



PROCEEDINGS OF THE  
**EDUCATION  
RESEARCH**  
*Colloquium*  
2018

BETWEEN  
FACULTY OF EDUCATION, UNIVERSITI TEKNOLOGI MALAYSIA (UTM)  
& UNIVERSITAS NEGERI MAKASSAR, INDONESIA



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA



Cetakan Pertama/ First Printing 2018  
Hak Cipta Universiti Teknologi Malaysia/  
Copyright Universiti Teknologi Malaysia, 2018

All right reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission of Faculty of Education UTM

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

Abdul Halim Abdullah, 1983–.  
2018 PROCEEDINGS OF THE EDUCATION RESEARCH COLLOQUIUM  
BETWEEN FACULTY OF EDUCATION, UNIVERSITI TEKNOLOGI MALAYSIA  
(UTM) & UNIVERSITAS NEGERI MAKASSAR, INDONESIA / Abdul Halim Abdullah et  
al.

ISBN 978-967-2171-12-6

Editor: **Abdul Halim Abdullah et al.**  
Cover Design: **Fadhilah Othman**

Published in Malaysia by

Faculty of Education  
UNIVERSITI TEKNOLOGI MALAYSIA  
81310 UTM Johor bahru, JOHOR, MALAYSIA

<http://educ.utm.my/>

PROCEEDINGS OF THE

**EDUCATION  
RESEARCH**  
*Colloquium*  
2018

BETWEEN

FACULTY OF EDUCATION, UNIVERSITI TEKNOLOGI MALAYSIA (UTM)  
& UNIVERSITAS NEGERI MAKASSAR, INDONESIA

Faculty of Education,  
Universiti Teknologi Malaysia

Foreword by the  
Dean of Faculty of Education, UTM

*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

A handwritten signature in black ink, consisting of a stylized 'S' followed by a horizontal line that ends in a small hook.

**Professor Dr. Muhammad Sukri Saud**  
Dean  
Faculty of Education  
Universiti Teknologi Malaysia

**Editors:**

Dr. Abdul Halim Abdullah  
Dr. Nurul Farhana Jumaat  
Dr. Zakiah Mohamad Ashari  
Dr. Hanifah Jambari  
Dr. Ahmad Nabil Md Nasir  
Dr. Nur Husna Abd Wahid  
Dr. Rafeizah Mohd. Zulkifli  
Dr. Nur Hazirah Noh@Seth  
Dr. Norasykin Mohd Zaid  
Dr. Nornazira Suhairom  
Dr. Diyana Zulaika Abdul Ghani  
Dr. Nor Farawahidah Abdul Rahman  
Cik. Sharifah Nurarfah S. Abd Rahman

# CONTENT

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

<b>Pendidikan STEM Bersepadu ke Arah Meningkatkan Kemahiran Penyelesaian Masalah Matematik</b>	85-93
<i>Norazla Mustafa, Zaleha Ismail, Zaidatun Tasir &amp; Mohd Nihra Haruzuan Mohamad Said</i>	
<i>UTM</i>	
<b>Development of Android-Based Academic Information System</b>	94-99
<i>Fathahillah, Dyah Darma Andayani</i>	
<i>UNM</i>	
<b>Relation Between Physical Condition and the Incidence of Pneumonia in Children under Five in Urban Village in Palu, Central Sulawesi, Indonesia</b>	100-104
<i>Hamidah &amp; Nurlita Pertiwi</i>	
<i>UNM</i>	
<b>Farmer Knowledge About Sustainable Agriculture in Soppeng Regency, South Sulawesi, Indonesia</b>	105-110
<i>Herlina, Nurlita Pertiwi, &amp; Nur Anny Suryaningsih Taufieq</i>	
<i>UNM</i>	
<b>Thinking Critically in Science: Why does it matter?</b>	111-117
<i>Nur Wahidah Abd Hakim &amp; Corrienna Abdul Talib</i>	
<i>UTM</i>	
<b>Scientific Reasoning Skills and STEM Education: Why, When, How?</b>	118-123
<i>Corrienna Abdul Talib, Shamini A/P Thanga Rajan &amp; Marlina Ali</i>	
<i>UTM</i>	
<b>Kepimpinan Instruksional Pengetua Sekolah Amanah Negeri Johor</b>	124-130
<i>Adhar Baharim, Jamilah Ahmad &amp; Hanifah Jambari</i>	
<i>UTM</i>	
<b>Empowering Community Through Agripreneurship Training in Organic Catfish Processing</b>	131-135
<i>Husain Syam, Diyahwati &amp; Nurlita Pertiwi</i>	
<i>UNM</i>	
<b>Educational Issues in Fak Fak, West Papua Province</b>	136-140
<i>Niko Toturup &amp; Andi Anto Patak</i>	
<i>UNM</i>	
<b>The Influence of Environmental Knowledge, Locus of Control and Environmental Attitude to the Environmental Behavior of Farmer</b>	141-145
<i>Nur Sahrani, Bakhrani A.Rauf &amp; Faizal Amir</i>	
<i>UNM</i>	
<b>Challenges in Mastering Higher-Order Thinking Skills: A Study from Students' Perspectives</b>	146-153
<i>Najua Syuhada Ahmad Alhassora, Abdul Halim Abdullah, Mohd Rustam Mohd Rameli &amp; Mohd Salleh Abu</i>	
<i>UTM</i>	
<b>Continuous Professional Development (CPD) Among VET Teachers Teaching Pendidikan Vokasional Menengah Atas (PVMA) Subjects at Academic Schools in Malaysia</b>	154-159
<i>Abdul Hisham bin Udin, Nornazira Suhairom &amp; Nur Husna Abd Wahid</i>	
<i>UTM</i>	

<b>Strategy of Clean Water Providing To The Community Around Lake Tempe, Indonesia</b> <i>Andi Rumpang Yusuf, Abdul Mun'im &amp; Djudil Akrim</i> UNM	160-166
<b>The Dual Expertise Program As Part of Vocational High School Revitalization Policy in Indonesia</b> <i>Muhammad Sabri Annas &amp; Gufran Darma Dirawan</i> UNM	167-172
<b>Needs Analysis of Students in The Learning of Genetics Subject in Higher Education</b> (Review on Universitas Negeri Makassar) <i>Andi Faridah Arsal, Gufran Darma Dirawan, Yusminah Hala, Suradi Tahmir &amp; Siti Fatmah Hiola</i> UNM	173-178
<b>Analysis of Internal and External Factors Supporting The Environmental Quality Improvement of Urban Fringe at Makassar, South Sulawesi, Indonesia</b> <i>Rudi Latief, Moh. Ahsan.S.Mandra, Gufran Darma Dirawan</i> UNM	179-183
<b>Identification of Potential Water Quality in Jeneberang River South Sulawesi Indonesia</b> <i>Andi Sarrafah, Muzaki</i> UNM	184-190
<b>Implementation of Adiwiyata Policy in Elementary School as Environmental Education</b> <i>Jusman, Muhammad Ardi &amp; Nurlita Pertiwi</i> UNM	191-195
<b>Framework of Anti Corruption Learning Model Using Media for Senior High School Students</b> <i>Lu'mu, Ruslan</i> UNM	196-200
<b>The Importance of Understanding The Syari'ah Banking</b> <i>Gufran Darma Dirawan, Nova Try Indra Swara, &amp; Andi Mutia Justisia</i> UNM	201-205



# Empowering Community through Agripreneurship Training in Organic Catfish Processing

Husain Syam<sup>1</sup>, Diyahwati<sup>2</sup> & Nurlita Pertiwi<sup>3</sup>

<sup>1,2&3</sup>*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 & Bendal 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-leaning 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 0 C. However, people's knowledge toward the various of processed catfish still small (Gross *et al.* 2000).

## 3.0 Result and Discussion

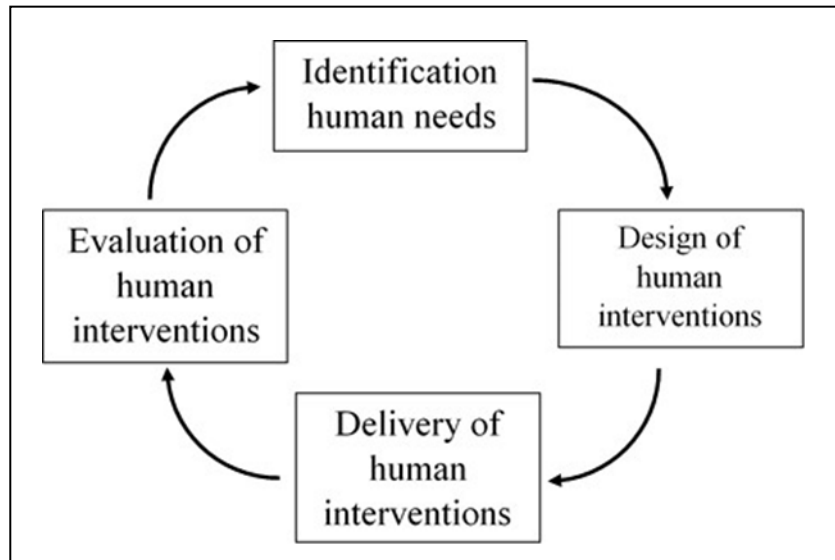
The most of the subject in this research are a woman with the last education is senior high school. The range of age of the participants are between 25-50 years and dominated by 40-50 years. Participants should have a similar social and economic characteristics as shown in Table 1.

**Table 1:** Characteristics of subjects training

Characteristics of Respondents	Percentage (%)
<b>Gender</b>	
Women (65%)	76
Male - Male (35%)	24
<b>Last education</b>	
Secondary school	64
University	26

Age	
25-30 years	8
30-40 years	24
40-50 years	68

Training model that built in community empowerment activities for utilization of organic catfish based on the phases introduced by Mankin shows in Figure 1;



**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

	N	Mean	Std. deviation	Minimum	Maximum
KnowPre	25	65.71	7.57	50.00	82.14
KnowPost	25	88.57	8.56	67.86	100.00

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

		N	Mean Rank	Sum of Ranks
KnowPost - KnowPre	Neg. Ranks	0 <sup>a</sup>	,00	,00
	Pos. Ranks	25 <sup>b</sup>	13.00	325.00
	Ties	0 <sup>c</sup>		
	Total	25		
	Z	-		
	Asymp. Sig.(2-tailed)		4.379 <sup>b</sup>	,000

Analysis results with the Wilcoxon test  $n = 25$ , 5% error level 5% indicates the value of Asymp. Sig. 0,000 (Asymp. Sig.  $< 0.05$ ). 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

	N	Mean	Std. dev	Minimum	Maximum
SkillPre	25	37.6156	2.72230	32.69	44.23
SkillPost	25	81.4632	2.71358	76.92	86.54

**Table 5:** Increased knowledge of society

		N	Mean Rank	Sum of Ranks
SkillPost- SkillPre	negative Ranks	0 <sup>a</sup>	,00	,00
	positive Ranks	25 <sup>b</sup>	13.00	325.00
	Ties	0 <sup>c</sup>		
	Total	25		
	Z	-	-4376	
	Asymp.Sig. (2-tailed)			.000

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

- Claret, A. *et al.*, (2014). Consumer beliefs regarding farmed versus wild fish. *Appetite*, 79, p.25–31.
- Galusha, J.M., 1998. Principles of Training and of Adult Education: A Comparison.
- Goad, T.W., 1997. *First-Time Trainer, The*, AMACOM Div American Mgmt Assn.
- Gross, A., Boyd, C.E. & Wood, C.W. (2000). Nitrogen transformations and balance in channel catfish ponds. *Aquacultural Engineering*, Vol 24(1), pp.1–14.
- Thong, N.T. *et al.* (2016). The estimate of world demand for Pangasius catfish (Pangasiusianodon hypophthalmus).
- Tripathi, R. & Agarwal, S., Rural development through Agripreneurship: A study of farmers in Uttar Pradesh.
- Ukpata, S.I. & Onyeukwu, P.E., 2014. Empowering Women in Agri-Business and Agri-Preneurship: The Dialectics of Socio-cultural Impediments on Economic Development in Nigeria.
- Vyavahare, P. & Bendal, S. (2012). Transforming Agriculture in to Agripreneuership: A Case Study of Sitabai Mohite. *Asia Pacific Journal of Management & Entrepreneurship Research*, Vol 1(2), p.164.
- Wannasai, N. & Shrestha, R.P. (2007). Determinants of Rural Land-use Change in Prasae Watershed Area of Thailand. *Asia-Pacific Journal of Rural Development*, Vol 17(2), p.47–60.
- Youn, S.-J. *et al.*, (2014). Inland capture fishery contributions to global food security and threats to their future. *Global Food Security*, Vol 3(3), p.142–148.