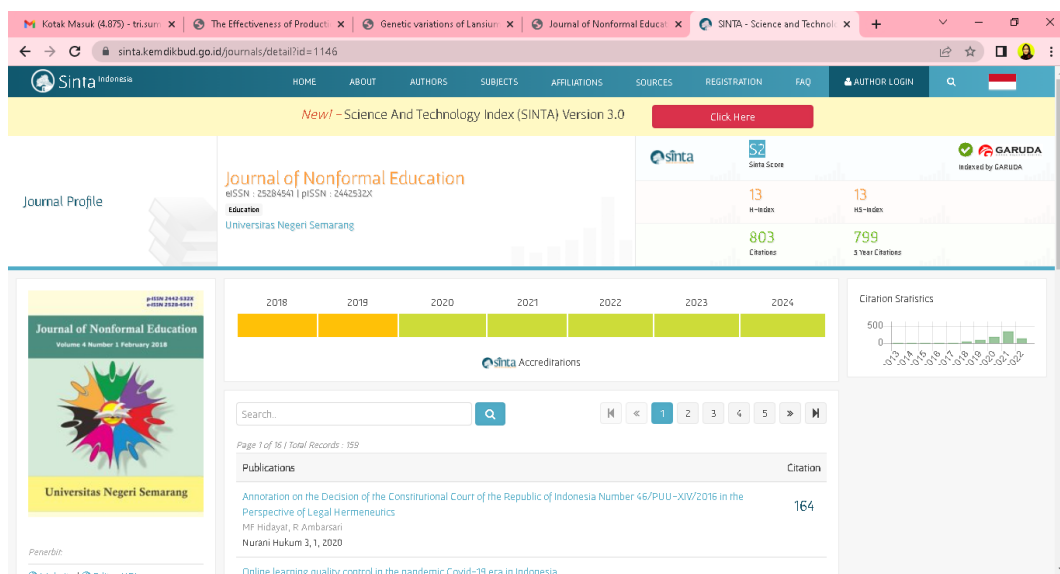
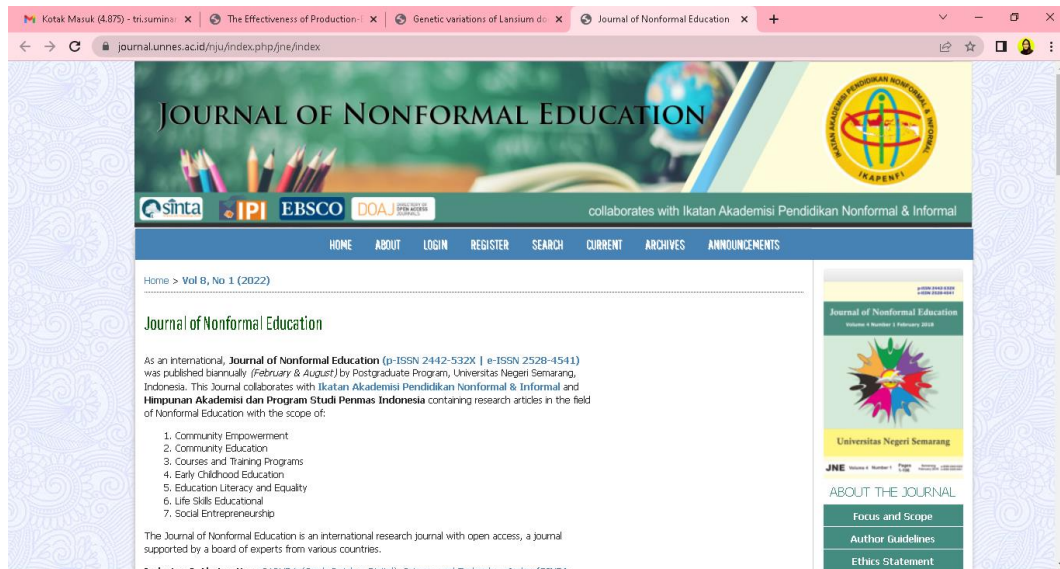


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### The Effectiveness of Production-Based Learning Models in the ICARE Approach to Entrepreneurial Literacy Ability



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The screenshot shows a Gmail interface with a browser window at the top. The browser tabs include "[jne] Submission Ackr", "Active Submissions", "The Effectiveness of P", "Genetic variations of I", "Reset Password", and "SINTA - Science and T". The address bar shows a Gmail URL. The Gmail header includes the search bar with the text "Telusuri semua percakapan" and a "Aktif" status. The left sidebar shows navigation options: "Tulis", "Email" (with "Kotak Masuk" at 4.875), "Berbintang", "Ditunda", "Penting", "Chat" (with "Tidak ada percakapan"), "Ruang" (with "Belum ada ruang"), and "Rapat".

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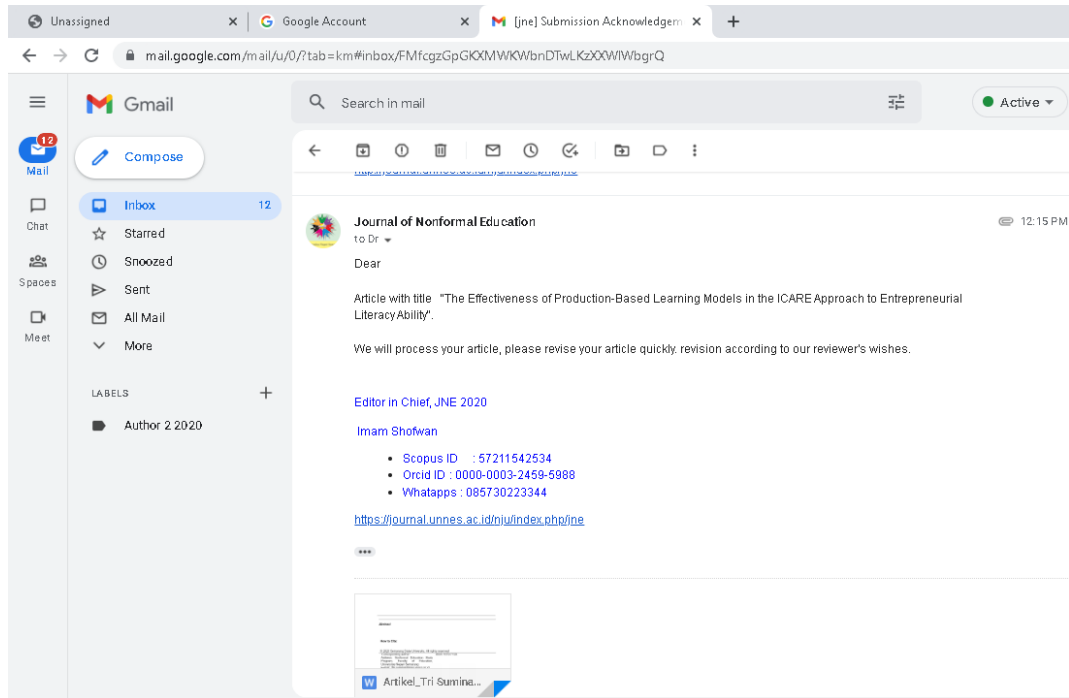
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## The Effectiveness of Production-Based Learning Models in the ICARE Approach to Entrepreneurial Literacy Ability

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### ABSTRACT

*Entrepreneurship training activities in the literacy village program are one of the national literacy movement programs. Learning citizens with limited characteristics really need effective learning skills to achieve the goals of literacy skills in the industrial era 4.0. The purpose of this study was to test the effectiveness of the Production Based Training learning model with the ICARE approach on entrepreneurial literacy skills of women participating in entrepreneurship training in literacy villages. The research method used is a quantitative approach pretest posttest one group design with data analysis using SPSS t-test. The research population is the community of women as learning citizens in the literacy village program. The sampling technique was simple random sampling. Data collection techniques used observation, questionnaires and performance ability tests. The results showed that the ICARE-based Production-Based Training learning model was effective in improving entrepreneurial literacy skills significantly as indicated by the high insight into entrepreneurial knowledge and attitudes as well as pioneering entrepreneurial skills with critical thinking skills, communicating, collaborating, and developing creativity in problem solving to pioneer entrepreneurship.*

### Keywords :

Learning Model Production Based Training, ICARE Approach, Entrepreneurial Literacy Ability

### INTRODUCTION

One of the main objectives of resource development is to improve the quality of women by increasing education, productivity and the ability of competitive character. These three goals can be achieved through training programs aimed at increasing entrepreneurial literacy skills for women of productive age. Meanwhile, there is a problem that the literacy ability in Indonesia has decreased in 2019 compared to the previous year, women's literacy skills are lower than men, as well as women's participation in jobs lagging 33 points compared to men which reached 84% (Baisa et al., 2018).

The urgency of this research is the ability of women to be competitive, if they have literacy competencies. Competition in the 21st century requires creative resources, critical thinking, persistence, adaptability, communication and cooperation, leadership, social awareness and culture (Morocco, C. C., Aguilar, C. M., & Bershada, 2010). Understanding literacy is not only a transformation of individuals, but also social transformation. Low levels of literacy are highly correlated with poverty, both in an economic sense and in a broader sense. Learning from the experiences of developed countries that have high reading interest, such as Finland, America and South Korea, they have become influential countries in the global world (Eisenberg, 2014).

The women's empowerment program in Indonesia by increasing literacy skills and competitiveness is still facing tough challenges, so it demands better strategies and more creative breakthroughs. The government has declared the National Literacy Movement in a literacy

village forum in 2016, with action activities for the adult community through entrepreneurship training programs (KP dan Kebudayaan, 2017). The implementation of entrepreneurship training programs in literacy villages at the same time in the framework of gender issues and social inclusion in sustainable development has experienced technical problems in the management of the learning process and real action after training (Rindarti, 2019). Therefore, facilitators with conservation value characteristics are needed to manage learning with innovative and effective models and approaches. An effective learning model in the community entrepreneurship training program targeting housewives is learning that positions students' targets as learning subjects (participant-centered learning), the learning process for adults (andragogy) is more demanding for dialogue and problem solving practices and producing products to improve the quality of life (Hurt, 2016). The learning model that meets the above assumptions is the Production Based Training (Mitasari & Rusdarti, 2019) learning model with the ICARE approach (Introduction, Connection, Application, Reflection, Extension) (Mahdian et al., 2019). Therefore, this study aims to test the hypothesis of the effectiveness of the application of the ICARE-based Production Based Training learning model on increasing literacy skills and the ability to start a business for women in entrepreneurial training programs in literacy villages. Literacy skills are more focused on scientific literacy, information and communication technology literacy, financial literacy and cultural literacy that support entrepreneurial management (KP dan Kebudayaan, 2017). The ability to pioneer entrepreneurship includes the ability to compile business planning and carry out business (Djibu & Shofwan, 2019).

Sustainable development that aims to provide equal justice and welfare for citizens, especially vulnerable and marginalized groups, cannot run if understanding and understanding between parties regarding the principles of gender and social inclusion have not been used as the foundation of development (Hendriks, 2019). Strategies for solving problems for the acceleration of sustainable development must include awareness of the elements of social and gender inclusion. This means that development programs that are equitable and visionary will be more dignified and humane, if implemented with the principles of social and gender inclusion. The results of Reichborn's research explain that there are different strategies for entrepreneurial learning from a gender perspective (Reichborn-Kjennerud & Svare, 2014).

The 21st century is a century based on science and technology. Responding to the demands of these developments, high-level literacy skills are required. The level of community literacy has a positive correlation with the quality of life and the progress of the nation (Morocco, C. C., Aguilar, C. M., & Bershad, 2010). 21st century literacy skills, it is explained that there are 4 abilities, namely: (a) critical thinking skills, (b) ability to develop creativity (creativity), (c) ability to communicate (communication), both orally, in writing and symbols which can be understood using internet technology, and (d) the ability to collaborate (collaboration) (Wijaya et al., 2016).

Starting from the description above, understanding the concept of literacy is more than just reading and writing. The concept of literacy based on Law No.3 of 2017 article (KP dan Kebudayaan, 2017) is the ability to interpret information critically, so that everyone can access science and technology as an effort to improve the quality of life (Hendra Hidayat, 2015). The Ministry of Education and Culture (2016) emphasizes that there are 6 components of literacy, namely: (a) literacy literacy, (b) numeracy literacy, (c) scientific literacy, (d) information and communication technology (ICT) literacy, (e) financial literacy, ( f) cultural literacy and citizenship. Thus 21st century education is education that integrates knowledge skills, skills, and attitudes, as well as mastery of ICT in life. In this study, literacy skills are integrated with the competence of pioneering entrepreneurship for women in a non-formal education program, namely entrepreneurship training organized by literacy activists in village communities in a literacy village forum.

In 21st century learning, there is a change in the learning paradigm, namely, from the teaching paradigm to the learning paradigm. Learning is not only carried out as a transfer of knowledge but an activity that students must actively engage in in an effort to build their own knowledge based on their potential (Siswati et al., 2020).

A learning model that can facilitate the achievement of literacy skills in the 21st century is production-based training. The learning model is centered on students with activities to equip them with critical thinking skills to solve problems, investigate an object systematically, critically

and logically, find patterns in concrete and abstract situations, communicate in new learning situations and use new projects. in real life, and have the ability to apply knowledge that is understood or found in work practices (Yang et al., 2018).

The PBT model is an education and training process that integrates with the production practice process, so that students gain learning experience in contextual conditions following the workflow of industrial production starting from planning, implementing and evaluating products or product quality control to post-production services. The syntax of PBT learning model is (a) planning products, (b) making products, (c) evaluating product results (product quality assurance), (d) market the product. Thus the application of the PBT learning model is very appropriate to achieve the competence of training graduates (Ganefri & Hidayat, 2015). The basic competencies to be achieved in the entrepreneurial training program in literacy villages are not only scientific literacy from an abstract conceptual aspect, but applying scientific literacy into the real practice of pioneering productive entrepreneurship is useful in providing added value in income for families and communities (Ganefri & Hidayat, 2015).

The innovative implementation of the Production Based Training / PBT learning model in this study is to apply the ICARE approach (Introduction, Connection, Application, Reflection, Extension). The five elements of the learning process in the ICARE approach are integrated into the Production Based Training / PBT model, so that it can make it easier for entrepreneurial training students to practice the knowledge or experiences that have been learned in everyday life in pioneering entrepreneurship. Several research results explain the effectiveness of the ICARE approach in digital image processing training (Ardiyani et al., 2017), learning process science in chemistry (Mahdian et al., 2019), and problem solving skills in mathematics (Yumiati & Wahyuningrum, 2015).

The ICARE approach has never been applied to adult training learning in the context of non-formal education. The steps of the learning process using the ICARE approach are as follows: (a) Introduction or introduction. In the initial steps of learning, the facilitator provides an explanation of the objectives and results to be achieved by the training participants, performs perceptions by showing the phenomenon contextually. (b) Connection (connecting), the facilitator organizes the material into sub-topics so that it is easy to learn, connecting each sub-topic with tasks that are actually applied in life and previous learning experiences, (c) Application (applying and applying), the facilitator provides challenges and activities that enable training participants to apply or practice the knowledge they have acquired at the connection stage by providing real-world problems. (d) Reflection, the facilitator asks the trainees to reflect on what they have learned. The facilitator helps organize their thoughts about what learning experiences they have just learned in writing, then gives them the opportunity to explain it or discuss it to expand the information. (e) Extension (expanding and evaluating), the facilitator provides the opportunity for training participants to apply entrepreneurial management information and develop their creativity in the practice of pioneering entrepreneurs that are suitable for business opportunities in the community.

The purpose of entrepreneurship training in the literacy village program is to equip literacy skills training participants and develop the ability to start an entrepreneur in accordance with their own potential and environmental potential which is carried out with an entrepreneurial spirit. The strategy to achieve the goals of literacy villages through entrepreneurship training is different from the previous strategy, namely the one home one library movement which was carried out in the Saptosari sub-district, Gunung Kidul Regency (Muslimah, Ani, 2019). The effectiveness of the application of the learning model is measured based on the achievement of entrepreneurial literacy skills as well as the competency standards of entrepreneurial training graduates. In line with the results of applied research in developed countries, that vocational training (entrepreneurship) is effective in contributing to the socio-economy (Asadullah & Zafar Ullah, 2018). Likewise, research on the application of the PBT model is effective for teaching craftsmanship and entrepreneurship to students of SMAN Ungaran and is effective in increasing entrepreneurial skills in vocational education and training in tertiary institutions (Kusumaningrum et al., 2015).

## **METHODS**

This study was designed using the experimental research method pretest posttest one group design, to find the effect of certain treatments on others under controlled conditions. This method is used on the basis of the consideration that the nature of experimental research is to try something to determine the effect of a treatment. Besides, the researcher wants to know the effect of the independent variable on the dependent variable being investigated or observed. The population of this study were housewives of productive age who were interested in participating in entrepreneurial training activities in strengthening the Ceria literacy village program in Pagersari Village, Patean District, Kendal Regency. The determination of the Ceria Literacy Village to be a study site was based on the consideration of having various multiliterative programs, including entrepreneurial training activities. Public. Simple random sampling technique (Simple Random Sampling), so as to provide equal opportunities for each member of the population to be the research sample. The results of the study formulated a comparison of the measurement results of the dependent variable (Y) of entrepreneurial literacy skills, to see the impact of the ICARE approach to PBT learning model, as the independent variable (X). The research data were obtained from primary data sources for training participants and training facilitators. The data were obtained using non-participatory observation techniques with focused observation sheet instruments on a tiered scale to measure the application of the PBT learning model with the ICARE approach, while to measure the literacy skills of training participants using test techniques, the performance test instrument used the rubric of the ability to solve problems by collaborating and thinking critically and the ability to communicate new ideas and creativity. Analysis of the two similarity test data mean pre-test and post-test data aims to determine whether they have an average that is not significantly different. The hypotheses tested are:  $H_0: \mu_1 = \mu_2$  and  $H_a: \mu_1 \neq \mu_2$  Description:  $\mu_1$ : Average pretest data,  $\mu_2$ : Average posttest data. The difference test uses the paired t-test formula.

## RESULTS AND DISCUSSION

### **Description of the Implementation of Production Based Training (PBT) Model Training with the ICARE approach (Introduction, Connection, Application, Reflection, Extension).**

Based on the results of the descriptive data analysis of the 15 training participants' questionnaire and 3 training program managers, the qualifications of the trainer's ability in the learning process by applying the ICARE PBT approach at the product planning stage were included in the very good category with an achievement score of 97.8%. By implementing the learning process at the product planning stage, it is very much in accordance with the provisions of the ICARE PBT approach. The qualification of the trainer's ability in the learning process at the stage of making the product is included in the very good category with an achievement score of 94.7%. This very good category means that the learning activities carried out by the trainer in the entrepreneurial training program in the product-making stage are very much in accordance with the principles of the ICARE approach PBT model process.

The qualification of the trainer's ability in the learning process at the stage of evaluating the product is included in the very good category with an achievement score of 94.7%. This very good category means that the learning activities carried out by the trainer in the entrepreneurial training program at the product evaluation stage are very much in accordance with the provisions of the PBT model process and very much in accordance with the ICARE approach, namely reflection activities. The trainer has involved students to assess the business products produced, in terms of suitability with consumer (market) needs, in terms of production creativity so as to increase selling value/ price and assessing product packaging for marketing promotion. The final syntax of the PBT model is to market products and development activities on the ICARE approach, entering the criteria that are quite good, the percentage of achievement is 71.75% of the learning principles. Taking into account the descriptive data above, it can be concluded that the trainer's ability to apply the ICARE-based PBT learning model in general at every step of the learning has been done very well, except in the step of marketing a product or service, which is done quite well.



**Hypothesis Test of the Effectiveness of ICARE-Based PBT Learning Model on Entrepreneurship Literacy Ability and Entrepreneurship Pioneering.**

Presentations on the learning outcomes of training participants before and after participating in training programs that apply the ICARE-based PBT model can be tabulated based on the following three aspects.

Table 1. Learning Outcomes of Training Participants Before and After Training to Implement the ICARE-Based PBT Model in Literacy Village.

Before Training	Percentage of Literacy Achievement	After Training
64,66%	Entrepreneurial Knowledge	88,33%
60,44%	Entrepreneurial Attitude	85,88%
41,40%	Entrepreneurial Pioneering Skills	79,60%
55,5%	Average	84,60%

Based on table 1, it can be explained that the learning outcome specs have the highest increase in entrepreneurial pioneering skills, namely there is a difference in learning outcomes of 38.2%, while the increase in learning outcomes in the attitude aspect is 25.44% and the knowledge aspect is 23.7%. To determine the significance of differences in the level of achievement of learning outcomes before and after the application of the ICARE-based PBT learning model, the following hypothesis was tested.

Hypothesis testing is performed by analyzing the difference test data or Paired Sample t-Test using the SPSS program statistics. The prerequisites that must be met are: (a) the data must be normally distributed, (b) the two samples must be paired (two measurements are made of the same sample), (c) The type of numerical data. Based on the results of the normality test, it is known that the significance value is  $0.092 > 0.05$ , it can be concluded that the residual value is normally distributed.

There is a difference in the mean score of entrepreneurial literacy learning outcomes before and after participating in the training program by applying the ICARE-based PBT model of 103.86 and the posttest score of 160.53, a difference of 56.67 scores. The amount of percentage

increase in pretest to posttest scores is  $\frac{160.53 - 103.86}{103.86} \times 100\% = 54,56\%$ .

Based on the results of the compare paired sample t-test analysis, it is known that the correlation between the initial and second entrepreneurial literacy skills scores is 0.707 at a significant  $0.003 < 0.5\%$ , that is, an increase in the learning outcomes score of entrepreneurial literacy skills training from initial (pretest) to final ( posttest) is evenly distributed in other words, the pretest data has a significant relationship with the posttest data.

Furthermore, to test the significance of this difference in mean score and data correlation, a paired samples test was conducted, the results are shown in the following table:

Table 2. Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Early entrepreneurial literacy - Second entrepreneurial literacy	-56,666	9,51440	2,456	-61,935	-51,397	-23,067	14	0,000

It is known that the value of Sig (2-tailed)  $t = 23.067$  at a significance of  $0.000 < 0.05$ , it can be concluded that there is a significant or real difference between the learning outcomes of the first entrepreneurial literacy ability (pretest) and the second entrepreneurial literacy ability. That is, the hypothesis  $H_a$  accepted, stating "the application of the ICARE-based PBT learning model can effectively improve the entrepreneurial literacy skills of trainees in training programs in literacy villages".

The ICARE-based PBT learning model significantly succeeded in improving the learning outcomes of the training participants' entrepreneurial literacy competencies in literacy villages. The results of this hypothesis testing corroborate the research results of Genefri and Hendra Hidayat (Ganefri & Hidayat, 2015) which have been published in the reputable international journal "Procedia - Social and Behavioral Sciences", which has tested the effectiveness of implementing product-based learning models in vocational education and training to help students prepare themselves. entering work, and developing critical thinking and having a good moral attitude. The difference with this research is in the context of non-formal education or community education, namely that the literacy village does not have a standardized curriculum.

The training program begins with an analysis of the training needs of the community or training participants and the needs of the organization, as a basis for setting the objectives of the training program. This is according to the recommendations of the training design theory from Leonard Nadler, the training curriculum is prepared after carrying out several activities, namely (a) identification of needs and organization, (b) specific performance abilities, (c) identification of the needs of training participants, (d) setting training objectives. The syntax equation lies in planning to make products according to the results of business opportunity analysis, making products, evaluating products and making business plans.

The results of this study corroborate some of the following research results: (Mitasari & Rusdarti, 2019) the application of the PBT (Product Based Training) model is effective in improving the skills of craftsmanship and entrepreneurship in Vocational High Schools, Ni Kadek Dwi Ardiyani's research (Ardiyani et al., 2017) application of ICARE (Instruduction Connection Application Reflection Extention) effectively achieving the objectives of learning digital skills in vocational high schools, Mahdian's research (Mahdian et al., 2019) the application of ICARE was effective in achieving the goals of learning science in high schools and Yumiati's research (Yumiati & Wahyuningrum, 2015) the application of the ICARE learning model in higher education was effective in achieving problem solving abilities in the mathematics. Thus the ICARE learning model is very convincing to be effective in achieving learning goals, both learning outcomes in the aspects of knowledge and skills in various types of fields of science and education levels.

The effectiveness of the application of the ICARE model as one of these learning models can be analyzed that in the introduction, connect and application stages are based on the understanding of constructivism theory (Jerome Brunner's thought) how to learn meaningful with the discovery process in people's lives, students actively construct learning outcomes based on previous learning experiences. , trainees are motivated and guided to think critically, so they can find and apply new ideas in an effort to solve problems in real life contexts, according to the thinking of Jean Piaget and John Dewey. Vygotsky's thinking is also the basis for the effectiveness of the application of the ICARE model, namely the intellectual abilities of trainees

develop because they are faced with challenges of new knowledge and seek to solve problems in the context of the socio-cultural environment. In the application of ICARE learning, there are social interaction activities with more capable learners and peers, training participants move into the closest development zone, so learning becomes easier and the results are optimal.

Problem solving according to the real-life context in this study is more focused on the interests of empowering women who are more productive and have the ability to manage entrepreneurs, eliminating women's discrimination to gain access to participate in development, strengthening women's social inclusion programs starting in the smallest unit in the family environment. The development of women's potential through training programs in this literacy village is in accordance with the recommendations of the ministry of women's empowerment and child protection of the Republic of Indonesia (Baisa et al., 2018) and in accordance with the policy of the Ministry of Education and Culture of the Republic of Indonesia regarding independent learning, which interprets educational change to bring a climate of innovation, training participants gain knowledge, entrepreneurial attitudes and skills, as a provision for the ability to face challenges, it is necessary to have superior human resources with character in order to exist in the midst of rapid changes in the 21st century.

The Production Based Training learning model with the ICARE approach is in line with the action perspective entrepreneurial education philosophy, which is oriented to the theory of Kolb's theory (Murphy & Costa, 2015) states that a person learns from the discovery of conceptions and experiences. Effective learning is seen when a person develops through the four stages of the learning cycle, namely, (a) concrete experiences, (b) reflective observation, (c) abstract conceptualization, (d) active experiments. The application of the Production Based Training model with the ICARE approach to entrepreneurship training in this study is very relevant to the learning principles proposed by David A. Kolb, so that it is also effective in achieving entrepreneurial training objectives. This finding can simultaneously break the criticism of Reichborn-Kjennerud and Denis Hyams, et al (Reichborn-Kjennerud & Svare, 2014) against Kolb's experiential learning model, which allegedly lacks focus on practical applications in entrepreneurial education settings.

Entrepreneurial literacy skills as a result of learning training programs owned by housewives in literacy villages are evaluated based on the impact of changes in literacy aspects of knowledge, skills or behavior towards better entrepreneurial startups, according to the purpose of holding entrepreneurship training. The percentage of learning outcomes achievement in the knowledge aspect is 88.33%, very high category. The training participants have knowledge about the personality (psychic) of a successful entrepreneur, strategies for getting business opportunities, how to prepare business plans, how to evaluate products that meet consumer needs, how to increase productivity, manage benefits and risks in competition.

The percentage of learning outcomes in the aspect of entrepreneurial attitude is 85.88% in the very high category, the training participants have the spirit of continuous learning from their experiences in pioneering entrepreneurship, striving harder to succeed, handling business planned, honestly, economically and disciplined. The percentage of achievement of learning outcomes in the skills aspect is 79.60% in the high category, indicating that the training participants have to learn a lot of practice (application stage) and practice developing it (extension stage) to continue learning with people who have succeeded in entrepreneurship, in the practice of pioneering entrepreneurship can interpret information from social media by using a healthy mind (logical), willing and able to work hard and diligently in producing goods and services and try more appropriate and efficient ways of working, and have sufficient administrative skills to support entrepreneurial functions, for example financial and administrative administration correspondence or documentation (Gachuru, H. M., & Mwirigi, 2014).

This evaluation measure entered at level 2 of the Kirkpatrick measurement. Measurement of learning outcomes can be done by creating comparison groups or how to conduct training evaluations by conducting pre-tests and post-tests, in which participants are given a test before the training is run and after the training is carried out. Therefore, the research design to analyze the effectiveness of the application of the learning model on entrepreneurial literacy skills using experiments.

The experimental design used was a quasi-experiment without a control group, due to the limited number of training participants who actively participated in the training program in the literacy village. To obtain internal validity, namely ensuring that the manipulation of the application of the ICARE-based PBT learning model actually has an impact on differences in entrepreneurial literacy learning outcomes, conditions are carried out to prevent things that threaten internal validity, including instrument factors, maturity, test procedures, drop out, researchers hope.

## CONCLUSION

The Production Based Training learning model with the ICARE approach (Introduction, Connect, Application, Reflection, Extension) is effective in increasing entrepreneurial literacy skills for women who participate in training programs in literacy villages. The Production Based Training learning model with the ICARE approach is based on the understanding of constructivism theory, meaningful learning methods with the discovery process, students actively construct learning outcomes based on previous learning experiences, training participants are motivated and guided to think critically, so that they can apply new ideas in an effort solve problems in the real-life context of starting a business. The learning model in effective training for adults is learning that can involve trainees in planning learning programs, the learning process facilitates learning needs to solve real problems in their lives, so that theory and practice are integrated, involving previous learning experiences they have had, involving they are in the assessment or reflection activities and give confidence to develop themselves according to their respective abilities

## ACKNOWLEDGEMENT

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## Bukti Resubmit 27 Januari 2021

The screenshot shows a Gmail interface on a desktop browser. The browser's address bar displays the URL: mail.google.com/mail/u/0/?tab=rm&ogbl#sent/FMfcgzGpGKXMKWbndTszlwRvcnGzSfl. The Gmail search bar contains the text "in:sent". On the left sidebar, the "Email" section is expanded, showing "Penting", "Terakhir" (highlighted), "Draf" (99), and "Kategori". Below "Email" are "Chat" and "Ruang" sections. The main content area shows an email from "Tri Suminar" (tri.suminar@mail.unnes.ac.id) sent to "Journal". The email body contains the following text:

Dear to the manager of the journal of nonformal education

I hereby revise our article entitled "The Effectiveness of Production-Based Learning Models in the ICARE Approach to Entrepreneurial Literacy Ability" if there are still improvements or revisions, we are ready to revise them.

Many Thanks

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Dr. Tri Suminar, M.Pd  
Dosen Jurusan Pendidikan Nonformal - Fakultas Ilmu Pendidikan  
Universitas Negeri Semarang

Below the text is a thumbnail of a document titled "Artikel\_Tri Suminar\_...". The document's title is "The Effectiveness of Production-Based Learning Models in the ICARE Approach to Entrepreneurial Literacy Ability".

# Bukti Accepted 17 Agustus 2021

The screenshot shows a Gmail interface with a browser window open to a submission acknowledgment page. The browser tabs include "The Effectiveness of Production...", "Google Account", and "[jne] Submission Acknowledgem...". The address bar shows the URL: mail.google.com/mail/u/0/?tab=km#inbox/FMfcgzGpGKXMMWKWbnDTwLkzXXWfWbgrQ.

The Gmail interface displays the following elements:

- Left Sidebar:** Navigation icons for Mail (12), Chat, Spaces, and Meet.
- Top Bar:** "Compose" button, "Search in mail" field, and "Active" status.
- Folder List:** "Inbox" (12), "Starred", "Snoozed", "Sent", "All Mail", and "More".
- Labels:** "Author 2.2020".

The selected email is from "Journal of Nonformal Education" to "Tri". The content of the email is as follows:

The article with the title "The Effectiveness of Production-Based Learning Models in the ICARE Approach to Entrepreneurial LiteracyAbility" has been **accepted** and will be published in the 7(2) 2021 edition of August 2021. Please immediately make the act journal account number BNI. 0692623607 an. Umi Salamah

Thanks

Editor in Chief, JNE 2021  
Imam Shofwan

- Scopus ID : 57211542534
- Orcid ID : 0000-0003-2459-5988
- Whatapps : 085730223344

<https://journal.unnes.ac.id/riui/index.php/jne>

At the bottom of the email, there is a small thumbnail of a document titled "The Effectiveness of Production Based Learning Models in the ICARE Approach to Entrepreneurial Literacy Ability".

# The Effectiveness of Production-Based Learning Models in the ICARE Approach to Entrepreneurial Literacy Ability

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**Abstract.** Entrepreneurship training activities in the literacy village program are one of the national literacy movement programs. Learning citizens with limited characteristics need effective learning skills to achieve the goals of literacy skills in the industrial era 4.0. The purpose of this study was to test the effectiveness of the Production Based Training learning model with the ICARE approach on entrepreneurial literacy skills of women participating in entrepreneurship training in literacy villages. The research method used is a quantitative approach pretest-posttest one group design with data analysis using SPSS t-test. The research population is the community of women as learning citizens in the literacy village program. The sampling technique was simple random sampling. Data collection techniques used observation, questionnaires, and performance ability tests. The results showed that the ICARE-based Production-Based Training learning model was effective in improving entrepreneurial literacy skills significantly as indicated by the high insight into entrepreneurial knowledge and attitudes as well as pioneering entrepreneurial skills with critical thinking skills, communicating, collaborating, and developing creativity in problem-solving to pioneer entrepreneurship. The impact of this research is to provide increased literacy skills, especially for marginalized women in pioneering and developing entrepreneurship.

**Key words:** learning model production based training; ICARE approach; entrepreneurial literacy ability

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## INTRODUCTION

One of the main objectives of resource development is to improve the quality of women by increasing education, productivity, and the ability of competitive character. These three goals can be achieved through training programs aimed at increasing entrepreneurial literacy skills for women of productive age. Meanwhile, there is a problem that the literacy ability in Indonesia has decreased in 2019 compared to the previous year, women's literacy skills are lower than men, as well as women's participation in jobs lagging 33 points compared to men which reached 84% (Baisa et al., 2018).

The urgency of this research is the ability of women to be competitive if they have literacy competencies. Competition in the 21st century requires creative resources, critical thinking, persistence, adaptability, communication, and cooperation, leadership, social awareness, and culture (Morocco, C. C., Aguilar, C. M., & Bershad, 2010). Understanding literacy is not only a transformation of individuals but also social transformation. Low levels of literacy are highly correlated with poverty, both in an economic sense and in a broader sense. Learning from the experiences of developed countries that have high reading interests, such as Finland, America, and South Korea, they have become influential countries in the global world (Eisenberg, 2014).

The women's empowerment program in Indonesia by increasing literacy skills and competitiveness is still facing tough challenges, so it demands better strategies and more creative breakthroughs. The government has declared the National Literacy Movement in a literacy village forum in 2016, with action activities for the adult community through entrepreneurship training programs (KP dan Kebudayaan, 2017). The implementation of entrepreneurship training programs in literacy villages at the same time in the framework of gender issues and social inclusion in sustainable development has experienced technical problems in the management of the learning process and real action after training (Rindarti, 2019). Therefore, facilitators with conservation value characteristics are needed to manage learning with innovative and effective models and approaches.

An effective learning model in the community entrepreneurship training program targeting housewives is learning that positions students' targets as learning subjects (participant-centered learning), the learning process for adults (andragogy) is more demanding for dialogue and problem-solving practices and producing products to improve the quality of life (Hurt, 2016). The learning model that meets the above assumptions is the Production Based Training (Mitasari & Rusdarti, 2019) learning model with the ICARE approach (Introduction, Connection, Application, Reflection, Extension) (Mahdian et al., 2019).



Therefore, this study aims to test the hypothesis of the effectiveness of the application of the ICARE-based Production Based Training learning model on increasing literacy skills and the ability to start a business for women in entrepreneurial training programs in literacy villages. Literacy skills are more focused on scientific literacy, information and communication technology literacy, financial literacy, and cultural literacy that supports entrepreneurial management (KP dan Kebudayaan, 2017). The ability to pioneer entrepreneurship includes the ability to compile business planning and carry out business (Djibu & Shofwan, 2019).

Sustainable development that aims to provide equal justice and welfare for citizens, especially vulnerable and marginalized groups, cannot run if understanding and understanding between parties regarding the principles of gender and social inclusion have not been used as the foundation of development (Hendriks, 2019). Strategies for solving problems for the acceleration of sustainable development must include awareness of the elements of social and gender inclusion. This means that development programs that are equitable and visionary will be more dignified and humane if implemented with the principles of social and gender inclusion. The results of Reichborn's researchers explain that there are different strategies for entrepreneurial learning from a gender perspective (Reichborn-Kjennerud & Svare, 2014).

The 21st century is a century based on science and technology. Responding to the demands of these developments, high-level literacy skills are required. The level of community literacy has a positive correlation with the quality of life and the progress of the nation (Morocco, C. C., Aguilar, C. M., & Bershad, 2010). 21st-century literacy skills, it is explained that there are 4 abilities, namely: (a) critical thinking skills, (b) ability to develop creativity (creativity), (c) ability to communicate (communication), both orally, in writing, and symbols which can be understood using internet technology, and (d) the ability to collaborate (collaboration) (Wijaya et al., 2016).

Starting from the description above, understanding the concept of literacy is more than just reading and writing. The concept of literacy based on Law No.3 of 2017 article (KP dan Kebudayaan, 2017) is the ability to interpret information critically so that everyone can access science and technology to improve the quality of life (Hendra Hidayat, 2015). The Ministry of Education and Culture (2016) emphasizes that there are 6 components of literacy, namely: (a) literacy, (b) numeracy literacy, (c) scientific literacy, (d) information and communication technology (ICT) literacy, (e) financial literacy, (f) cultural literacy and citizenship. Thus 21st-century education is education that integrates knowledge skills, skills, and attitudes,

as well as mastery of ICT in life. In this study, literacy skills are integrated with the competence of pioneering entrepreneurship for women in a non-formal education program, namely entrepreneurship training organized by literacy activists in village communities in a literacy village forum.

In 21st century learning, there is a change in the learning paradigm, namely, from the teaching paradigm to the learning paradigm. Learning is not only carried out as a transfer of knowledge but an activity that students must actively engage in to build their knowledge based on their potential (Siswati et al., 2020).

A learning model that can facilitate the achievement of literacy skills in the 21st century is production-based training. The learning model is centered on students with activities to equip them with critical thinking skills to solve problems, investigate an object systematically, critically, and logically, find patterns in concrete and abstract situations, communicate in new learning situations, and use new projects. in real life, and have the ability to apply the knowledge that is understood or found in work practices (Yang et al., 2018).

The PBT model is an education and training process that integrates with the production practice process, so that students gain learning experience in contextual conditions following the workflow of industrial production starting from planning, implementing, and evaluating products or product quality control to post-production services. The syntax of the PBT learning model is (a) planning products, (b) making products, (c) evaluating product results (product quality assurance), (d) market the product. Thus the application of the PBT learning model is very appropriate to achieve the competence of training graduates (Ganefri & Hidayat, 2015). The basic competencies to be achieved in the entrepreneurial training program in literacy villages are not only scientific literacy from an abstract conceptual aspect but applying scientific literacy into the real practice of pioneering productive entrepreneurship is useful in providing added value in income for families and communities (Ganefri & Hidayat, 2015).

The innovative implementation of the Production Based Training / PBT learning model in this study is to apply the ICARE approach (Introduction, Connection, Application, Reflection, Extension). The five elements of the learning process in the ICARE approach are integrated into the Production Based Training / PBT model so that it can make it easier for entrepreneurial training students to practice the knowledge or experiences that have been learned in everyday life in pioneering entrepreneurship. Several research results explain the effectiveness of the ICARE approach in digital image processing training

(Ardiyani et al., 2017), learning process science in chemistry (Mahdian et al., 2019), and problem-solving skills in mathematics (Yumiati & Wahyuningrum, 2015).

The ICARE approach has never been applied to adult training learning in the context of non-formal education (Saepudin et al., 2020). The steps of the learning process using the ICARE approach are as follows: (a) Introduction or introduction. In the initial steps of learning, the facilitator explains the objectives and results to be achieved by the training participants, performs perceptions by showing the phenomenon contextually. (b) Connection (connecting), the facilitator organizes the material into sub-topics so that it is easy to learn, connecting each sub-topic with tasks that are applied in life and previous learning experiences, (c) Application (applying and applying), the facilitator provides challenges and activities that enable training participants to apply or practice the knowledge they have acquired at the connection stage by providing real-world problems. (d) Reflection, the facilitator asks the trainees to reflect on what they have learned. The facilitator helps organize their thoughts about what learning experiences they have just learned in writing, then allows them to explain it or discuss it to expand the information. (e) In the extension (expanding and evaluating), the facilitator provides the opportunity for training participants to apply entrepreneurial management information and develop their creativity in the practice of pioneering entrepreneurs that are suitable for business opportunities in the community.

The purpose of entrepreneurship training in the literacy village program is to equip literacy skills training participants and develop the ability to start an entrepreneur following their potential and environmental potential which is carried out with an entrepreneurial spirit (Arbarini & Subyantoro, 2017). The strategy to achieve the goals of literacy villages through entrepreneurship training is different from the previous strategy, namely the one home one library movement which was carried out in the Saptosari sub-district, Gunung Kidul Regency (Muslimah, Ani, 2019). The effectiveness of the application of the learning model is measured based on the achievement of entrepreneurial literacy skills as well as the competency standards of entrepreneurial training graduates. In line with the results of applied research in developed countries, that vocational training (entrepreneurship) is effective in contributing to the socio-economy (Asadullah & Zafar Ullah, 2018). Likewise, research on the application of the PBT model is effective

for teaching craftsmanship and entrepreneurship to students of SMAN Ungaran and is effective in increasing entrepreneurial skills in vocational education and training in tertiary institutions (Kusumaningrum et al., 2015).

## METHODS

This study was designed using the experimental research method pretest-posttest one group design, to find the effect of certain treatments on others under controlled conditions. This method is used based on the consideration that the nature of experimental research is to try something to determine the effect of a treatment. Besides, the researcher wants to know the effect of the independent variable on the dependent variable being investigated or observed. The population of this study was housewives of productive age who were interested in participating in entrepreneurial training activities in strengthening the Ceria literacy village program in Pagersari Village, Patean District, Kendal Regency.

The determination of the Ceria Literacy Village to be a study site was based on the consideration of having various multiliterate programs, including entrepreneurial training activities. Public. Simple random sampling technique (Simple Random Sampling), to provide equal opportunities for each member of the population to be the research sample. The results of the study formulated a comparison of the measurement results of the dependent variable (Y) of entrepreneurial literacy skills, to see the impact of the ICARE approach to the PBT learning model, as the independent variable (X). The research data were obtained from primary data sources for training participants and training facilitators.

The data were obtained using non-participatory observation techniques with focused observation sheet instruments on a tiered scale to measure the application of the PBT learning model with the ICARE approach while measuring the literacy skills of training participants using test techniques, the performance test instrument used the rubric of the ability to solve problems by collaborating and thinking critically and the ability to communicate new ideas and creativity. Analysis of the two similarity test data means pre-test and post-test data aims to determine whether they have an average that is not significantly different. The hypotheses tested are  $H_0: \mu_1 = \mu_2$  and  $H_a: \mu_1 \neq \mu_2$  Description:  $\mu_1$ : Average pretest data,  $\mu_2$ : Average posttest data. The difference test uses the paired t-test formula.

## RESULTS AND DISCUSSION

### Description of the Implementation of Production Based Training (PBT) Model Training with the ICARE approach (Introduction, Connection, Application, Reflection, Extension)

Based on the results of the descriptive data analysis of the 15 training participants' questionnaire and 3 training program managers, the qualifications of the trainer's ability in the learning process by applying the ICARE PBT approach at the product planning stage were included in the very good category with an achievement score of 97.8%. By implementing the learning process at the product planning stage, it is very much following the provisions of the ICARE PBT approach. The qualification of the trainer's ability in the learning process at the stage of making the product is included in the very good category with an achievement score of 94.7%. This very good category means that the learning activities carried out by the trainer in the entrepreneurial training program in the product-making stage are very much following the principles of the ICARE approach PBT model process.

The qualification of the trainer's ability in the learning process at the stage of evaluating the product is included in the very good category with an achievement score of 94.7%. This very good category means that the learning activities carried out by the trainer in the entrepreneurial training program at the product evaluation stage are very much following the provisions of the PBT model process and very much following the ICARE approach, namely reflection activities (Mahdian et al., 2019). The trainer has involved students to assess the business products produced, in terms of suitability with consumer (market) needs, in terms of production creativity to increase selling value/ price, and assessing product packaging for marketing promotion.

The final syntax of the PBT model is to market products and development activities on the ICARE approach, entering the criteria that are quite good, the percentage of achievement is 71.75% of the learning principles. Taking into account the descriptive data above, it can be concluded that the trainer's ability to apply the ICARE-based PBT learning model in general at every step of the learning has been done very well, except in the step of marketing a product or service, which is done quite well.

### Hypothesis Test of the Effectiveness of ICARE-Based PBT Learning Model on Entrepreneurship Literacy Ability and Entrepreneurship Pioneering.

Presentations on the learning outcomes of training participants before and after participating in training

programs that apply the ICARE-based PBT model can be tabulated based on the following three aspects.

**Table 1.** Learning Outcomes of Training Participants Before and After Training to Implement the ICARE-Based PBT Model in Literacy Village

Before Training	Percentage of Literacy Achievement	After Training
64,66%	Entrepreneurial Knowledge	88,33%
60,44%	Entrepreneurial Attitude	85,88%
41,40%	Entrepreneurial Pioneering Skills	79,60%
55,5%	Average	84,60%

Based on table 1, it can be explained that the learning outcome specs have the highest increase in entrepreneurial pioneering skills, namely, there is a difference in learning outcomes of 38.2%, while the increase in learning outcomes in the attitude aspect is 25.44% and the knowledge aspect is 23.7%. To determine the significance of differences in the level of achievement of learning outcomes before and after the application of the ICARE-based PBT learning model, the following hypothesis was tested.

Hypothesis testing is performed by analyzing the different test data or Paired Sample t-Test using the SPSS program statistics. The prerequisites that must be met are: (a) the data must be normally distributed, (b) the two samples must be paired (two measurements are made of the same sample), (c) The type of numerical data. Based on the results of the normality test, it is known that the significance value is  $0.092 > 0.05$ , it can be concluded that the residual value is normally distributed.

There is a difference in the mean score of entrepreneurial literacy learning outcomes before and after participating in the training program by applying the ICARE-based PBT model of 103.86 and the posttest score of 160.53, a difference of 56.67 scores. The amount of percentage increase in pretest to posttest scores is

$$\frac{160,53 - 103,86}{103,86} \times 100\% = 54,56\%.$$

Based on the results of the compare paired sample t-test analysis, it is known that the correlation between the initial and second entrepreneurial literacy skills scores is 0.707 at a significant  $0.003 < 0.5\%$ , that is, an increase in the learning outcomes score of entrepreneurial literacy skills training from the initial (pretest) to final (posttest) is evenly distributed in other words, the pretest data has a significant relationship with the posttest data. Furthermore, to test the significance of this difference in mean score and data correlation, a paired samples test was conducted.

It is known that the value of Sig (2-tailed)  $t = 23.067$  at a significance of  $0.000 < 0.05$ , it can be concluded that there is a significant or real difference between the learning outcomes of the first entrepreneurial literacy ability (pretest) and the second entrepreneurial literacy ability. That is, the hypothesis  $H_a$  accepted, stating "the application of the ICARE-based PBT learning model can effectively improve the entrepreneurial literacy skills of trainees in training programs in literacy villages".

The ICARE-based PBT learning model significantly succeeded in improving the learning outcomes of the training participants' entrepreneurial literacy competencies in literacy villages. The results of this hypothesis testing corroborate the research results of Genefri and Hendra Hidayat (Ganefri & Hidayat, 2015) which have been published in the reputable international journal "Procedia - Social and Behavioral Sciences", which has tested the effectiveness of implementing product-based learning models in vocational education and training to help students prepare themselves. entering work, and developing critical thinking, and having a good moral attitude. The difference with this research is in the context of non-formal education or community education, namely that the literacy village does not have a standardized curriculum.

The training program begins with an analysis of the training needs of the community or training participants and the needs of the organization, as a basis for setting the objectives of the training program (Siswati et al., 2020). This is according to the recommendations of the training design theory from Leonard Nadler, the training curriculum is prepared after carrying out several activities, namely, (a) identification of needs and organization, (b) specific performance abilities, (c) identification of the needs of training participants, (d) setting training objectives. The syntax equation lies in planning to make products according to the results of business opportunity analysis, making products, evaluating products, and making business plans.

The results of this study corroborate some of the following research results: (Mitasari & Rusdarti, 2019) the application of the PBT (Product Based Training) model is effective in improving the skills of craftsmanship and entrepreneurship in Vocational High Schools, Ni Kadek Dwi Ardiyani's research (Ardiyani et al., 2017) application of ICARE (Introduction Connection Application Reflection Extension) effectively achieving the objectives of learning digital skills in vocational high schools, Mahdian's research (Mahdian et al., 2019) the application of ICARE was effective in achieving the goals of learning science in high schools and Yumiati's research (Yumiati & Wahyunigrum, 2015) the application of

the ICARE learning model in higher education was effective in achieving problem-solving abilities in the mathematics. Thus the ICARE learning model is very convincing to be effective in achieving learning goals, both learning outcomes in the aspects of knowledge and skills in various types of fields of science and education levels.

The effectiveness of the application of the ICARE model as one of these learning models can be analyzed that in the introduction, connect and application stages are based on the understanding of constructivism theory (Jerome Brunner's thought) how to learn meaningful with the discovery process in people's lives, students actively construct learning outcomes based on previous learning experiences, trainees are motivated and guided to think critically, so they can find and apply new ideas to solve problems in real-life contexts, according to the thinking of Jean Piaget and John Dewey. Vygotsky's thinking is also the basis for the effectiveness of the application of the ICARE model, namely the intellectual abilities of trainees develop because they are faced with challenges of new knowledge and seek to solve problems in the context of the socio-cultural environment. In the application of ICARE learning, there are social interaction activities with more capable learners and peers, training participants move into the closest development zone, so learning becomes easier and the results are optimal.

Problem-solving according to the real-life context in this study is more focused on the interests of empowering women who are more productive and can manage entrepreneurs (Djibu & Duludu, 2020). Eliminating women's discrimination to gain access to participate in the development, strengthening women's social inclusion programs starting in the smallest unit in the family environment (Su et al., 2020). The development of women's potential through training programs in this literacy village is following the recommendations of the ministry of women's empowerment and child protection of the Republic of Indonesia (Baisa et al., 2018) and following the policy of the Ministry of Education and Culture of the Republic of Indonesia regarding independent learning, which interprets educational change to bring a climate of innovation, training participants gain knowledge, entrepreneurial attitudes and skills, as a provision for the ability to face challenges, it is necessary to have superior human resources with character in order to exist in the midst of rapid changes in the 21st century.

The Production Based Training learning model with the ICARE approach is in line with the action perspective entrepreneurial education philosophy, which is oriented to the theory of Kolb's theory (Murphy & Costa, 2015) states that a person learns from the discovery of conceptions and experiences.

Effective learning is seen when a person develops through the four stages of the learning cycle, namely, (a) concrete experiences, (b) reflective observation, (c) abstract conceptualization, (d) active experiments. The application of the Production Based Training model with the ICARE approach to entrepreneurship training in this study is very relevant to the learning principles proposed by David A. Kolb so that it is also effective in achieving entrepreneurial training objectives. This finding can simultaneously break the criticism of Reichborn-Kjennerud and Denis Hyams, et al (Reichborn-Kjennerud & Svare, 2014) against Kolb's experiential learning model, which allegedly lacks focus on practical applications in entrepreneurial education settings.

Entrepreneurial literacy skills as a result of learning training programs owned by housewives in literacy villages are evaluated based on the impact of changes in literacy aspects of knowledge, skills, or behavior towards better entrepreneurial startups, according to the purpose of holding entrepreneurship training (Sutarto et al., 2021). The percentage of learning outcomes achieved in the knowledge aspect is 88.33%, a very high category. The training participants know the personality (psychic) of a successful entrepreneur, strategies for getting business opportunities, how to prepare business plans, how to evaluate products that meet consumer needs, how to increase productivity, manage benefits and risks in competition.

The percentage of learning outcomes in the aspect of entrepreneurial attitude is 85.88% in the very high category, the training participants have the spirit of continuous learning from their experiences in pioneering entrepreneurship, striving harder to succeed, handling business planned, honestly, economically, and disciplined. The percentage of achievement of learning outcomes in the skills aspect is 79.60% in the high category, indicating that the training participants have to learn a lot of practice (application stage) and practice developing it (extension stage) to continue learning with people who have succeeded in entrepreneurship, in the practice of pioneering entrepreneurship can interpret information from social media by using a healthy mind (logical), willing and able to work hard and diligently in producing goods and services and try more appropriate and efficient ways of working, and have sufficient administrative skills to support entrepreneurial functions, for example, financial and administrative administration correspondence or documentation (Gachuru, H. M., & Mwirigi, 2014).

This evaluation measure entered at level 2 of the Kirkpatrick measurement. Measurement of learning outcomes can be done by creating comparison groups or how to conduct training evaluations by conducting

pre-tests and post-tests, in which participants are given a test before the training is run and after the training is carried out (Al-Fraihat et al., 2020). Therefore, the research design to analyze the effectiveness of the application of the learning model on entrepreneurial literacy skills using experiments.

The experimental design used was a quasi-experiment without a control group, due to the limited number of training participants who actively participated in the training program in the literacy village (Uduji et al., 2020). To obtain internal validity, namely ensuring that the manipulation of the application of the ICARE-based PBT learning model has an impact on differences in entrepreneurial literacy learning outcomes, conditions are carried out to prevent things that threaten internal validity, including instrument factors, maturity, test procedures, drop out, researchers hope.

## CONCLUSION

The Production Based Training learning model with the ICARE approach (Introduction, Connect, Application, Reflection, Extension) is effective in increasing entrepreneurial literacy skills for women who participate in training programs in literacy villages. The Production Based Training learning model with the ICARE approach is based on the understanding of constructivism theory, meaningful learning methods with the discovery process, students actively construct learning outcomes based on previous learning experiences, training participants are motivated and guided to think critically so that they can apply new ideas in an effort solve problems in the real-life context of starting a business. The learning model ineffective training for adults is learning that can involve trainees in planning learning programs, the learning process facilitates learning needs to solve real problems in their lives, so that theory and practice are integrated, involving previous learning experiences they have had, involving they are in the assessment or reflection activities and give the confidence to develop themselves according to their respective abilities

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