The Production of Key Chain Kaugaci (Keychain Cardboard) As A Development Effort Of Psychomotor Skills In Higher Education

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Abstract
Creativity is one of indicators in assessing learners' competence and personality. Innovation skill and capability are expected to be developed continuously by learners in their learning environment. KAUGACI production was a keychain product by utilizing used goods in the form of cardboard, and it was developed by students of history education of Jember University. This research aims to assess the effectiveness of products in improving students' psychomotor skills in the university level. 100 respondents with demographic profiles based on gender and entrepreneurial experience were taken as the research participants. The findings showed that KAUGACI products had high effectiveness and productivity that gave impact to the students' skills development.

Introduction

The development of Asean Economic Community (MEA) encourages countries in the region to compete in developing all aspects, especially the economy. Indonesia still ranks in the middle-low position in term of economic development compared with other ASEAN countries. Samuelson and Nordhaus (2001) stated that labor input consisted of labor quality and skill which are the most important element in a country's economic growth.

Skill must be owned by each individual in order to improve the quality of human resources. The education sector is an appropriate medium in developing individual potential through various learning designs. It should be realized that the learner' skills are still very low as the explanation of the findings conducted by Rahayu et al. Therefore, It indicated that learners' psychomotor level is considered too low (Rahayu et al, 2011). One of ways to improve students' psychomotor is by training and completing tasks that can stimulate their psychomotor level. Thus, it will affect the productivity outcome of the human resources itself.

The low soft skills of learners in Indonesia also seem to be one of the issues that need to get special attention. Tarmidzi (2010) explained that soft skill ability was given 90% at Harvard School of Business, while the implementation of soft skill in Indonesia was only 20%. Education in Indonesia still tends to be oriented towards academic achievement only. However, the success that contributes to success in the work world consists of 10% financial factor, 20% skill factor, 30% networking factor, and 40% soft skill factor. Hence, it can be concluded that the ability of Soft skills is needed in improving the ability and supporting economic skills. Soft skills contribute quite high up to 40% in the success of the work world. The development of soft skills is expected to support the productivity of a business. Djumril and Latief (2014) showed that soft skills became one of the variables affecting the productivity of individual work and career.

Skill development in the university level can be done through the provision of tasks that are designed by bringing up skill and innovation aspects in the process. Based on the field facts and the analysis of previous studies, the researchers produced an item in the form of KAUGACI key chains with cardboard base material. Through the development of that product, it was expected to improve students' psychomotor. This research aims to review the effectiveness of product development in creating learners' psychomotor skills in university level environments.

Literature Review
Psychomotor Skills

Psychomotor skills have many levels. Based on the opinion of Bloom and Krath Wohl (in Hamzah, 2006), Psychomotor has 5 levels:

1. Imitation (Imitating a movement)
   The imitation skill is shaped by one's observation to imitate an observed object, although it is not comprehensively known
2. Use (Using a concept to do a movement)
   The manipulating skill is applying and choosing an activity appropriately.
3. Accuracy (doing some movement correctly)
   Accuracy like natural means someone do something exactly and naturally, without a pretense in doing the activity.
4. Combination (doing some movements correctly)
   Combination is a more complex and interpretative skill which gives opinion to other people's skill.
5. Naturalization (doing a movement naturally)

Based on Anita Harrow's opinion, the domain taxonomy of psychomotor has six stages:

1. Reflex Movement. This stage is an unconscious response owned from birth. This stage covers Segmental Reflexes, Inter-segmental Reflexes, and Supra-segmental Reflexes. These three characteristics are associated with movements that are coordinated by brain and parts of the spinal cord.
2. Basic Fundamental Movement. This stage is movements leading to complex skills which are as follows:
   a) Locomotor movements are movements that precede the ability to walk (proning, crawling, hobbling, walking, running, jumping, rolling, and climbing); b) Non-locomotor movements are dynamic movements within a room based on a particular axis; c) Manipulative movements are coordinated movements such as in playing piano, drawing, and so forth.
3. Perceptual Abilities are perception abilities. This stage is the combination of cognitive and movement abilities. The movements in this stage are:
   a) Kinesthetic discrimination is realizing someone's body movements; b) Body awareness is realizing of movement on two sides of the body, on the one side, one-sided, and balance; Body image is feelings about the movement related to his own body; d) Body relationship to surrounding objects in space is the concept of direction and awareness of the body in relation to the environment ; e) Visual discrimination is visual acuity (the ability to distinguish between shape and part), visual tracking (the ability to follow object), visual memory (recalling the visual experience), figure ground differentiation (distinguishing the dominant figure between the blurred backgrounds) consistency (experiencing visual concept); f) Auditory discrimination covers auditory acuity, auditory tracking, auditory memory; g) Tactile discrimination is the ability to distinguish by touching; h) Coordinated activities coordination between eyes with hands and eyes with feet.
4. Physical Abilities. Stages needed to develop high-level skills movements are:
   a) Endurance is the ability to continue activity, including muscle endurance and heart rate; b) Strength is the ability to use muscles to hold resistance; c) Flexibility is the range of movement and itself; d) Agility is the ability to move quickly including the ability to change direction, start or stop, reduce the grace time between reaction and response (visible in dexterity), and increase dexterity (increase dexterity).

5. Skilled Movements aress movements that require learning. The involved stages are as follows:
   .a) Simple adaptive skills is any adaptation associated with basic movements of non locomotor movements; b) Compound adaptive skills is combination movements to use tools; c) Complex adaptive skills is mastering the whole body mechanism.
6. Non-discursive Communication is the stage of having ability to communicate using the movement such as facial expression (mimic), posture, and so forth. The involved stages are as follows:
   a) Expressive movements are movements used in everyday life such as attitude and gestures, body language, facial expression; b) Interpretive movements are movements as a part of an art form including aesthetic movement, creative movement (improvisation) and so on.

Based on the six stages of psychomotor domain described by Anita Harrow (in Haryanto.2014) above, it will be grouped into three then broadly grouped into three:
1. Muscular or Motor Skills
2. Manipulaton of Materials or Object
3. Neuromuscular Coordination

Hasibullah (2006) mentioned that soft skill was a personal and interpersonal behavior that developed and maximized someone's performance. Soft skills are self-developed skills that are not technical such as financial management skills, quality of life skills, critical thinking skills, and so forth. According to Djumiril (2014), the expert f procative speaker, explained that understanding of soft skills would be easier if we understood the antonym that was hard skills itself. Soft skills are superficial abilities that have indirect results and have a close relationship with someone's personal and interpersonal skills. Essentially, soft skills are competencies related to character, interpersonal skills, attitudes and values of someone's life.

illah (2007) in her book entitled "The Development of Soft skills in University, explained about the soft skills components. They were:
1) Intra-personal skills (ability in dealing with others). Examples of intra-personal skills are transforming character, transforming beliefs, change management, stress management, time management, creative thinking processes, goal setting and life purpose, (8) acelerated learning techniques and so on.
2) Inter-personal skills are self-regulating skills. Components in inter-personal skills are (1) self-communication skill, (2) relationship building , (3) motivation skills, (4) leadership skills, (5) self-marketing skills, (6) negotiation, (7) presentation skills, (8) public speaking skills and so on.
3) Motivation skills

Hasibuan (2005) explained that the motivation came from another word "move" which means encouragement or move. Motivation focuses on how to direct the power and potential of subordinates in order to cooperate productively in achieving and realizing the determined goals. Motivation is a factor encouraging a person to perform certain activities; so that, motivation is often defined as a factor driving a person's behavior (Sutrisno, 2011).

Soft skill is one of the important factors in improving human productivity. A person is required to master technical competencies such as the skill of applying the concepts that have been studied and required to have strong character, solid attitude and other intra and interpersonal skills.

KAUGACI Production
The following pictures will explain the projection of making KAUGACI products with the steps as below.
1. Prepare the tools and the need to make KAUGACI.

Picture 1. The Used Cardboard as basic material of KAUGACI

2. Next, the cardboard is dipped into paint box by using various colors and we have to wait until dry

Picture 2. Colored Cardboards

3. After the cardboard is dry then prepare Resin and Catalyst as kaugaci forming material
4. The Cardboard along with Resin and Catalyst dough are printed on keychain print based on producer's wish and consumer's demand within 15 minutes
5. After it is dry, the keychain shape is smoothed by using sandpaper
6. The last step is finishing. This step uses key chain lubricant

Picture 3. Kaugaci Product

Research Methods

This research was a review research that aims to assess the effectiveness of product development as learners' psychomotor development effort in university level. This research involved 100 samples taken by Simple Random Sampling Technique. The sample used in this research was students of history education who have been taking a degree program at Jember University. Respondents' demographics included gender and business experience. Gender was divided into male and female sex, while business experience was divided into two parts: (1) have had business experience and (2) have no experience at all.

This research used a questionnaire instrument which functioned as a measuring tool to obtain results in the form of data and investigation information. The questionnaire had three parts: respondent demographics, product quality, and consumers' open response which was designed to get information about weaknesses and criticisms of product development in order to get a superior product.

Findings And Discussion

The following tables will be elaborated the results based on the analysis of the obtained questionnaire data. More information about this research sample can be seen in table 1 below.

Table 1. Respondents Profile

No	Sample	Frequency	Percent

1	**Sex** Male	47	47,0
	Female	53	53,0
2	**Work Experience** Ever	42	42,0
	Never	58	58,0

The respondents sample table showed that the number of male respondents has had a lower quantity and frequency compared with female respondents. All respondents were students of university level. Work experience also became one of the demographics of respondents related to having business experience in the form of goods or services. Data of respondents indicated that 58% of students had no experience in entrepreneurship. It showed that students still had a low awareness in developing their psychomotor in the field of economy.

It seems necessary to have special action to overcome the low skill of learners. The product development that has high creativity is expected to be a way to improve the learners' skills. Product development in this research was done through the utilization of used goods in the form of used cardboard to be formed as key chains. The following will explain the productivity assessment of product development by involving 100 respondents of students in University level. Obtaining information on product effectiveness can be seen the table below.

Table 2. Interpretation Result of Product Effectiveness

Product description	N	Mean	Deviation Standard	Interpretation
Shape Variation	100	1,15	0,35	Agree
Product uniqueness	100	1,20	0,40	Agree
Color selection	100	1,19	0,39	Agree
Neatness of product design	100	1,21	0,40	Agree
Material durability	100	1,10	0.30	Agree
Easiness of obtaining materials	100	1,18	1,02	Agree
Easiness of processing materials	100	1,07	0,25	Agree
Flexibility of materials	100	1,16	0,36	Agree
Affordability of price	100	1,09	0,28	Agree
Consumption value	100	1,08	0,27	Agree
Product identity	100	1,05	0,21	Agree
Affordability of promotion	100	1,06	0,23	Agree

The findings in the table showed that the highest mean value of all KAUGACI product features was a neat design with a mean of 1.21. These data indicated that KAUGACI's dominant product had a neat design. The lowest mean was shown on the item regarding the product identity. It was evidenced by the mean number of KAUGACI product that was 1.05. The product identity in this case was the identities of the institution and the student institution. Based on the identification results of product effectiveness, the developers made improvements to the product based on consumers' criticism and demand. Consumers could request their own logos, pictures, and photos to serve as KAUGACI's key chain profile.

Based on the results of data analysis, it showed that the neat design on KAUGACI became the advantage of this product, while the unique design became the characteristic of KAUGACI; so that, they became the main attraction for this product. In addition, KAUGACI also had advantage in color contrast selection because product developers used bright coloring material on used cardboard material. It could be the main attraction to consumers.

The utilization of used materials in the form of cardboard gave the flexibility effect in material acquisition that was with a mean of 1.18. Materials that developers used to make KAUGACI product was very easy to get. The material was made from waste cardboard that developers could get easily from collectors of used goods. In addition, resin and catalyst materials were also easy to obtain and had a harmless chemical content. Based on the above data, it could be concluded that the overall variable KAUGACI product effectiveness had a high effectiveness. Improvements and product revisions were still needed to create superior products and to have high economic value.

Conclusion

The low skill of students in the University level is one of the obstacles in the development of human resource quality. Psychomotor skills of learners in this case include interpersonal, intrapersonal and motivational skills. KAUGACI product development has become one of the means in developing psychomotor skill of learners. The learners' ability and soft skills became one of the supporters that have an important role in improving the learners' competency index, beside the academic factors (Puji et al., 2018). Improvement and revision of KAUGACI products are required by considering criticism and suggestion from various parties in general and consumers in particular; so that, KAUGACI products can have an economic and educative impact.

Reference

[1]   Basuki, Ismet dan Hariyanto. 2014. *Asesmen Pembelajaran.* Bandung : PT Remaja Rosdakarya
[2]   Daryanto. 1999. *Evaluasi Pendidikan*. Jakarta: Rineka Cipta
[3]   Djumiril dan Latief. 2014. Pengaruh Soft skill Tenaga Kerja Buruh Konstruksi terhadap Produktivitas Pekerjaan. Depok.Jurnal. Universitas Indonesia
[4]   Hamzah, B Uno. 2006. Teori Motivasi dan Pengukuran Analisis Di Bidang Pendidikan. Jakarta: Bumi Aksara
[5]   Hasibuan, Malayu. 2006. Manajemen Sumber Daya Manusia. Cetakan Kedelapan. Jakarta: Bumi Aksara
[6]   Febriyanti. 2013. Kurikulum Pendidikan Tinggi Di Era Globalisasi: Pergeseran Dari Kurikulum Inti Dan Institusional Ke Kurikulum Berbasis Kompetensi. Palembang: TA'DIB, Vol. XVIII, No.02, Edisi November 2013
[7]   Puji, R.P.N., Hidayah, B., Rahmawati, I., Arum, D., & Lestari, Y. (2018). Increasing Multi- Business Awareness through " Prol Papaya " Innovation, *5*(1), 55–62.
[8]   Rahayu, et al. 2011. Pembelajaran Sains Dengan Pendekatan Keterampilan Proses Untuk Meningkatkan Hasil Belajar Dan Kemampuan Berpikir Kreatif Siswa. Semarang. ISSN: 1693-1246 Juli 201
[9]   Sailah, Illah. 2008. Pengembangan Soft skill di Perguruan Tinggi. Direktorat Jendral PendidikanTinggi Departemen Pendidikan Nasional . http://www.undana.ac.id/jsmallfib_top/LPMPTBUKUDIKTI/BUKU%20SOFTSKILL.pdf, diunduh.pada,pk 12.00 WIB. 12 Desember 2017
[10] Samuelson dan Nordhaus. 2001. Econimics. University of Virginia. McGraw-Hill Higher Education
[11] Sutrisno, Edy. 2011. Manajemen Sumber Daya Manusia. Cetakan ke-3. Jakarta: Kencana Prenada Media Grup
[12] Syarif, Hilman. 2011. Soft Skill Mahasiswa Keperawatan Universitas Syiah Kuala Pada Kurikulum Berbasis Kompetensi Dan Pendekatan Lecturing2011. Jakarta: *Idea Nursing Journal.* ISSN:2087-2879