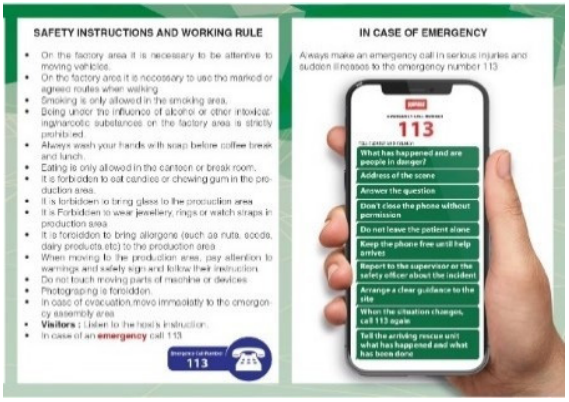

Figure 1: Safety induction of PT ABC Batam.

2.2 Back Sound

Back sound is a background noise that adds to the impression of an emotional atmosphere that is built. For example, the impression that is built like, cheerful, sad, tense, then the back sound played must also be following the impression that was built. Back sound can be a message encoding that can give rise to certain meanings (Alex, 2009). With the back sound, the visual message in the video will be more prominent and easier to understand. If you use someone else's song as a back sound, you must first obtain permission from the song owner to avoid copyright abuse.

2.3 Sound Effect (FX)

Sound effects are artificial or actual sounds that display the power of imagination and interpretation of experiences about the situation being displayed (Sungkono, 1999). In general, sound effects that are used must support the atmosphere you want to show on the video, can use the original sound from the video recorded by the camera, or use other sounds that have been done in the editing process.

3 METHODS

3.1 Design Method

In designing this safety induction video, the Luther-Sutopo method is used to produce multimedia products systematically. The stages of designing the Luther-Sutopo method are presented in detail in Figure 2.

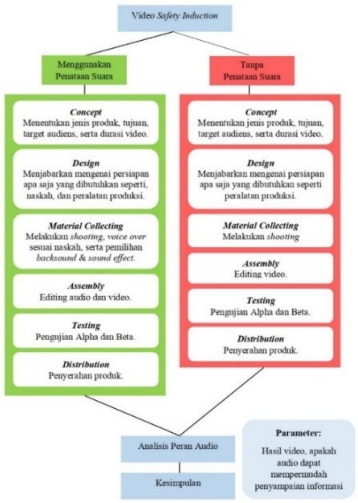

Figure 2: Design phases of Luther-Sutopo.

The Luther-Sutopo multimedia development methodology consists of 6 (six) stages, namely concept (concept), design (design), material collection (material collecting), manufacture (assembly), testing (testing) and distribution (distribution) (Binanto, 2015). The use of the Luther-Sutopo method can produce products that are programmed to solve problems with research needs (Saputro, 2019).

3.2 Data Collection Technique

Data such as activities, behavior, place or location and objects, image recording, as well as PT ABC Batam's Standard Operating Procedure (SOP) guidelines are needed in making this induction safety video. Data collection was obtained using the method of observation, documentation, and questionnaires for the testing phase.

3.3 Research Methods

The research method is a method used by researchers in gathering research data (Arikunto, 2002). This study using a mixed research method (Mixed method). Mixed research is a method by combining two studies, namely qualitative and quantitative. Qualitative data in the form of criticisms and suggestions put forward by media experts to improve audio in alpha test. Quantitative analysis techniques in this study used descriptive statistical analysis in the form of a questionnaire with a Likert scale on the beta test.

1) *Alpha Test:* Testing by media experts as audio assessors on this induction safety video. The aim is to test whether the audio used can be accepted by the audience and is worth listening to in terms of audio quality.
2) *Beta Test:* This test is done by giving video with/without audio to the audience so that they can measure the level of audience acceptance of the role of audio in a safety induction video. To test the beta test using Quasi-Experimental research with the Nonequivalent Control Group Design model.

To obtain data in conducting research, we need a tool or instrument in the form of a questionnaire. In general, the scoring technique used in the research questionnaire was a Likert scale technique. The questionnaire in the form of a link was distributed to 40 visitors as respondents. To answer the questions on the questionnaire, respondents will use 5 scale choices namely, Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree.

To get the results of interpretation of the valuation items the following formula is used.

X = lowest *Likert* score*number of participants

Y = highest *Likert* score*number of participants

Evaluation of respondents' interpretations is the result of the value generated using the% index formula.

$$\textbf{Index \% = Total of score/Y * 100} \quad \textbf{(1)}$$

After the index percentage is obtained, the results are matched with the interval scores above. Then the results will show what categories are produced (Darmadi, 2011). T-tests are needed to determine the significance of differences in test results between the control group and the experimental group (Suprapto, 2013).

3.4 Hypothesis

The hypothesis comes from the words hypo and thesis. Hypo means less than, while the thesis means opinion. So, the hypothesis is in the form of an opinion or conclusion from the problem under study which is still temporary (Margono, 2004). A hypothesis is a temporary assumption or conjecture regarding something that is made to explain something that is often required to check (Sudjana, 2005).

Based on the explanation above, the hypothesis is the significant role of audio in conveying information, attracting the attention of the audience, and inviting the audience to watch safety induction videos.

4 RESULTS AND DISCUSSION

This research produces 1) a safety induction video by implementing sound management in the form of voice over, back sound, and sound effects, 2) the results of the measurement of the level of audience acceptance of the role of audio in a safety induction video. Results and discussion include alpha test results and beta test results.

4.1 Results of Alpha Test

After testing by media experts with alpha test testing, the test results have been obtained as in Table 1. Based on the results of tests that have been done, the average media expert answers with a scale of answers 4 (agree) and 5 (strongly agree). Then it can be concluded that audio is feasible to use.

4.2 Results of Beta Test

After testing 40 respondents by dividing 20 control groups and 20 experimental groups and showing safety induction video with/without audio, the test results that have been obtained presented in Table 2-4.

Table 1: Results of alpha testing.

No.	Aspect	Indicator	Results
1	Audio quality	Audio clarity	5,5,4
2		Narrator voice clarity	5,4,4
3		Word selection is easy to understand	5,5,5
4		The suitability of the narrator's voice intonation	4,4,4
5		Appropriate selection of back sound themes and sound effects	5,4,5
6		Audio compatibility with the current video situation	4,4,5
7		Audio continuity in the form of high and low volume when the narration is read by adjusting the back sound volume and sound effect	4,4,4
8	Function	Clarify and facilitate the delivery of information	5,5,4
9		Give focus attention	5,5,4
10		Increase audience knowledge	4,5,5

Table 2: Results of beta testing (control group).

No	Initials of the respondent	Questions									
		A	B	C	D	E	F	G	H	I	J
1	FA	3	5	2	2	1	2	3	1	4	4
2	MW	4	4	1	1	2	2	3	1	3	4
3	HYR	4	5	2	2	2	2	3	2	2	4
4	IS	4	4	3	2	1	2	3	2	4	4
5	AR	4	4	2	2	1	2	2	2	4	4
6	TM	5	4	2	1	1	1	2	2	5	5
7	NY	4	4	2	2	1	2	3	2	4	5
8	BS	5	5	1	2	1	2	3	3	4	4
9	DH	3	4	2	2	2	1	2	1	5	5
10	SAY	4	4	2	2	1	2	3	2	5	4
11	BP	5	5	3	3	3	2	2	2	4	4
12	BA	4	5	2	1	4	3	4	5	3	4
13	WN	5	4	2	2	2	1	1	1	1	2
14	IS	4	5	1	1	2	1	2	3	5	5
15	SAY	5	5	1	2	2	1	2	2	5	5
16	AA	5	4	2	1	3	2	2	1	5	5
17	NU	4	4	3	3	2	2	1	1	4	4
18	SH	4	3	2	3	1	3	2	1	5	4
19	MF	4	5	3	2	2	1	3	3	4	5
20	RJ	4	5	2	2	2	3	2	2	4	4

Table 3: Results of beta testing (experimental group).

No	Initials of the respondent	Questions									
		A	B	C	D	E	F	G	H	I	J
1	HB	4	4	4	4	4	3	4	4	4	4
2	SU	5	5	5	5	5	5	5	5	5	5
3	AS	4	5	4	5	5	5	4	5	5	5
4	MZL	4	4	5	5	5	3	4	4	4	5
5	DF	5	4	5	5	4	4	5	4	5	5
6	PU	4	4	4	4	4	4	4	4	4	4
7	MSP	5	5	5	4	5	5	5	5	5	4
8	WI	4	5	5	4	4	3	3	4	4	4
9	MU	4	4	3	4	4	5	5	5	5	5
10	SJ	4	4	5	4	5	5	4	4	4	4
11	JNA	4	4	5	4	4	4	4	4	5	4
12	AN	4	4	4	4	4	4	4	4	4	4
13	BU	4	3	4	4	4	4	5	5	5	4
14	RA	5	4	5	5	4	4	5	4	4	5
15	EM	5	4	4	4	4	4	5	5	4	3
16	BP	5	5	4	4	5	5	5	4	4	4
17	AG	4	5	5	5	5	5	5	4	4	4
18	BA	5	4	4	5	5	5	5	5	5	5
19	LI	5	5	4	5	5	5	4	5	5	5
20	IN	4	4	5	4	4	3	4	4	4	3

Based on the results of data acquisition, in the control group, approximately 40% of the audience answered disagree to all questions presented. For the experimental group, more than 80% of the audience answered strongly agreed to all questions presented.

To find out the significance of the difference in test results between the control group and the experimental group, then the T-test was performed.

Based on the results of the T-test, obtained the audience reception results in the control group are shown with an average value of 28.75 while in the experimental group or those treated are shown with an average value of 43.85. From the two results of the average value, there is a difference of 15.1. Thus, the results of calculations between the control and experimental groups increased viewer acceptance of

the role of audio in a safety induction video so that Ha was accepted, meaning that the audio's role was significant in conveying information, attracting the audience's attention, and inviting the audience to watch safety induction video.

Table 4: Results of beta testing.

Questions	C	Desc	E	Desc
Does the material presented in this video fit the current video situation?	84	SA	88	SA
Is the delivery of material in this video coherently explained?	88	SA	86	SA
Can the presentation of this video clarify and facilitate the delivery of information regarding safety induction?	40	N	89	SA
Can the presentation of this video provide the focus of attention?	38	SD	88	SA
Does the presentation of this video attract you more?	36	SD	89	SA
Can this video presentation invite you to watch safety induction video?	37	SD	85	SA
Can the presentation of this video increase your awareness in maintaining comfort from harmful risks?	48	N	89	SA
Can the presentation of this video make the material easier to remember?	39	SD	88	SA
Does the addition of the audio role make the video more quality?	80	SA	89	SA
How big is your level of acceptance of the role of audio in a safety induction video?	85	SA	86	SA

5 CONCLUSIONS

Based on the research conducted, the following conclusions are formulated:

1. By producing a safety induction video and implementing sound management in the video, it can communicate the general occupational safety and health hazards that are present during the visit, so that visitors who watch are aware and can take actions to control the danger because they are invited to see indirectly simulations and conditions real area to be visited. The video is designed using the Luther-Sutopo method which consists of 6 stages, namely concept, design, material collecting, assembly, testing, and distribution.
2. Before being given treatment the level of audience acceptance of the safety induction video has an average value of 28.75. After being given treatment in the form of additional audio, namely, voice-over, back sound, and sound effects, the level of audience reception increased to 43.85. The test was successful following Ha, which means the significant audio role in conveying information, attracting the attention of the audience, and inviting the audience to watch safety induction video.

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