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Home technology education program among state universities and colleges (SUCS) in region III, Philippines

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Abstract
Evaluation is the systematic identification of the effects – positive or negative, intended or not – on individual households, institutions, and the environment caused by a given development activity such as program or project. Evaluation helps better understand the extent to which activities reach the poor and the magnitude of their effects on people's welfare. This study evaluated the Home Technology Education Program Among State Universities and Colleges in Region III, Philippines in terms of curriculum, resources, outcomes, students and problems encountered in the program. The questionnaire was the main instrument in gathering the data. The respondents were the Home Technology Teachers, Deans or Heads of the Home Technology Education program, fourth year students and school librarians. Results of the study show that there are only four SUCs in Region III offering Home Technology program with different titles; they were accredited by the AACUP; and they complied with the standard number of units in the general education, professional education and specialization courses. Majority of the Home Technology teachers were Master's Degree Holders with an academic rank of associate professor and with appropriate eligibilities. They have attended trainings and seminars in different levels and they commonly used laboratory and demonstration methods in teaching. They also conducted research and extension activities relevant to the program. Most of the facilities and equipment were available and functional but outmoded and inadequate; they complied with the number of book titles in general education, professional education and specialization courses. Home Technology students participated in various competitions and received awards up to the regional level. Varied and relevant activities were also provided to them. Results implies that Home Technology Education program still exists among SUCs in Region III despite of the proliferation of contemporary and more enticing allied courses.

Keywords: Evaluation, home technology program, state universities and colleges, curriculum

Introduction
Home Technology is one of the areas in technology education. It is a field of study covering occupational and educational areas associated with home, technology and community life activities. Its general focus is to develop home technologists who are experts in the areas of food, nutrition, clothing, handicrafts, and home management (Camarao, 2002) [2].

The twenty first century presents unique challenges for the home technology education. It must be able to respond to the rising student expectations and the demands of global competition. The quality of knowledge that should be developed among Home Technology students is increasing considering the nation's global competitions. This posses a major responsibility on the institutions of home technology education program in the country. With the abundance of human resources, Philippines is eminently equipped itself as a global leader in the knowledge society. Development of any nation does not depend on the available resources but on effective utilization of these resources. Unless effective home technology education is provided to the youth of the nation, the process of development cannot be accelerated. The globalization can prove to be an effective means of modifying the flawed education policy on the lines of those developed countries that have successfully transformed themselves to an economic power with the help of their technical education programs (Banad, 2011) [28].

The expansion of industries and the overall economy in service industries such as tourism, hotels, foods and food processing, clothing, home industries and other sectors of the economy

have significantly increased the demand for trained manpower in home technology and allied fields. As the population continues to increase and the Philippine enters the league of industrialized economies, the relevance of and need for technology courses will continue to be felt for a long time (Camarao, 2002) [2].

Moreover, with the advent of the K-12 program, the need for manpower to teach technology courses for those who would opt not to pursue higher education will bolster the need for technology courses (Bulletin Today, June 2011 issue) [11]. The additional two years in the secondary curriculum is intended for the development of practical skills and vocational expertise among the young people. The vision is to train students who would be able to support their lives, families and even their college education after graduation in the high school. The technology skills and competence they gain would qualify them for employment in different industries or they could be self-employed and entrepreneurs.

To cope with all the challenges, institutions of higher learning should produce quality graduates who will develop the economic and social components of nation building so that this country can be aligned among those considered as developed countries in the world.

Hence, this study was conducted to evaluate the home technology education program among SUCs in region III, which may serve as a basis to elevate home technology education program.

Objectives of the Study

This study was conducted to evaluate the Home Technology Education Program among State Universities and Colleges in Region III, Philippines. Specifically, the study aims to:

1. Determine the status of the home technology education program among SUCs in region III.
2. Describe the home technology education program of SUCs in Region III in terms of curriculum, resources, outcomes and students.
3. Identify the problems encountered in the home technology education program and how are these solved.

Significance of the Study

The result of the study will serve as an instrument in the improvement of the home technology education program. Inadequacies in instructional facilities necessary for the program to operate effectively could be acquired. It may also serve as basis for planning teacher development program such as graduate studies, workshops, seminars and in - service education.

To curriculum planners, the findings of the study will provide the basis for strengthening and improving the home technology education program. This will also provide data that permit greater precision in determining the value, viability and relevance of the program. It will also serve as a baseline information in determine the state and operation of home technology education program included in the study.

To the teachers, the identification of the strong and weak points of the program will provide a sound basis to make improvements and serve as media understanding and cooperation in guiding the program to one direction – quality education. Components found to be excellent would be sustained for effective and efficient program implementation.

To the students, the findings of the study will be valuable because they are the primary recipients of whatever action that may be undertaken by the curriculum planners, SUC officials and teacher in making home technology education program a successful endeavor.

The study will be of great help to industry managers as it would provide them information to the effective selection of manpower resources needed for their respective industries.

The study will give the reader particularly school authorities to higher educational institutions a comprehensive picture of home technology education program. It would provide them substantial information needed to make an objective evaluation on the program which in the end justifies sustaining the said program.

Ultimately, the result of the study will become the basis in the formulation of policies and standards for home technology education program of SUCs in region III.

Scope and Delimitation

This study focus on evaluating the home technology education program in region III. It dealt with the program components in terms of curriculum, human resources, material resources, outcomes and students and the problems encountered in the home technology education program.

Conceptual Framework

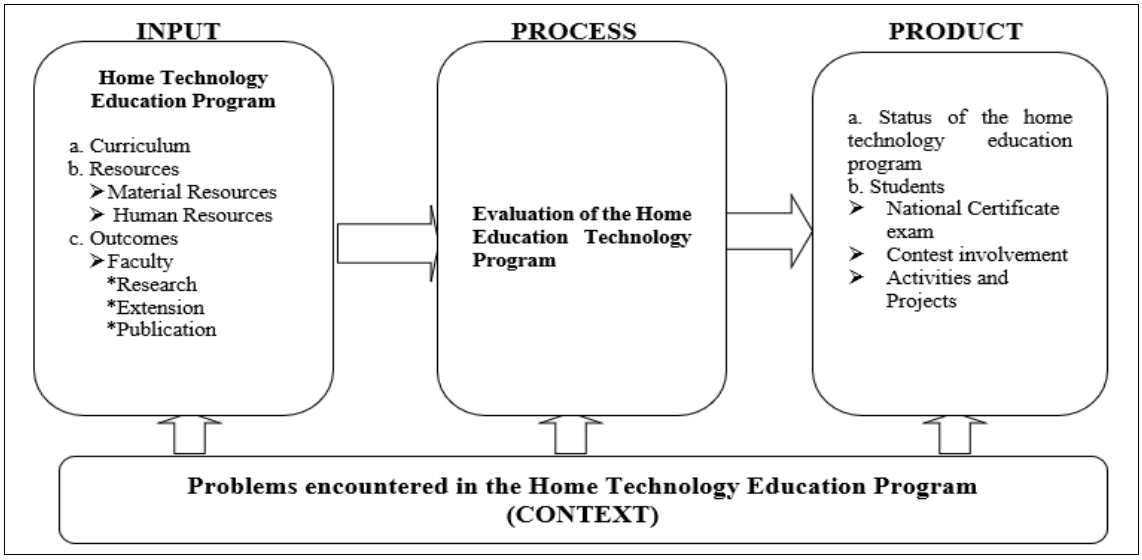

Fig 1: Paradigm of the Study

This study makes use of the CIPP model developed by Donald Stufflebeam in 1971. The CIPP stands for the core concepts of the model: Context evaluation, Input evaluation, Process evaluation and Product evaluation. The Context evaluation was concern with the problems encountered in the Home technology program and how are these solved. The Input evaluation was the components of Home Technology Education program such as curriculum, material resources, human resources, and outcomes. The Process evaluation involved the evaluation of Home Technology Education program. The components of Home Technology program was use to evaluate the program; and the Product evaluation was the student's performance in the NC assessment exam, contest involvement and the present status of Home Technology Education program. The CIPP model recognizes types of decisions encountered in education planning, programming, and implementing of programs. This model is suitable for this kind of evaluation because on this concept, evaluation is for improvement (Stufflebeam 2002) [29].

Materials and Methods

Research Design

The evaluation method of research was used in this study. It was evaluation method because it evaluates the Home Technology program in terms of curriculum, resources, outcomes and students.

Subject of the Study

The subjects of the study were the SUC's in Region III offering Home Technology Program. The home technology teachers, dean/head, librarian and the fourth year home technology students.

Data Gathering Procedure

The researcher asked and secured permission from the President of the SUC's offering Home Technology Program, and the Dean of the concerned College to conduct the study. The researcher personally conducted the evaluation of the program. Assistance from the Department Head were solicited during the administration of the questionnaire. The researcher personally retrieved the questionnaire from the respondents and it was supplemented with interview to validate data from the teachers, students and department heads.

Statistical Analysis

The data gathered were tabulated, organized, analyzed and interpreted using frequency, percentages and rank.

Results and Discussion

This chapter presents, analyzes and interpretations of the data gathered from the respondents of the study. The data are presented according to the specific problems stated above. Presented herein are the evaluations of Home Technology Program among SUCs in Region III, Philippines.

Status of Home Technology Program in Region III

Table 1 revealed that among the fourteen SUCs in Region III, only four offers Home Technology program, these are Bulacan State University (BULSU), Don Honorio Ventura Technological State University (DHVTSU), Pampanga State Agricultural University (PSAU) and Tarlac Agricultural University (TAU). In BULSU, the program is Bachelor of Science in Home Economics which is under the College of Home Economics. In DHVTSU, the Home Technology is one of the specializations of the Bachelor of Science in Technical Teacher Education (BTTE) program which is under the College of Education. In PSAU, the program is named Bachelor of Science in Home Technology with majors in Home Economics Education and Food Processing which is under the Institute of Home Science and Technology. In TAU, the program is named Bachelor of Science in Home Technology Management. This is a ladderized program offering certificate in Home Technology Management leading to the degree BS Home Technology Management which is under the College of Education.

Table 1: Status of home technology education program among SUCs in Region III

Name of School	Program Offered
Bulacan State University (BULSU)	BS Home Economics (BSHE)
Don Honorio Ventura Technological State University (DHVTSU)	BS Technical Teacher Education major in Home Technology (BTTE-HT)
Pampanga State Agricultural University (PSAU)	BS Home Technology (BSHT)
Tarlac Agricultural University (TAU)	BS Home Technology Management (BSHTM)

This shows that Home Technology Education program still exists among SUCs in Region III despite of the proliferation of contemporary and more enticing allied courses. Some SUCs stopped offering the program because of very low enrolment while others revised and renamed the program into more attractive and more in-demand course such as Hotel and Restaurant Management. However, some SUCs opted to continue offering the program by revising their curriculum and integrating concepts that will meet the demands of the society. Presently, the program is starting to gain attention again in the academe because of the K-12 curriculum in the Department of Education. Wherein, one of the tracks of the curriculum is the Tech-Voc where some of the skills are under home technology education program.

Evaluation of Home Technology Education Program in terms of Curriculum

Program Enrichment

In region III, State Universities and Colleges offering home technology education program enriched their curriculum basically to keep abreast with the changing times and demands for job in the market. These SUCs enrich/review their curriculum every two and three years. Some of them enrich their program to align their curriculum to the competencies of Technical Education Skills Development Authority (TESDA) to qualify the students in taking the National Certificate (NC) assessment exams in the different areas of Home Technology.

Also, enrichment was made to integrate concepts needed to meet the competencies in the licensure examination for teachers to increase their passing percentage because their students are not only prepared to be employed in the industries but to teach in higher education and in basic education. Their program includes industry immersion or practicum and practice teaching to give the students an opportunity to experience the work in the industry and teaching thus, giving them the option for their future career.

These curriculum enrichment/enhancement activities among

SUCs were conducted to make the home technology program relevant to the needs of the society particularly the demands for job in the global market. Also, this is to make the program saleable to attract students' enrollees for this course.

Accreditation Status

Table 2 shows the accreditation status of the Home Technology Education Program among SUC's in Region III. The results show that Home Technology programs in Region III are level I, level II, and level III accredited by the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP).

This implies that these programs had met or even surpassed the minimum requirements set by the AACCUP as to faculty, curriculum, students, research, extension, library, physical facilities, laboratories, and administration. It is through accreditation that improvements could be made in the institutions which eventually lead to a better quality of education.

Table 2: Accreditation Status of Home Technology Education Program

State University and Colleges	Accreditation Status
Bulsu	Level II
Dhvtsu	Level III
Psau	Level II
Tau	Level I

Compliance with the CHED Memorandum

According to the Deans and Chairman of the Home Technology Education programs of the four SUCs, there is no specific CHED memorandum for Home Technology Education program. Three SUCs are adopting the CHED memorandum no.30 series of 2004 also known as Revised Policies and Standards for Undergraduate Teacher Education Program. However, in the case of TAU wherein the Home Technology curriculum is not a teacher education program, the program is based on the approval of board resolution and modular program of the Technical Education and Skills Development Authority which is also approved by the CHED.

Table 3: Number of Units offered by the SUCs in Region III in the BSHT Curriculum

SUCs	General Education		Professional Education		Specialization	
	No. of Units (63)	Compliance	No. of Units (51)	Compliance	No. of Units (60)	Compliance
BULSU	80	OC	31	UC	63	OC
DHVTSU	73	OC	51	C	60	C
PSAU	74	OC	51	C	62	OC
TAU	78	OC	----------	----------	84	OC

Legend

General Education
Above 63 units – Over Complied
63 units – Complied
Below 63 units – Under Complied

Professional Education
Above 51 units - Over Complied
51 units – Complied
Below 51 units – Under Complied

Specialization
Above 60 units- Over Complied
60 units - Complied
Below 60 units – Under Complied

The table shows that all the SUCs in region III offering Bachelor of Science in Home Technology have over complied with the units set by CHED for general education which is 63 units. In terms of professional education they have complied with the units set by the CHED while BULSU is under complied. In the case of TAU, they do not offer professional education courses because their curriculum is not a teacher education program. With regards to specialization, the four SUC's have over complied and complied based on the units required by CHED.

Evaluation of Home Technology Education Program in terms of Resources

Human Resources

The result revealed that majority of the Home Technology teachers are master's degree holder, some had finished in their doctoral degree and still many are pursuing their doctoral degree. This shows that teachers of Home Technology are qualified to teach in the tertiary level because they are academically prepared. However, those faculties who only have MA units are not yet qualified to teach in the tertiary level, at least for one to be permanent in college is to be a Master's degree holder.

In terms of their academic rank, the result reveals that most of the Home Technology teachers are associate professor which means that these teachers meet the criteria for evaluation as stated in the National Budget Circular (NBC 461) in terms of instruction, research and extension. With regards to their eligibilities, the result shows that all the Home Technology teachers are eligible and holders of National Certificate (NC) II. Most of the teachers now in the Home Technology program are still young in the service ranging from 15 years and below. This maybe because for the past years, many of the Home Technology teachers retired from the service.

In terms of trainings, workshops and seminars attended, the result revealed that teachers of home technology program are actively attending in-service trainings and seminars both local and international to update themselves on the trends relevant to their specialization. Their attendance to these seminars helps them create an effective learning environment, improve teaching-learning situations, keep updated on modern instructional devices and inspire them to become better teachers in the modern world. In terms of the nature of participation of teachers on their trainings, seminars and workshop, most of them attended as participants. There is only one who attended an international conference as paper presenter.

With regards to the methods and strategies employed by the Home Technology teachers, the result implies that the commonly used method in teaching Home Technology is the laboratory and demonstration method. Apparently, these methods are appropriate to the nature of lessons in Home Technology which are more on skills training. This further show that Home Technology teachers used varied teaching methods depending on the lesson, ability of the learner, classroom condition and the school environment.

Material Resources

In terms of the laboratory facilities and equipment, most are available and functional, however, some were outmoded and inadequate to cater the number of students. This implies that educational managers should prioritize the allocation of budget for the purchase of adequate and state of the art laboratory equipment and facilities. This will enhance the

competencies of the students to compete for job in the local and global market.

In terms of the number of book titles available in the library of SUCs in Region III offering Home Technology Education program. The table shows that in terms of general education, all the four SUCs in region III offering HT program are over complied with the number of book titles set by the CHED which is five (5) per course. Under the professional education, BULSU, DHVTSU and PSAU are over complied and TAU is complied; while in the field of specialization courses, the four SUCs are complied with the number of book titles.

Table 4: Number of Book Titles Available in the Library of SUCs in Region III for the Home Technology Program

SUCs	General Education			Professional Education			Field of Specialization		
	No. of book Titles	Ave. no. of book titles per subject	Comp-liance	No. of book Titles	Ave. no. of book titles per subject	Comp-liance	No. of book Titles	Ave. no. of book titles per subject	Comp-liance
Bulsu	517	12	OC	324	8	OC	250	5	C
Dhvtsu	400	10	OC	250	12	OC	166	5	C
Psau	510	8	OC	404	10	OC	227	5	C
Tau	1,191	8	OC	397	5	C	119	5	C

Legend: More than
5 – Over complied
5 – Complied
Less than 5- under complied

The result shows that the SUCs in region III consider adequate library holdings very necessary to support institutions' services and for the better quality output of students. According to Balmores (2000), library is considered as the most important instructional resources of an institution. An indication of library quality is its store of acquisition.

Evaluation of Home Technology Education Program in terms of Outcome

Faculty Involvement in Research

Table 5 presents the extent of researches among home technology teachers of the SUCs in region III offering home technology program for the past three years.

The data reveals the extent of researches as an activity among home technology teachers for the past three years. In BULSU, four or 57% are conducting research with a description of satisfactory. In DHVTSU, six or 67% are conducting research with a description of very satisfactory while in PSAU, two or 40% are conducting research with a description of fair. And in TAU, two or 50% are conducting research with a description of satisfactory.

Table 5: Evaluation of the researches conducted among home technology teachers

SUCs	No. of Teachers	No. of teachers conducting research	Percentage	Description
Bulsu	7	4	57	Satisfactory
Dhvtsu	9	6	67	Very Satisfactory
Psau	5	2	40	Fair
Tau	4	2	50	Satisfactory
Total	25	14	56	Satisfactory

Legend:
81-100% - Outstanding (O) 21- 40% - Fair (F)
61-80% - Very Satisfactory (VS) 1-20% - Poor (P)
41-60% - Satisfactory (S)

It further reveals that among the SUCs in region III offering home technology education program, 14 or 56% of the teachers are conducting research with a description of satisfactory. Among the researches conducted is action research, curricular assessment, teaching effectiveness, product development and tracer studies. This indicates that faculty members of the home technology program are giving importance to research as a way to improve educational outcomes and to improve their performance.

(Guerero 2009,) pointed out that any attempt to change any component of the educational system should be preceded by research. (Sutaria 2009,) further stressed that we cannot make any changes without the support of research and any form of educational innovations or thrust be of not for the sake of change but for the sake of solving problems and of improving the total educational programs.

Faculty Involvement in Extension

Table 6 presents the extent of extension activities of the SUCs in region III offering home technology education program.

Table 6: Evaluation of the extension activities among home technology teachers

SUCs	No. of Teachers	No. of teachers conducting extension activities	Percentage	Description
Bulsu	7	5	71	VS
Dhvtsu	9	7	78	VS
Psau	5	4	80	VS
Tau	4	3	75	VS
Total	25	19	76	VS

Legend:
81-100% - Outstanding (O) 21- 40% - Fair (F)
61-80% - Very Satisfactory (VS) 1-20% - Poor (P)
41-60% - Satisfactory

In terms of involvement in extension activities out of the twenty five teachers, nineteen or 76% are conducting extension activities with a description of very satisfactory. This indicates that the Home Technology teachers are active in rendering extension services relevant to Home Technology program and suited to the needs of their clienteles. This maybe because this is one of the criteria that is given much credit on faculty evaluation and accreditation of programs.

Faculty Involvement in Publication

Table 7 presents the extent of published researches of the home technology teachers. The table shows the extent of published researches of the home technology teachers among the four SUCs. In BULSU, three or 43% of the home technology teachers have published their researches with a description of satisfactory. In DHVTSU and PSAU four or 44%, two or 40% have published researches respectively with both satisfactory description. And in TAU, one or 25% have published researches with a fair description.

Table 7: Evaluation of Published Researches among Home Technology Teachers

SUCs	No. of Teachers	No. of teachers conducting extension activities	Percentage	Description
Bulsu	7	3	43	Satisfactory
Dhvtsu	9	4	44	Satisfactory
Psau	5	2	40	Satisfactory
Tau	4	1	25	Fair
Total	25	10	40	Fair

Legend: 81-100% - Outstanding (O) 21- 40% - Fair (F)
61-80% - Very Satisfactory (VS) 1-20% - Poor (P)
41-60% - Satisfactory (S)

Among the published researches are on action research, curricular assessment, teaching effectiveness, tracer studies, product development and policy oriented studies.
This indicates that the Home Technology teachers are also active in publishing their researches to various educational journals either in the local, regional and national levels. This is maybe because one of the criteria that is given much credit on faculty evaluation and accreditation of programs is paper publication. This also manifests the quality of the research output being conducted by the faculty of the Home Technology program.

Evaluation of Home Technology Education Program in terms of Students

National Certificate Exam (NC)

Results of the study revealed that the Home Technology students were NC II holders in commercial cooking, bread and pastry production, food and beverage service, food service management, food processing and nail care. However, in the case of Pampanga State Agricultural University, the students are not NC II holders because taking the NC assessment exam was not practiced in their program. It further revealed that the Home Technology students of the three SUCs practicing NC assessment exam was competent in the different area of specialization. It means that the students were future quality workers and were able to compete internationally because employers abroad prefer NC II certified workers.

Contest Involvement

In terms of the contest involvement of the Home Technology students, BULSU participated and won first place in kusina master, and robinson tofu challenge; second place in kalutong bulakenya, table setting and skirting, and cake decoration; and fourth place in market basket. DHVTSU participated and won first place in table setting and skirting and dressmaking; and fourth place in floristry and cake decoration. PSAU participated and won first place in floristry and third place in table setting and skirting; and TAU participated and won second place in bangus deboning; fourth place in dressmaking; and fifth place in cake decoration.
This shows that Home Technology students were able to showcase their talents and skills in the different contest they have participated. It further shows that Home Technology students are competent on their skills as shown on the awards they received during the contest. Majority of the contests they had participated were on the regional skills olympics which is participated by all the SUCs in Region III.

Activities and Projects

In terms of the activities and projects of students in their Home Technology courses, the result show that Home Technology students are exposed to varied activities and projects in their food, handicraft, beauty care, food service and clothing courses relevant to the competencies of the course and to the work they are expected to perform in the future. Thus, equipped with adequate knowledge on and skills in the different areas in home technology, with hard work and good management, it can be sure that these endeavors can turn into a successful entrepreneurial venture.

Problems Encountered in the Home Technology Education Program and How are these solved?

The result shows that majority of the problems encountered are school related problems. Solutions were done by the SUCs in solving the problems they have encountered except for the CHED Memo specific for the Home Technology Education program.
With regards to the problem on outdated and insufficient facilities and equipment, the teachers used alternative or substitute resources in the conduct of their laboratory activities. They also ask their students to bring their own tools. They maximize what is available and used improvised tools and equipment.
In terms of the problem on obsolete reference materials in the field of Home Technology, the teachers used the internet in looking for additional reference materials.
In terms of the possible phasing out of the program because of low passing percentage in the LET exam, the SUC's in Region III offering Home Technology Teacher Education program revised their curriculum by integrating the concepts in the competency of the PRC to increase the passing percentage in licensure exam.
With regards to the problem on class size on a laboratory class, the teacher limits the number of students in the

laboratory classes by proper scheduling. The teacher also raised the problem to the higher authority and still waiting for the action.

Table 8: Problems Encountered in the Home Technology Education Program

Problems Encountered in the Home Technology Education Program	Solutions done	Frequency	Rank
Outdated Facilities and Equipment	Use of alternative or substitute resources Ask student to bring their own tools Maximize what is available Use improvise equipment	8	1
Insufficient Facilities and Equipment		6	4
Space in the laboratory room is not enough	Raised the problem to the authority for action.	4	5
Class size	Limit the number of students in the laboratory classes	3	6
Obsolete reference materials in the field of home technology	Use the internet in looking for the latest reference materials	8	1
Low passing percentage in the LET exam	Revision of the curriculum to integrate concepts in the competency of the PRC in the LET exam	3	6
Phasing out of the Program	None	1	8
There is no CHED Memorandum specific for the home technology program	None	7	3
Student behavior	Being patient	1	8

Conclusions and Recommendations

Conclusions

The following conclusions were drawn based from the results of the study:

1. There are only four SUCs in region III offering home technology education program. Their program is named BS in Home Economics, BS in Home Technology, BS in Technical Teacher Education major in Home Technology and BS in Home Technology Management. Two of these programs were a separate program under the college of home economics and institute of home science and technology. The other two were under the college of education.
2. SUC's in region III believed in the accreditation of programs as a way of elevating their BSHT program to higher standards. They also complied with standards set by the CHED as stated in the CHED Memorandum no. 30 series of 2004.
3. Varied and relevant activities were provided to Home Technology students to demonstrate their understanding and concepts in the different areas of Home Technology.
4. Majority of the teachers teaching Home Technology are Master's Degree Holders with an academic rank of associate professor and with appropriate eligibilities.
5. There is no specific CHED memorandum for the Home Technology Education program that will serve as guide if the program meets the standards set for the program.

Recommendations

Based on the results and conclusions of the study, the following are hereby recommended:

1. The four SUCs in region III should work together and collaborate with other SUCs in the country offering Home Technology program to formulate policies and standards specific for Home Technology Education program and submit it to CHED for evaluation. This should include the titling of the program. Continue submitting the BSHT program to a higher level of accreditation.
2. Home Technology teachers should be encouraged to attend fora, particularly international fora to keep them abreast with the current developments in Home Technology abroad and new trends in teaching home technology.
3. Encourage faculty to conduct researches related in the field of Home Technology and similar study should be conducted to other SUCs offering Home Technology program in other regions of the country.

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