

ASSESSING THE IMPACT OF INSTRUCTIONAL VIDEO CLIPS IN THE TRAINING OF BREAD PRODUCTION

Metty Muhariati¹, Nurlaila² and Mahdiyah³

^{1,2} Study Program of Family Welfare Education, ³ Study Program of Hospitality Engineering, Faculty of Engineering, UNJ
E-mail: mettymuhariati@yahoo.co.id

ABSTRACT

The main objective of this study was to investigate the effectiveness of instructional video clips as the learning media in the training of sweet bread production for the members of Family Welfare Movement in Rawamangun, Jakarta Timur. The data were analysed using qualitative descriptive analysis. The results showed that video clips implied the learning improvement of 32.5 categorized as significant which was analysed from the scores of the pretest and the posttest. The data requirements tests using Liliefors indicated abnormal data thus the data were tested using a non-parametric test, namely Wilcoxon test resulting the score of 0.001. Therefore the decision was to accept H1 hypothesis suggesting a significant difference between the pretest and the posttest. Video clips were confirmed to be effective in the learning process based on the interval scale of effectiveness for the posttest score which achieved the score of 79 categorized as E or effective.

Keywords: bread production training, family welfare movement, video clip

INTRODUCTION

Women present great contribution in the national development (Ekong, 2008). This contribution is actualized by performing the duties as mothers and housewives who are responsible for raising the family as the fundamental unit of society. Women also play significant role in the social and economic aspect of the family. Obviously, this contribution cannot be overstated. Hence the Indonesian government establishes one organization managed to accommodate, support and encourage women to optimally perform their role in the national development namely *Pembinaan Kesejahteraan Keluarga* (PKK) or Family Welfare Movement. This organization is operated particularly in Villages (*Kementerian Dalam Negeri dan Otonomi Daerah RI*, 2000).

Furthermore, PKK is emerging as the activator in the national development to grow, build, and develop families' welfare benefits. (*Kementerian Dalam Negeri RI*, 2013). Main activities of PKK are designed to meet the concepts and functions of the family to support properous family development and poverty reduction. These include improving family

welfare by doing domestic productive business activities. These bussiness activities are potential approach to prompt strong and stable family economy. Despite its strengths in the family economy improvement, bussiness activities driven by PKK are not yet optimally executed. The main reasons for the problem is low level of business skills of the members, especially the skills of product design and production therefore entrepreneurship training programs would be the first solving solution. In this regard, the researcher conducted a study on developing the entrepreneurship skills, especially in terms of product design and production of the members of PKK in Rawamangun, East Jakarta through a training of sweet bread production.

Sweet bread is commonly consumed as a snack, a special breakfast dishes on certain feast days, desserts, or afternoon tea. It was selected since it is classified as a type of simple dish favored by most people which provides a prospective business. Sweet bread is made from the mix of wheat flour, water, yeast, salt, sugar, fats, eggs, and other additives that help to improve the texture and flavor of sweet breads including bread improver and emulsifier. The

process is conducted through several stages that consist of mixing or stirring, fermenting, and lastly roasting or baking. The basic principle of sweet bread production is the percentage of sugar more than 16% of the total main ingredients. The characteristics of this product are varied shapes, soft texture, porous, smooth, brownish yellow colour, and a sweet taste. Besides being sweet, sweet bread has attractive shapes. The weight of bread is about 50-60 grams for an international standard size. (Mudjajanto & Yulianti, 2013). The quality and variations of sweet breads are determined by variations and the production process. Selected ingredients and accurate production process will produce high quality sweet bread.

The training was designed to improve knowledge and skills of the PKK members in the sweet bread production process. A training is a form of education which has the same functions to build predetermined skills, values, attitudes, and behavior to meet the community standards thus the learners possess adequate life skills. The teaching learning process in this training should be effective. To maximize the learning outcomes of this training, it was crucial to engage the students in the learning process thus an effective learning media was urgent. Marsudi (2016) states that the improvement of learning outcomes is resulted from effective learning media to increase the students' motivation, achievement, learning outcomes, learning absorption and mastery.

Recently, the use of instructional video in classroom has risen steadily. Audio-visual materials in the classroom is recognized as a powerful media to capture the learners' attention, to increase motivation and to enhance learning experiences. Therefore, instructional video clips are claimed to be the one of effective media in a teaching learning process. Zhang et al. (2006) points out that it is important to integrate interactive instructional video into e-learning systems. Students who are provided with interactive video achieve

significantly better learning performance and a higher level of learners' satisfaction. Furthermore, Ljubojevic et al. (2014) explains that students' motivation and efficiency of learning may be increased if supplementary videos are used. Obviously, instructional video clips have multiple benefits and are supposed to be effective learning media in this training. It is expected that well-designed instructional video clips may reinforce the training materials and provide greater accommodation of diverse learning styles of the participants. Besides, it is supposed to promote instructor's effectiveness in this training.

METHOD

This study aimed to implement video clips as the learning medium in the training of sweet bread production and to assess its effectiveness. The participants of this study were PKK members from four neighbourhoods in Rawamangun, Jakarta Timur. The expected result of this study was to accomplish the learning objectives of the training effectively and efficiently. To assess the learners' improvement and the effectiveness of the instructional video clips, a pretest and a posttest were designed. To provide the validity of the instrument, the researcher employed construct validity by rooting the composition of the instruments in the framework of relevant experts. To analyze the reliability of the instrument item, the Cronbach's Alpha Formula was used.

RESULTS AND DISCUSSION

The validity of the instrument was performed using construct validity. Each item of the instrument was reviewed by an expert in the field of pastry and bakery, Mutiara Dahlia who is a professor in the study program of Hospitality Engineering, Faculty of Engineering, Universitas Negeri Jakarta. The

instrument consisted multiple choice questions. The scores were 1 and 0 for a correct answer

and a wrong answer respectively. It consisted of 20 items. Table 1 presents the instrument grid.

Table 1. Instrument Grid

No	Indicators	Sub Indicators	Question	Number
1	Definition	a. Definition of white bread	1	1
		b. Definition of sweet bread	16	1
2	Ingredients	a. Main Ingredients	2,4,6,15	4
		b. Additional Ingredients	10,19	2
3	Baking Methods	a. Baking Methods	12	1
4	Baking Techniques	a. Preparation	13,18	2
		b. Process	5,7,8	3
		c. Baking	3,9	2
5	Baking Tools	a. Big tools	20	1
		b. Small tools	14	1
6	Products	a. Sweet bread	11	1
		Total		20

Furthermore, to test the consistency or the reliability of the instrument, a reliability test was performed using Cronbach Alpha formula. This technique was used because the instrument was dichotomous, namely 1 and 0. The provisions apply if the alpha (a) <0.50 then the reliability is low, (b) if the alpha (a) 0.50 - 0.70 then the reliability is moderate, (c) if the alpha (a) 0.70 - 0.90 the reliability is high, (d) if the alpha (a) > 0.90, the reliability is perfect. The number of respondents consisted of ten people (N= 10) thus $N-2= 8$. It was obtained $r_{table}= 0.632$, $r= 0.771$ because $r > r_{table}$ thus the instrument was categorized as reliable. The result of reliability test showed the reliability index of 0.771 in the range of 0.70 - 0.90 which indicated a high level of reliability.

The data in this study were obtained from a pretest and a posttest. The correct items of the tests were converted into values. Based on the analysis of the pretest data, the respondents with the scores of the pretest <60 and the respondents with the scores of the pretest > 60-80 were 17 and 1 categorized into poor and fair respectively. Based on the pretest data tabulation, the scores of mean, median, and mode consisted of 46.5, 47.5 and 50. The

detailed data obtained in the pretest are presented in Figure 1.

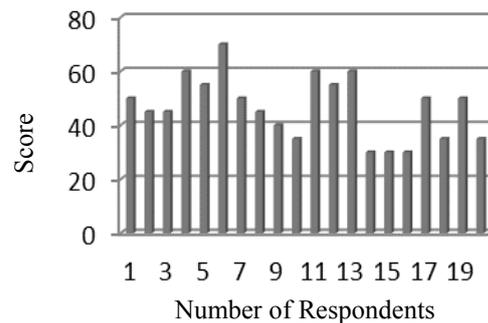


Figure 1. The Pretest Scores

The posttest scores obtained after the training and the implementation of video clips are provided in Figure 2.

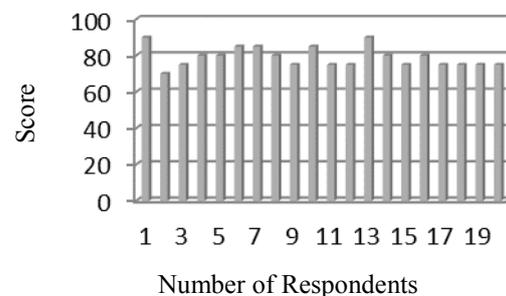


Figure 2. The Posttest Scores

According to Figure 2, after the training, the improvement was significant proven by increased scores of the posttest with the value of 32.5. The results showed 15 respondents obtained the scores > 60-80 and 5 respondents obtained the scores > 80 categorized as fair and

good respectively. Based on the posttest data tabulation, the mean, median, and mode were 79, 77.5 and 75 respectively. In addition, the normality distribution test was conducted using Lilliefors test. The detailed results are described in Table 2.

Table 2. Normality Test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Post test Scores (Y)	.265	20	.001	.868	20	.011
Pre test Scores (X)	.139	20	.200*	.946	20	.310

a. Lilliefors Significance Correction
 *. This is a lower bound of the true significance.

Based on Table 2, the result of lilliefors or normality testing for data X was 0.310, which mean data X was normal because of the significance value of pretest was greater than $\alpha = 0.05$ and for data Y was 0.011 which mean data Y was not normal, the post-test

significance value was greater than $\alpha 0.05$. Because one of the data was not normal then the data should be tested using non-parametric test, namely Wilcoxon test, to test the difference between the pretest and posttest. The calculation is presented in Table 3.

Table 3. Wilcoxon Signed Ranks Test

Score of Posttest – Score of Pretest	Negative Ranks	Ranks	
		Mean Rank	Sum of Ranks
		.00	.00
	Positive Ranks	10.50	210.00
	Ties		
	Total	0	

a. Posttest < Pretest
 b. Posttest > Pretest
 c. Posttest = Pretest

Based on the results of Wilcoxon Signed Rank Test presented in Table 4, the value of Z was -3.928 with p value (Asymp. Sig 2 tailed) of 0.001 which was less than the critical research limit of 0.05 thus hypothesis decision was to accept H1 which indicated significant differences between the pretest and the posttest.

Table 4. Test Statistics^b

	Score of Post test – Score of Pre test
Z	-3.928 ^a
Asymp. Sig. (2-tailed)	.0001

a. Based on negative ranks.
 b. Wilcoxon Signed Ranks Test

The effectiveness of video clips in the learning process was assessed from the measurement of data and the observation. Measurement is defined as an assessment in terms of the achievement of predetermined targets by using the available target. Clearly if the goal or the objective has been achieved as planned, it means effective. The interval scale in determining the effectiveness is presented in Figure 3.

25%	50%	75%	100%
STE	TE	E	SE

Figure 3. The Interval Scale of Effectiveness
(Adopted from Sugiyono, 2013)

The data X and data Y achieved the mean scores of 48 and 60 respectively. The interval scale of data X was 46 which was on a STE scale indicating a very low level of effectiveness. After the implementation of video clips, the data Y showed the mean score with significant difference that was 79. 79 was categorized as E or effective therefore the video media clips were proven to be effective in the learning process. This is in line with the effectiveness of interactive multimedia-based learning model studied by Sutarno & Mukhidin (2013). The results showed that the interactive multimedia-based learning model could improve learning outcomes and student learning independence. Sutarno & Mukhidin (2013) concluded that (1) the model improved the competence of students in cognitive aspects, (2) The students enhanced their creative thinking, team work and communication skills.

CONCLUSION

The results showed that: (1) the implementation of instructional video clips in the training of Sweet Bread production obviously implied a significant improvement. The mean score of the pretest was 46.5 and improved to 79 after the treatment, and

accordingly there was a significant improvement of 32.5. (2) The results of data requirements tests using Liliefors exposed that the data was abnormal and thus it was used Nonparametrik test. The data from non-parametrik test (Wilcoxon test) was 0.001 which should be conveyed to accept H1 indicating significant difference between the pretest and the posttest. (3) Video clips were confirmed to be effective in the learning process of sweet bread production. Based on the scale of effectiveness testing intervals, the posttest score of 79 was categorized as E or effective.

REFERENCES

- Ekong, Faith. 2008. Contributions of Women to National Development: Example from Akwa Ibom State. *Stud Home Comm Sci.* 2.2, 113-119
- E. Sutarno & Mukhidin. 2013. Pengembangan Model Pembelajaran berbasis Multimedia Interaktif Pengukuran untuk Meningkatkan Hasil dan Kemandirian Belajar Siswa SMP di Kota Bandung. *Jurnal Pendidikan Teknologi dan Kejuruan.* 21. 3, 203-218
- Kementerian Dalam Negeri dan Otonomi Daerah RI. 2000. *Keputusan Menteri Dalam Negeri dan Otonomi Daerah Nomor 53 Tahun 2000 tentang Gerakan Pemberdayaan dan Kesejahteraan Keluarga.* Jakarta: Kementerian Dalam Negeri dan Otonomi Daerah RI
- Kementerian Dalam Negeri RI. 2013. *Peraturan Menteri dalam Negeri Republik Indonesia Nomor 1 Tahun 2013 tentang Pemberdayaan Masyarakat melalui Gerakan Pemberdayaan dan Kesejahteraan Keluarga.* Jakarta: Kementerian Dalam Negeri RI

- Ljubojevic, Milos; Vaskovic, Vojkan; Stankovic, Srecko & Vaskovic, Jelena. 2014. *The International Review of Research in Open and Distributed Learning*. 15. 3, 275-291
- Marsudi. 2016. Penerapan Model Konstruktivistik dengan Media File Gambar 3D untuk Meningkatkan Motivasi dan Prestasi Hasil Belajar. *Jurnal Pendidikan Teknologi dan Kejuruan*. 23.1, 16-27
- Mudjajanto & Yulianti, 2013. *Bisnis Roti*. Jakarta: Penebar Swadaya
- Sugiyono. 2013. *Memahami Penelitian Kualitatif*. Alfabeta. Bandung
- Zhang, Dongsong; Zhou, Lina; Briggs, Robert O; & Nunamaker Jr., Jay F. 2006. Instructional Video in E Learning: Assessing the Impact of Interactive Video on Learning Effectiveness. *Information and Management*. 43, 15-27