PROCEEDINGS OF THE

EDUCATION RESEARCH Colloquium 2018

BETWEEN
FACULTY OF EDUCATION, UNIVERSITI TEKNOLOGI MALAYSIA (UTM)
& UNIVERSITAS NEGERI MAKASSAR, INDONESIA
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Faculty of Education,
Universiti Teknologi Malaysia
Assalamualaikum w.b.t and Good Day

Ladies and gentlemen,

It is my pleasure to welcome you to the Education Research Colloquium between Faculty of Education, Universiti Teknologi Malaysia (UTM) & Universitas Negeri Makassar (UNM), Indonesia. This colloquium is a platform for both institutions to sustain a harmonious and stable global society and to promote international cooperation and exchange. As we know, UTM participated in a wide variety of collaborative relationships with universities, institutions and individuals in many countries. I am confident that through this colloquium, relationship and friendship between FP UTM and UNM will become stronger. I would like to take this opportunity to congratulate all presenters in this colloquium. I am sure that the variety and depth of the research presented at this colloquium will be appreciated by the audiences. In summary, I believe that this colloquium is just a start for a more fruitful and continuous collaboration between FP UTM and UNM.

Thank you

Professor Dr. Muhammad Sukri Saud
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## CONTENT

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect of Learning Styles on Student Learning Outcomes Course in Statics and Materials Mechanics Subject</td>
<td>1-8</td>
</tr>
<tr>
<td>Anas Arfandi, Nurlita Pertwi, Jurhanah A. UNM</td>
<td></td>
</tr>
<tr>
<td>The Knowledge of Farmers about Local Potentials of Fertilizer and Pesticides Organic in Wajo, South Sulawesi Indonesia</td>
<td>9-12</td>
</tr>
<tr>
<td>Andi Badli Rompegading, Muhammad Ardi, Yusminah Hala &amp; Siti Fatmah Hiola UNM</td>
<td></td>
</tr>
<tr>
<td>The Quality Analysis of Academic Services based on Importance Performance Analysis (IPA)</td>
<td>13-18</td>
</tr>
<tr>
<td>M. Said Saggaf, M. Aras, Haedar Akib, Rudi Salam, Aris Baharuddin &amp; Maya Kasmita UNM</td>
<td></td>
</tr>
<tr>
<td>Penerapan Kemahiran Insaniah Dalam Kalangan Pelajar Prauniversiti di Malaysia</td>
<td>19-28</td>
</tr>
<tr>
<td>Mazlina Mat Isa &amp; Zainudin Hassan UTM</td>
<td></td>
</tr>
<tr>
<td>Kajian Literasi Kepimpinan Instruksional di Sekolah</td>
<td>29-43</td>
</tr>
<tr>
<td>Roslizam Hassan, Jamilah Ahmad &amp; Yusof Boon UTM</td>
<td></td>
</tr>
<tr>
<td>Effectiveness of Critical Thinking Intervention Module based on Teachers’ Feedback</td>
<td>44-49</td>
</tr>
<tr>
<td>Yeo Kee Jiar, Wong Li Jean UTM</td>
<td></td>
</tr>
<tr>
<td>The Impact of Village Expansion Policy on Public Service Aspects at Sadar Village Bone-Bone District of North Luwu Regency</td>
<td>50-57</td>
</tr>
<tr>
<td>Dahyar Daraba, Muhammad Guntur, Fajar Kartini, &amp; Rudi Salam UNM</td>
<td></td>
</tr>
<tr>
<td>Implementation of Environmental Education by Using Script Model Eds-Av</td>
<td>58-64</td>
</tr>
<tr>
<td>Edy Sabara, Hendra Jaya &amp; Sutarsih Suhaeb UNM</td>
<td></td>
</tr>
<tr>
<td>Use of Experimental Method of Effect on Student Learning Activity at Lesson of Natural Science</td>
<td>65-71</td>
</tr>
<tr>
<td>Erma Suryani Sahabuddin &amp; Andi Wahyuni UNM</td>
<td></td>
</tr>
<tr>
<td>The Effectiveness of Video Modeling Module To Increase Social Interaction Among 20 Autism Students in Johor Bahru</td>
<td>72-78</td>
</tr>
<tr>
<td>Farrah Syuhaida Ismail &amp; Yeo Kee Jiar UTM</td>
<td></td>
</tr>
<tr>
<td>Reliability Index of Creative Thinking as Higher Order Thinking Skills Among Electrical Technology Teacher</td>
<td>79-84</td>
</tr>
<tr>
<td>Mohd Hizwan Mohd Hisham, Muhammad Sukri Saud &amp; Yusri Kamin UTM</td>
<td></td>
</tr>
</tbody>
</table>
Pendidikan STEM Bersepadu ke Arah Meningkatkan Kemahiran Penyelesaian Masalah Matematik
Norazla Mustafa, Zaleha Ismail, Zaidatun Tasir & Mohd Nihra Haruzuan Mohamad Said
UTM

Development of Android-Based Academic Information System
Fathahillah, Dyah Darma Andayani
UNM

Relation Between Physical Condition and the Incidence of Pneumonia in Children under Five in Urban Village in Palu, Central Sulawesi, Indonesia
Hamidah & Nurlita Pertiwi
UNM

Farmer Knowledge About Sustainable Agriculture in Soppeng Regency, South Sulawesi, Indonesia
Herlina, Nurlita Pertiwi, & Nur Anny Suryaningsih Taufiq
UNM

Thinking Critically in Science: Why does it matter?
Nur Wahidah Abd Hakim & Corrienna Abdul Talib
UTM

Scientific Reasoning Skills and STEM Education: Why, When, How?
Corrienna Abdul Talib, Shamini A/P Thanga Rajan & Marlina Ali
UTM

Kepimpinan Instruksional Pengetua Sekolah Amanah Negeri Johor
Adhar Baharim, Jamilah Ahmad & Hanifah Jambari
UTM

Empowering Community Through Agripreneurship Training in Organic Catfish Processing
Husain Syam, Diyahwati & Nurlita Pertiwi
UNM

Educational Issues in Fak Fak, West Papua Province
Niko Toturup & Andi Anto Patak
UNM

The Influence of Environmental Knowledge, Locus of Control and Environmental Attitude to the Environmental Behavior of Farmer
Nur Sahrani, Bakhrani A.Rauf & Faizal Amir
UNM

Challenges in Mastering Higher-Order Thinking Skills: A Study from Students’ Perspectives
Najua Syuhada Ahmad Alhassora, Abdul Halim Abdullah, Mohd Rustam Mohd Rameli & Mohd Salleh Abu
UTM

Continuous Professional Development (CPD) Among VET Teachers Teaching Pendidikan Vokasional Menengah Atas (PVMA) Subjects at Academic Schools in Malaysia
Abdul Hisham bin Udin, Nornazira Suhairom & Nur Husna Abd Wahid
UTM
Strategy of Clean Water Providing To The Community Around Lake Tempe, Indonesia
Andi Rumpang Yusuf, Abdul Mun‘im & Djusdil Akrim
UNM

The Dual Expertise Program As Part of Vocational High School Revitalization Policy in Indonesia
Muhammad Sabri Annas & Gufran Darma Dirawan
UNM

Needs Analysis of Students in The Learning of Genetics Subject in Higher Education
(Review on Universitas Negeri Makassar)
Andi Faridah Arsal, Gufran Darma Dirawan, Yusminah Hala, Suradi Tahmir & Siti Fatmah Hiola
UNM

Analysis of Internal and External Factors Supporting The Environmental Quality Improvement of Urban Fringe at Makassar, South Sulawesi, Indonesia
Rudi Latief, Moh. Ahsan.S.Mandra, Gufran Darma Dirawan
UNM

Identification of Potential Water Quality in Jeneberang River South Sulawesi Indonesia
Andi Sarrafah, Muzaki
UNM

Implementation of Adiwiyata Policy in Elementary School as Environmental Education
Jusman, Muhammad Ardi & Nurlita Pertiwi
UNM

Framework of Anti Corruption Learning Model Using Media for Senior High School Students
Lu’mu, Ruslan
UNM

The Importance of Understanding The Syari’ah Banking
Gufran Darma Dirawan, Nova Try Indra Swara, & Andi Mutia Justisia
UNM

160-166

167-172

173-178

179-183

184-190

191-195

196-200

201-205
Empowering Community through Agripreneurship Training in Organic Catfish Processing

Husain Syam¹, Diyahwati² & Nurlita Pertiwi³

¹,²&³ Faculty Engineering, Universitas Negeri Makassar, Indonesia

nurlita.pertiwi@unm.ac.id

Abstract:
The aims of this research are to describe the effectiveness of training in organic agripreneurship catfish processing to the breeder. This study was conducted at Gowa regency with the farmer all at once as a breeder of catfish and training as subject as many as 25 people. Four steps arrange the training method consists of Necessary identification, panning of training models, implementation and evaluation. Analysis of effectivity conducted by Comparing the knowledge value and breeder skills before and after training. Non-parametric statistics used as the methodology by using a Wilcoxon test. The results of training effectivity show that awareness and expertise of the people are increased after the training. Also, Influence analysis indicates that the training method had given a significant influence toward the competence and knowledge of the society.

Keywords: training, empowering, community

1.0 Introduction

In global food security, fisheries have been playing important roles. Food fish provides world population with an average on one fifth on total animal protein intake (Youn et al. 2014). One of the favorite trade food in the world is fish, about 50% coming from developing countries. Wild and farmed fish are the sourced of trading foods (Claret et al. 2014). Catfish is the one fishery commodity that its development increased rapidly and highly prospective in supporting food security program. It species globally produced over 1 million tons per year. Vietnam, Indonesia, Malaysia, Cambodia, Bangladesh, China, and Laos are the major producer of catfish in the world and growing both for local consumption and export (Thong et al. 2016).

As one source of animal protein, organic catfish farming has been on the additional job of rural communities. Its cultivation is cheap and easy due to developed catfish can be maintained with limited land and watering. Organic catfish farming relies on microorganisms that serve to decompose the feces and ammonia which saved and kept in the pond to keep it healthy. Organic catfish farming is relatively short between 45 to 60 days and the yields of the harvest become a primary reason (Gross et al. 2000).

Utilization of natural catfish by the social community can be developed with an entrepreneurship program. Agripreneurship is a branch of the enterprise that its superior product is agricultural production. Four aspects of agripreneurship are innovation, manufacturing, financial and markets. The outcome that can be obtaine with agripreneurship is socio-economic benefits, income, and sustainability (Vyavahare & B-endal 2012; Tripathi & Agarwal n.d.; Ukpata & Onyeukwu 2014).
By the concept of agripreneurship, the society that relies on the agriculture product can
develop their financial capabilities. This empowerment requires an agricultural product
innovation, support of markets network and government policy. Hence, it is necessary to
measure community empowerment through training. Training is a learning process which is
emphasized in practice rather than theory to improve the knowledge and specific
skills. Moreover, achieving the desired objectives, the training designed according to the
characteristics of group targets. It considered into the five principles in the implementation of
the training are: everyone is a learner, people learn from each other, learning enables change,
learning is continuous and learning in investment, not an expense (Goad 1997).

Training program refers to the adults learning model; then the learning motivation
supported internally by the desired to increase the work satisfaction, self-esteem, and
improved quality of life. Further, adult-learning characteristics are the autonomy of adults is
quite high, accumulated of experiences and knowledge, goal orientation, the relevant of
orientation to the something relevant to their needs, as well as requiring attention and
appreciation (Galusha 1998).

2.0 Research Method

This study was conducted on May-June 2016 in Gowa, south of Sulawesi. The training
objects are 25 of organic catfish farmers. The research variables are knowledge and skills that
tested by the pre-test and posttest method. Data analysis is used to non-parametric statistical
techniques Wilcoxon test to see the differences of knowledge and expertise people before and
after training.

Target training is a housewife in Gowa which aims to increase knowledge and skills in
the processing of organic catfish. The processed product that introduced to the public is fish
nuggets. It is one of the products prepared from finely ground fish meat and flavored with
spices, printed and then smeared with egg and fried. These products can last up to a month
with a storage temperature lower than 20°C. However, people's knowledge toward the
various of processed catfish still small (Gross et al. 2000).

3.0 Result and Discussion

The most of the subject in this research are a woman with the last education is senior
high school. The range of age of the participants are between 25-50 years and dominated by
40-50 years. Participants should have a similar social and economic characteristics as shown
in Table 1.

<table>
<thead>
<tr>
<th>Characteristics of Respondents</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Women (65%)</td>
<td>76</td>
</tr>
<tr>
<td>Male - Male (35%)</td>
<td>24</td>
</tr>
<tr>
<td>Last education</td>
<td></td>
</tr>
<tr>
<td>Secondary school</td>
<td>64</td>
</tr>
<tr>
<td>University</td>
<td>26</td>
</tr>
</tbody>
</table>
Training model that built in community empowerment activities for utilization of organic catfish based on the phases introduced by Mankin shows in Figure 1;

![Diagram of training model](image)

**Figure 1:** Steps of development training

The first step is to identify the necessary of community that produces a description which knowledge and skills needed in the processing of organic catfish. The people's desire to develop knowledge and expertise are also very high, even the number of applicants exceeds the capacity of trainers and a study room. The second step is the preparation of a training model which formulate the learning objectives, a participatory approach, supporting systems such as media training, time, and evaluation instruments. The third step is training implementation during the first meetings to discuss the quality of organic catfish, processing, quality of the nugget and packaging system. At the second meeting, the practice of making fish nuggets begins with the supply of material.

The materials are organic catfish, tapioca, flour, cornstarch, flour, and salt. The fourth stage is to evaluate the learning outcomes consist of knowledge test and participant skills evaluation. The training effectiveness is measured based on the data of knowledge and expertise of people before and after training. Overview of the results of non-parametric statistical tests for learning variables is presented in Table 2 and Table 3.

**Table 2:** Public awareness of the use of organic catfish before and after training

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>KnowPre</td>
<td>25</td>
<td>65.71</td>
<td>7.57</td>
<td>50.00</td>
<td>82.14</td>
</tr>
<tr>
<td>KnowPost</td>
<td>25</td>
<td>88.57</td>
<td>8.56</td>
<td>67.86</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Table 2 shows that the value of the training given is between 50.00 to 82.14. Having given the knowledge training values increase by the range 67.86 to 100.00. The average value also increased from 65.71 to 88.57. Standard deviation or diversity of knowledge societies are relatively the same before and after training. Table 3 shows that the well-training results of the participants and they were showed an increase of knowledge.

**Table 3: Increasing the knowledge society**

<table>
<thead>
<tr>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neg. Ranks</td>
<td>0 a</td>
<td>00</td>
</tr>
<tr>
<td>Pos. Ranks</td>
<td>25 b</td>
<td>13.00</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>325.00</td>
</tr>
<tr>
<td>Z</td>
<td>4.379 b</td>
<td>.000</td>
</tr>
</tbody>
</table>

Analysis results with the Wilcoxon test n = 25, 5% error level 5% indicates the value of Asymp. Sig. 0.000 (Asymp. Sig. D "0.05). Z count value at the Wilcoxon test 4.378 an absolute value and comparing with Z table = 1.64, so the Z count is greater than Z tables. The result shows that the training undertook significant effect in improving the knowledge of trainees.

Results of non-parametric statistical tests for community skills by training approach as following in Table 4 and Table 5.

**Table 4: Skills community about organic catfish utilization before and after training**

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>Std. dev</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>SkillPre</td>
<td>25</td>
<td>37.6156</td>
<td>2.72230</td>
<td>32.69</td>
</tr>
<tr>
<td>SkillPost</td>
<td>25</td>
<td>81.4632</td>
<td>2.71358</td>
<td>76.92</td>
</tr>
</tbody>
</table>

**Table 5: Increased knowledge of society**

<table>
<thead>
<tr>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>negative Ranks</td>
<td>0 a</td>
<td>00</td>
</tr>
<tr>
<td>positive Ranks</td>
<td>25 b</td>
<td>13.00</td>
</tr>
<tr>
<td>Ties</td>
<td>0 c</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Z</td>
<td>4376 b</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 4 shows that skills before the training about 32.69 to 44.23. Having given training this value increases with a range of 76.92 to 85.54. The average value also increased from 37.61 to 81.46. The standard deviation of knowledge societies is relatively same before and after training. Table 5 shows well-results toward the improvement of company skills that proved with all subjects showed an increase in skills training.
Development of knowledge supported by training support system that designed previously. Support system includes the training room that is laid out according to the needs of adults. Similarly with training media and practice support tools. Wilcoxon test analysis by comparing knowledge of trainees through pretest and posttest showed significantly enhance knowledge and skills of the participants.

The research proves that the model of participatory has increased knowledge and expertise in the processing of organic catfish. The model is consistent with Wannasai & Shrestha (2007) said that the training could improve human capabilities. Knowledge about technologies will increase the farmer skill and practice in land well-management.

Furthermore, awareness of the community in the development of processed fish products also hoped will increase the economic capacity of farmers. Catfish prepared product development aimed at utilizing the large fish. Also, it also seeks to anticipate market saturation.

4.0 Conclusion

The result of training effectivity test demonstrates that there is an increased of knowledge and skills of the community after the training. Influence analysis also shows the influence of significant training toward enhancement of knowledge and expertise of the communities.

REFERENCES

Tripathi, R. & Agarwal, S., Rural development through Agripreneurship: A study of farmers in Uttar Pradesh.