



RESEARCH PAPER

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Bioscience skills training and seminar on adult education program: Herbal products, vinegar making, homemaking livelihood skills development, and financial management through professor in the Barangay

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Key words: Professor in the barangay, Herbal products, Livelihood training, Vinegar making, Financial management

<http://dx.doi.org/10.12692/ijb/25.2.241-248>

Article published on August 08, 2024

Abstract

The Don Mariano Marcos Memorial State University, Philippines extension program entitled: “Professor in the Barangay: Training and Seminar on Adult Education Program” is a program that will reach out the nearby communities particularly the local residents who do not have any stable sources of income or those local barangay residents who live the poverty line. This program specifically targeted the constituents of Barangay Casiaman (Philippines) for their training on adult education program. It sought to provide knowledge and technical livelihood on making herbal products, vinegar making, homemaking tips, and financial management. Result of the training showed that there is strong evidence that the training on homemaking tips and improved the respondents’ knowledge about homemaking tips because the acquired t-test value is less than 0.05, alpha level of significance. Furthermore, it also showed strong evidence that the training on making herbal products was effective increasing respondents’ understanding, both theoretical and practical knowhow, on herbal products development (t-test value = 0.004). However, there is no significant evidence to prove that the respondents improved their awareness and capacity in vinegar making and in financial management. As per the trainings overall rating, it was deemed excellent by the respondents indicating the need for this training seminar to improve the lifestyle and the source of income of the stakeholders in Barangay Casiaman (Philippines).

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Introduction

Poverty is one problem that our nation is facing today. Many families can hardly make both ends meet. According to Fujii (2013), the poorest of the poor are severely and adversely affected by food inflation. This economic problem affects health and manpower efficiency of our country resulting in considerable slowing down of our socio-economic development.

Community extension is an essential program that is organized by institutions in order for that particular learning institution to help in the development of local communities where that institution is located (Garay *et al.*, 2021). Realizing this need, the College of Arts and Sciences shifted to a new paradigm with its holistic and integrated approach in technology extension. The College of Arts and Sciences brings together the University Extension units and barangay constituents in providing their common welfare towards achieving countryside development specifically to motivate adults of Barangay Casiaman, and other nearby barangays in Bacnotan La Union to learn livelihood skills.

The main purpose of the extension project Professor in the Barangay – Adult Education Program is for professors or experts in educational institutions such as the Don Mariano Marcos Memorial State University – North La Union Campus (College of Arts and Sciences) to provide their theoretical knowhow and expertise to marginalized communities as well as to serve as expert providers in nearby barangay locales. These barangay locales do not just constitute the barangay residents but also the barangay officials. As a basic political unit in the Philippines, barangays officials must be knowledgeable in their duties, not only on their mandated roles but also in their needed life-long learning (Ancho *et al.*, 2022). It is therefore needful for this program to be delivered so that all barangay constituents, including officials will have the opportunity to learn practical homemaking tips and other practical livelihood skills for the sake of their families and the community in general. The scope of this project is local, meaning it will serve as

an extension service that will reach out the nearby communities, particularly those local residents who do not have any stable sources of income, or those local barangay residents who live below the poverty line. This project may also help retired barangay residents to still be able to come up with specific income-generating activities that will help them have a non-stagnating and lively lifestyle while earning additional income for the family.

There is a need for the project to be implemented because many barangay constituents live below the poverty line. Several stakeholders do not have a stable source of income and some adult residents live a stagnating lifestyle just waiting for somebody to give them money. The expertise of the professors in DMMMSU-NLUC CAS will significantly help propel and activate the lifestyle of these barangay stakeholders while providing them useful and practical tips in order for them to earn additional income for themselves and for their families, which would possibly reduce the case of poverty in La Union and in the Philippines in general.

The Professor in the Barangay (PIB) of the College of Arts and Sciences, through its Adult Education Program aims to: (1) provide knowledge and technical livelihood skills on: [a] Making herbal products, [b] Vinegar making, [c] Homemaking tips, and [d] Financial Management; (2) lecture on the importance and the uses of herbal products; (3) provide a lecture and a hands-on training and demonstration on how to make herbal capsules and vinegar; (4) transfer knowledge and do lecture-demonstration about homemaking tips; and (5) lecture on the basics of financial management.

Materials and methods

The one-day training and seminar involved lecture, demonstration and hands-on activity. Specifically, the following methodological procedures were followed:

Theoretical framework

The College of Arts and Sciences brings together the University Extension units and barangay constituents

in providing their common welfare towards achieving countryside development specifically to motivate adults of Barangay Casiaman, and other nearby barangays in Bacnotan La Union to learn livelihood skills. The main purpose of the extension project Professor in the Barangay – Adult Education Program is for professors or experts in educational institutions such as the Don Mariano Marcos Memorial State University – North La Union Campus (College of Arts and Sciences) to provide their theoretical knowhow and expertise to marginalized communities as well as to serve as expert providers in nearby barangay locales. The scope of this project is local, meaning it will serve as an extension service that will reach out the nearby communities, particularly those local residents who do not have any stable sources of income, or those local barangay residents who live below the poverty line. This project may also help retired barangay residents to still be able to come up with specific income-generating activities that will help them have a non-stagnating and lively lifestyle while earning additional income for the family.

Program of activities

The training activity was divided into four parts: (1) Preliminaries/Opening Session; (2) AM Training Proper for Topics 1 and 2; (3) PM Training Proper for topics 3 and 4; and (4) Closing Session. The registration of participants started at 8:00 AM. The program was formally opened through a prayer and singing of the National Anthem via an audio-visual presentation.

Opening address

After the Opening Prayer by Ms. Jenilyn A. Asiro, Mr. Elito L. Marticio, the Barangay Captain of Casiaman gave his welcome remarks where he expressed his gratitude to the University for selecting Barangay Casiaman as a beneficiary of the Professor in the Barangay Extension Program by Don Mariano Marcos Memorial State University – North La Union Campus, College of Arts and Sciences. Specifically, this extension program is a training and seminar on adult education program where Barangay Casiaman's constituents are trained on homemaking tips, making

of herbal products, vinegar making and a timely lecture on financial management.

Training proper

The training proper started through a training overview by Dr. Marilene L. Aban. This overview included a briefing session and discussion of the mechanics of the training. The training brought together the College of Arts and Sciences, the University Extension Unit and Barangay Casiaman constituents in order to provide their common welfare towards achieving countryside development specifically to motivate adults of Barangay Casiaman, and other nearby barangays in Bacnotan, La Union to learn livelihood training. The training's general rationale is for professors and experts in educational institutions such as the Don Mariano Marcos Memorial State University, North La Union Campus (College of Arts and Sciences) to provide their theoretical knowhow and expertise to marginalized communities as well as to serve as expert providers in nearby barangay locales.

Before the start of the training proper, a pre-test for topic 1 was given. Pre-test questionnaires for the topic on home making tips. The first topic for the morning entitled "Homemaking Tips" started at 9:00AM and was spearheaded by Dr. Marilene L. Aban. In this session, the selected speaker shared her expertise and provided knowledge and technical livelihood skills pertaining homemaking tips. The session included not only transfer of theoretical knowledge but also lecture-demonstration about homemaking tips. There was an open forum after the first topic was thoroughly discussed.

The second topic was entitled "Training on Making herbal Products. In this specific session, Dr. Josefino M. Aban was the invited resource speaker. Before the presentation and demonstration of the second topic, pre-test and pre-evaluation questionnaires were floated. The chosen speaker provided his technical knowhow and livelihood skills pertaining to making herbal products. Dr. Aban further lectured on the importance and the uses of herbal products. Likewise, the resource person

provided a lecture and hands-on training and demonstration on how to make herbal capsules. The session was ended through an open forum to determine the participants' engagement and potential knowledge acquired from this session.

The PM Training Proper started through a lecture demonstration on vinegar making by Prof. Arvin Tuyan. Prior to the training proper, a pre-test questionnaire and pre-evaluation forms were distributed. Soon, Prof. Tuyan provided his theoretical understanding on vinegar making. After his lecture session, a training demonstration on vinegar making was conducted.

The final topic discussed was "Financial Management." Ms. Jenilyn A. Asiro was the lead lecture trainer. She explained the theoretical concepts on how to manage family's financial ins and outs. Her lecture provided practical tips on how family should live within their means and other practical tips on saving money for future use. Questions from participants were encouraged about all the topics discussed.

Post-test and training evaluation

A posttest and training evaluation, facilitated by Dr. Marilene Aban, was conducted at the end of the training. The posttest aims to determine whether the participants gained knowledge about the subject while the training

evaluation was intended to obtain participants' point-of-view about different aspects of the training: from the venue, to the effectiveness and coverage of the topics, and from the trainer's knowledge and preparedness to their overall impression of the whole training experience. Results of the post-test and training evaluation are presented in the next sections.

In the closing session, the trainees expressed their gratitude to the College of Arts and Sciences, DMMMSU-NLUC for conducting the said training. They also thank the trainers for inculcating practical livelihood homemaking tips, making herbal products, vinegar making, and financial management. Certificates of participation were awarded to the participants at the end of the training.

Results and discussion

Table 1 shows the summary of results of pre-test and post-test on the knowledge of the training participants regarding "Home Making Tips." In this test, the respondents were asked about their knowledge and practice on homemaking tips. They were also asked about their awareness, interest and their practice in cooking, saving tenderizing meat, cooking coconut oil, producing salt, producing mushroom using cartons, substitute for tomatoes, preserving cooked fish and meat, preserving ginger and other beauty tips.

Table 1. Results of the pre-test and post-test on knowledge on homemaking tips

	Pre-test	Post-Test	Difference
1. Knowledge on homemaking tips	10	13	3
2. Practice on homemaking tips	10	13	3
3. Awareness that you can save by practicing homemaking tips.	9	14	5
5. Practicing the following homemaking tips	-	-	-
a. Cooking	14	14	0
b. Saving in tenderizing meat	1	11	10
c. Cooking coconut oil	4	11	7
d. Producing salt	1	10	9
e. Producing mushroom using cartoons	1	9	8
f. Substitute for tomatoes	0	10	10
g. Preserving / recycling cooked fish and meat	0	12	12
h. Preserving ginger	0	12	12
i. Beauty tips	9	12	3
j. Saving electricity	14	14	0
k. Driving away flies	8	12	4
6. Discovering more homemaking tips	12	14	2
MEAN	6.2	12.07	5.87

This table also assessed the respondent’s knowhow on saving electricity, driving away flies and if they are interested in discovering more homemaking tips.

The table above shows that the scores of the participants are different in both tests. Majority of the items assessed appear to have a positive increase which indicates that the training participants have had take-aways or learned both the theory and the practice in various homemaking tips.

It can further be observed that the mean pre-test score is 6.2 and this value almost doubled in the post-test score (mean = 12.07). This gives a mean difference of 5.87.

There is strong evidence that the training improved the knowledge of the respondents on their knowledge about homemaking tips because the acquired t-test value is less than 0.05 (Fig. 1), alpha level of significance. According to Martin (1978), homemaking trainings can indeed transform a homemaker to be a labor force participant, essentially, from homemaking to money making.

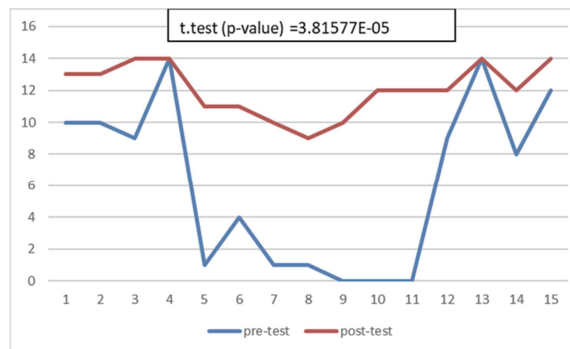


Fig. 1. Result of t-test and differences in pre-test and post-test marks on the topic “homemaking tips”

Table 2 shows the summary of the pre-test and the post-test for the lecture demonstration and training on making herbal products. In this table, the items assessed include the respondents’ interest on the use of herbal products, interest in producing herbal products, knowledge about DOH supporting herbal products, and awareness on the use of different herbal products such as Moringa, Turmeric, Lagundi, Sambiloto, Lemon Grass, Ashitaba and Insulin Plant. Finally, it was asked if they want making herbal products as their livelihood.

Table 2. Results of the pre-test and post-test on knowledge on herbal products

	Pre-Test	Post-Test	Difference
1. Are you interested to use herbal products	14	13	-1
2. Are you interested to produce herbal products	12	12	0
3. Do you know that DOH supports herbal products	10	11	1
4. Do you know the use of the following herbal products/medicinal plants	-	-	-
a. Moringa (Malunngay)	10	12	2
b. Turmeric (Yellow ginger)	10	12	2
c. Lagundi	10	12	2
d. Sambiloto	7	12	5
e. Lemon grass	10	12	2
f. Ashitaba	4	9	5
g. Insulin plant	4	10	6
5. Do you want that making herbal products as livelihood?	10	-	-
MEAN	9.1	11.5	2.4

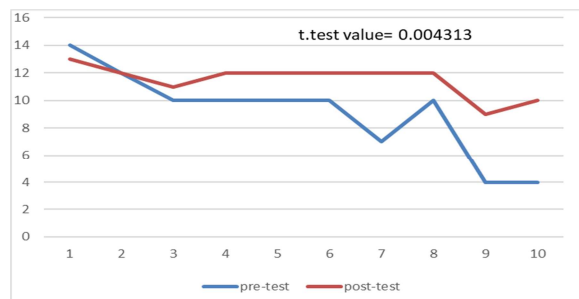


Fig. 2. Result of t-test and differences in pre-test and post-test marks on the topic “herbal product making”

The Table 2 shows that the scores of the participants are different in both tests. Majority of the items assessed appear to have a positive increase which indicates that the training participants have had take-aways or learned both the theory and the practice in making herbal products. It can further be observed that the mean pre-test score is 9.1 and this value increased to 11.5 in the post-test. This gives a mean difference of 2.4.

Table 3. Results of the pre-test and post-test on knowledge on vinegar making

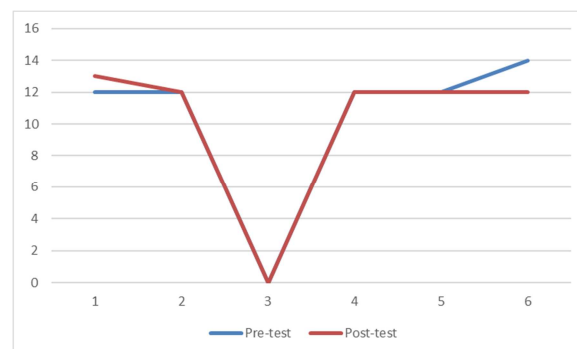
	Pre-test	Post-test	Difference
1. Are you interested to produce honey vinegar	12	13	1
2. Do you want to have livelihood in honey vinegar making	12	12	0
3. Are you interested to produce vinegar on the following	-	-	-
a. Coconut water	12	12	0
b. Rice washing water	12	12	0
c. Banana peelings	14	12	-2
AVERAGE	12.4	12.2	-0.2

There is strong evidence that the training improved the awareness of the respondents on their knowledge about making herbal products because the acquired t-test value is less than 0.05 (Fig. 2), alpha level of significance. Vickers *et al.* (2001) reiterated that the use of plants for healing purposes predates recorded history and forms the origin of much of modern medicine. Therefore, the knowledge of the respondents acquired from this training can make them save money that they ought to spend in buying commercial and expensive medicines.

The third topic discussed was about honey vinegar making. Table 3 summarizes the pre-test and the post-test scores of the respondents on this specific training session. The items assessed on this test include the respondents' interest to produce honey vinegar, if they want to have honey vinegar as livelihood, and if they are interested in producing

vinegar from coconut water, rice washing water, and banana peelings.

There is no evidence that the training improved the knowledge of the respondents on their awareness about vinegar making because the acquired t-test value is less than 0.05, alpha level of significance (Fig. 3).

**Fig. 3.** Result of t-test and differences in pre-test and post-test marks on the topic “homemaking tips”**Table 4.** Results of the pre-test and post-test on knowledge on financial management

	Pre-Test	Post-Test	Difference
1. Are you aware about financial management?	14	13	-1
2. Do you practice financial management?	12	12	0
3. Are you interested to know financial management?	15	12	-3
6. Do you know the formula for financial management?	4	10	6
MEAN	11.25	11.75	0.5

The fourth and the final training is about financial management. Table 4 shows the pre-test and the post-test scores of the participants. The key items assessed in this training are their awareness about financial management. The respondents were asked if they practice financial management, if they are interested to know about financial management, and if they know the formula for financial management. The table above shows that the scores of the participants are different in both

tests. The main item that appears to have a positive increase is the financial management formula that they have acquired. This further indicates that the training participants have had take-aways or learned both the theory and the practice in financial management. It can further be observed that the mean pre-test score is 11.25 and this value increased to 11.75 in the post-test. This gives a mean difference of 0.5.

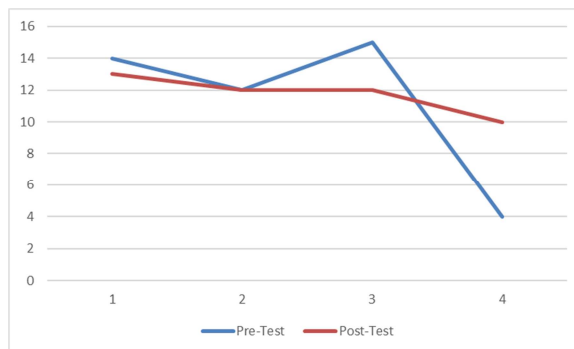


Fig. 4. Result of t-test and differences in pre-test and

It is highly notable that there was a numerical increase in the knowledge of the respondents on the appropriate financial management formula to live within their means and to acquire some savings (pre-test score = 4; post test score = 10; difference 6). However, in general, there is no significant evidence that the training improved the knowledge of the respondents on their awareness about financial management because the acquired t-test value is less than 0.05, alpha level of significance (Fig. 4).

After the training, the evaluation result was summarized. All of the participants expressed their interest in the professor in the barangay training and seminar on adult education program, specifically on herbal products, vinegar making, homemaking, livelihood, skills development and financial management.

The training was successfully done. The evaluation report consists of training perceptions which included the following:

1. The objectives of the training were attained.
2. The difficulty level was about right.
3. I can apply the information in my practice /service setting.
4. I can apply the information I've learned in my practice / service setting.
5. The trainer actively involved me in the learning process.
6. The training venue was appropriate and the environment was conducive to learning.
7. Others should attend the training.

Training perception should be rated from 1 to 5:

1 = strongly disagree

2 = disagree

3 = undecided

4 = agree

5 = strongly agree

Conclusion

It can be concluded that there is strong evidence that the training on homemaking tips and improved the respondents' knowledge about homemaking tips because the acquired t-test value is less than 0.05, alpha level of significance. Furthermore, it also showed strong evidence that the training on making herbal products was effective increasing respondents' understanding, both theoretical and practical knowhow, on herbal products development. However, there is no significant evidence to prove that the respondents improved their awareness and capacity in vinegar making and in financial management. As per the trainings overall rating, it was deemed excellent by the respondents indicating the need for this training seminar to improve the lifestyle and the source of income of the stakeholders in Barangay Casiaman.

Recommendation(s)

Based on the significant findings and the conclusions of the study, the following recommendations are generated: (1) Continue homemaking trainings that can be beneficial for barangay stakeholders, not only for sustainability but also for money-making. (2) Continue herbal product trainings that can improve the general health of barangay constituents and can also be utilized to generate additional income to them. (3) Provide financial management assistance training for local respondents for them to have a working formula in making both ends meet and save more money for their family.

Acknowledgement

The researchers would like to thank Don Mariano Marcos Memorial State University for the funding support in this extension project.

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