

Factors Affecting the Involvement of Faculty Members in the Development of Instructional Materials: Basis for Policy Recommendations

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Abstract - It is necessary for every higher education institutions to produce quality instructional materials (IMs) with higher level standards that cater to the needs of the students and other stakeholders which will be part of the inventions produced by the institutions. This policy research is a descriptive method of study which involved 95 faculty of the Sorsogon State College chosen purposively as respondents. The study determined the profile of the faculty along IM preparation to serve as basis in recommending policy guidelines for the production and publication of instructional materials. Data were identified through triangulation of survey questionnaire, interview and documentary analysis. The study revealed that the faculty members advance studies, academic rank, and trainings attended are significantly related to their involvement in instructional materials preparations. Despite the fact that most of them do not have appropriate trainings on IMs preparation yet majority of the faculty are developing IMs which are utilized for instruction. However, very few are able to seek approval for its classroom utilization and very few have applied for copyright of their inventions so that these will be sold to the public for utilization and commercialization. To increase engagement of the faculty in the development of quality and publishable instructional materials, a scheme on policy recommendation has been formulated which contains provisions on the formation of the IMs committee, the evaluation procedures, approval, copyrighting and patenting, reproduction, publication and utilization of instructional materials.

Keywords: Instructional materials, policy recommendations, production, publications, policy research, descriptive, Sorsogon

INTRODUCTION

Philippine higher education is mandated to contribute to building a quality nation capable of transcending the social, political, economic, cultural, and ethical issues that constrain the countries human development, productivity, and global competitiveness[1]. The fulfillment of this mandates emanates from quality classroom situations where teachers play a significant role in producing graduates who have high levels of academic, thinking, behavioral and technical competencies that are aligned with national and international academic standards and needs.

Instructional techniques are important, but the use of instructional materials also influences student achievement, use of process skills, and other outcomes. Evidence shows that instructional materials [2] have large effects on student learning. It is,

therefore, necessary for higher education institutions to produce quality instructional materials with higher level standards that cater to the needs of the students. These will form part of the inventions produced by higher learning institutions (HEIs). Both the instruments for State Universities and Colleges (SUCs) leveling and normative funding for SUCs have indicators on the inventions produced especially those already copyrighted and/or patented which results to commercialization and utilization by the local community.

Keppell [3] pointed out that instructional designers hold the responsibility of selecting, sequencing, synthesizing, and summarizing unfamiliar content to subject matter experts. To successfully achieve legitimate participation in communities of practice, instructional designers need to utilize a number of communication strategies to optimize the

interaction with the subject matter expert. Teachers therefore, as subject experts have significant role in the development of instructional materials which could supplement the available learning resources. However, it is rarely seen the faculty involvement in HEIs in the development and reproduction of instructional materials for classroom utilization.

The theory of Astin [4] argues that involvement requires an investment of psychosocial and physical energy; it is continuous and the amount of energy invested varies from one person to another. Faculty involvement in instructional preparation requires a strong motivation to devote more time and energy. Motivation is often defined as the willingness to exert high levels of effort toward organizational goals, conditioned by the effort's ability to satisfy some individual need. Cherry [5] emphasizes the drive theory of motivation that people are enthused to take certain actions in order to reduce the internal tension that is caused by unmet needs. This could be strengthened by the favorable organizational policies that would direct individuals to achieve things for the attainment of the common goals. It is said that the effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase individual's involvement.

The ultimate goal of this present endeavor is to create and offer policies and reforms in the instruction material development and reproduction of the college. This idea could be supported by one of the recommendations of the AACCUP that the faculty should work on researches that can produce "useful knowledge" which can be translated into policies and reforms and this should be published in refereed journal.

Popkewitz [6] cited that our conventional assumptions about school policy and evaluation state that schools are known and stable entities, and that the objectives and purposes of evaluation are relatively straight-forward. In his study on the denial of change in educational change as system of ideas in the construction of national policy and evaluation proceeded to frame the study of policy research and evaluation in a problematic that does not take for granted its knowledge conditions. The focus on the systems of knowledge also enables a consideration of the patterns of social inclusion and exclusion produced in school practice.

Boaz, Fitzpatrick, and Shaw [7] stress that understanding the impact of research on policy is a vital, and often overlooked element of policy-making.

They conducted a systematic literature review to examine methods for evaluating the impact of research on policy outcomes. The findings identified the different methods used, the advantages and disadvantages of different approaches and the methods that are most effective.

Moreover, the new outcomes-based program instrument of the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP) has provisions on the utilization of research outputs as inputs in the institutional development, improvement of instructional processes and the transfer of generated technology/knowledge to the community. Each higher education institutions should support the instructional materials development and ensure that research outputs are protected by the Intellectual Property Rights (IPR) laws. The present study is in adherence to this effect that each instructional material developed by the faculty whether it is the output of research or not should be evaluated and copyrighted and/or patented for possible commercialization and utilization by the community so as to generate income for the College.

On the other hand, one of the areas needing improvement along curriculum and instructions in the College as revealed by the findings of the accreditors during the last survey visit of the AACCUP for Phase I of level III accreditation of both Bachelor of Elementary Education (BEED) and Bachelor of Secondary Education (BSED) programs show that few faculty members are engaged in the development of instructional materials and there is no evidence that instructional materials are examined by the instructional materials committee. They recommended that faculty may produce IMs such as workbooks in their major area of specialization in support to their course syllabi to be evaluated and approved by the IMs committee. This can be a rich source of income by the faculty and the College as well.

It is observed that there are factors, both internal and external, that affect faculty members' involvement in developing instructional materials. Majority of the faculty of the College at present are instructors and new in the service with instructions as their primary functions, they are not obliged to get involved in curriculum review and enhancements, and most of them are not much aware of the school policy along instructional development. Most of faculty members are not motivated to get involved themselves in instructional materials preparations because they are not aware of its benefits, personal and

institutional, that could be derive along this endeavor. In addition, very few of the researches conducted in the College are along instructional materials development since most are doing social researches along agriculture, fisheries, technology, social sciences, and educational management and governance.

The Sorsogon State College has been exerting efforts for the realization of the above mentioned challenges through SSC Memorandum No. 42, series 2006 [8]. It is stated in its first paragraph that both the National Budget Circular (NBC) 461 Rating Instrument (Item 3.1.4) and the AACCUP Survey Instrument (Area III, B14) require that the instructional materials prepared by faculty members be reviewed, approved and recommended for use by a committee. It further recommends that every program of the college is advised to have its own Instructional Materials Committee.

Moreover, it is believed that Higher Education Institutions (HEI's) must be a source of new derive knowledge through instruction, research, extension, and production. This serves as one of the bases of the involvement of the faculty in one of the thrusts of the college which is production through the development of instruction materials in their own field of specialization or unit. The study of Chen, Chen and Tsai [9] in Taiwan on development and evaluation of multimedia reciprocal representation in instructional materials mentioned that e-learning systems have been widely used in universities and educational institutions, but many related studies pointed out that teaching activity and strategies have not been integrated into most of the curriculum. This suggests that each faculty members in different units and subject areas has a big role in the realization of this goal.

Lacson [10] proposed the policy guidelines for the income-generating projects (IGPs) of Sorsogon State College. The policy guidelines were based on the findings of the study which revealed that there are 10 existing IGPs of the college and the leading factor that affects their implementation as perceived by 63% of respondents is the absence of production operation manual. It was recommended in her study that the policy guidelines may be considered for inclusion in the implementing rules and regulations for IGPs of the college.

In like manner, Habla [11] analyzed the status of the technologies generated by the Sorsogon State College from 2006 -2012 which are identified and

categorized under the thematic area of food security. The technologies generated were assessed as to technology generation, technology verification and technology application/commercialization and IP registration. Some of the issues and concerns which arise in the generation of technology are the intellectual property registration of the technology which hinders its commercialization, IP officer is needed to take care of the registration, and the state-of-the-art of the college is not enough to sustain the commercialization of the technology generated.

The aforementioned studies provide directions to the present study on how to transform the instructional materials developed by the faculty into utilization and commercialization to generate income for the college. Factors identified gave basis for further improvements of the policies and will serve as defining functions of the college committee. This gives motivation to the researchers to conduct a research to find out factors that hinder faculty to develop IMs. This will serve as an inventory to the degree of faculty involvement and capacity in the development and reproduction of IMs as potential source of production of the college. Some faculty members are research enthusiasts but some are not but they have their own inventions such as the developed instructional materials aligned to their field of expertise which may be reproduced, published and utilized on a wider scope.

OBJECTIVES OF THE STUDY

The study aimed at recommending policy guidelines for the production and publication of instructional materials developed by the faculty of Sorsogon State College. Inventory of SSC faculty involvement in the development of instructional materials was conducted to answer the following specific objectives: 1) Test whether there is a significant relationship between faculty profile and their involvement in the preparation of instructional materials, 2) Determine the number of faculty who prepared/ developed instructional materials which are approved for use, copyrighted, ready for production and publication, published and sold to the public, 3) Identify the benefits enjoyed by the faculty in developing instructional materials, 4) Identify the factors that affect the faculty involvement in the preparation of instructional materials, and 5) Recommend policy on production and publication of instructional materials.

METHODS

This policy research utilized the descriptive method of study. Gordon Marshall Dictionary of Sociology [12] expounds that policy research may be descriptive, analytical, or deal with causal processes and explanations; it may evaluate a new or existing policy programme and will focus on actionable or malleable social factors to a greater extent in which the present study is also concerned with. Survey, interview, and documentary analysis were conducted in gathering the needed data. Questionnaire is the main instrument of the study which was developed and validated by experts. The instrument includes the profile of the respondents, their instructional materials developed, and the benefits and factors that affect faculty motivations in developing instructional materials.

To enrich the information regarding the intended objectives of the study, a triangulation was done by adding unstructured interview and documentary analysis in data gathering. Unstructured interview was done during the distribution and retrieval of the instruments with some discussions pertaining to the issues and concerns in the development and production of instructional materials of the college. Documentary analysis was made to verify and strengthen data on the profiling, and to determine whether the sample respondents represent the population based on their profile and characteristics.

The respondents of this study were the 95 faculty of the Sorsogon State College from the four Campuses namely; Sorsogon City campus, Bulan campus, Magallanes campus, and Castilla campus. They were purposively selected based on the criteria that only permanent faculty with at least three years experience as instructor/professor of the college to ensure that needed data are collected. This number of samples was accumulated in this study by making sure that there were at least 50% respondents out of the total permanent faculty from each of the eight units/programs of the College. Frequency count, percentage, ranking, and chi-square (X^2) test were the statistical treatments in data analysis procedures.

RESULTS AND DISCUSSION

Table 1 presents the faculty involvement in the preparation of instructional materials according to profile in terms of highest educational attainment, length of service in the government, academic rank, and trainings and seminars attended on instructional materials (IM) preparations. It can be noted from the

table that out of 95 faculty respondents, 59 or 62% are masters degree holder; 14 or 15% has earned units in doctorate degree, 14 or 15% are holders of doctorate degree, and 8 or 8% of the faculty respondents have only earned units in masters program.

Table 1. Faculty involvement in the preparation of instructional materials

Highest Educational Attainment	I	NI	T	%
With units MA/MS	3	5	8	8
MA/MS Graduate	28	31	59	62
With units Ph. D./ Ed. D.	9	5	14	15
Ph. D./ Ed. D. Graduate	12	2	14	15
Length of Service				
Less than 6 years	8	8	16	17
6 – 10 years	18	12	30	32
11- 15 years	7	8	15	16
16 – 20 years	5	3	8	8
21 – 25 years	2	2	4	4
More than 25 years	12	10	22	23
Academic Rank				
Instructor I – III	27	22	49	52
Assistant Professor I – IV	10	16	26	27
Associate Professor I – V	9	5	14	15
Professor I – VI	6	0	6	6
Trainings Attended				
With trainings	15	1	16	17
Without trainings	37	42	79	83
Total	52	43	95	100

Legend: I- Involved; NI-Not involved; T-Total

Almost all of the doctorate degree holders (12 out of 14) were involved on instructional preparations while majority of the masters degree holders (31 out of 59) are not involved in instructional preparations. Data shows that those who have earned at least units in doctoral are more active in terms of instructional preparations for classroom utilization since it is expected that they have already mastery of the subject matter who can derive their own theory as their contribution to the body of knowledge .

The table also revealed that 30 or 32 percent of the respondents have been in the government service for 6 to 10 years; 22 or 23 percent have already served more than 25 years in the service; 16 or 17 percent have served for less than 6 years; 15 or 16 percent are 11 to 15 years in the service. Furthermore, majority of the faculty who served for 6 to 10 years in the government (18 out of 30), 15 to 20 years (5 out of 8), and for more than 25 years (12 out of 22) were involved in instructional preparations. Data revealed that regardless of the length of service in the government, faculty can get involved in designing instructional materials.

In terms of the academic rank, 49 or 52 percent are instructors, 26 or 27 percent are assistant professors, 14 or 15 percent are associate professors, and 6 or 6 percent are full professors. Moreover, all of the professors (6 out of 6) and majority of the associate professors (9 out of 14) and instructors (27 out of 49) are involved in instructional preparations. This suggests the fact that regardless of the academic rank, faculty of HEIs should be involved in instructional material preparations. It can also be deduced from the table that only 16 out of 95 respondents or 17 percent have appropriate trainings on instructional materials preparations. Almost all of the faculty members with appropriate trainings (15 out of 16) were involved in the preparation instructional materials. The table also revealed that despite of no appropriate trainings and seminars on instructional preparations; faculty members (37 out of 79) could develop their own instructional materials for classroom utilization.

Table 2. Relationship between the faculty profile and their involvement in instructional materials preparations

Profile	X ²	CV	df
Highest Educational Attainment	8.17*	7.82	3
Length of Service	0.32	11.07	5
Academic Rank	8.27*	7.82	3
Trainings Attended	11.81*	3.84	1

* Significant at $\alpha = 0.05$ -Decision:Reject ; X² :Chi-Square; CV: Critical value

Table 2 presents the test of relationship between the faculty profile and their involvement in the preparation of instructional materials. The table revealed the computed X² value of 8.17, 8.27, and 11.81 for the highest educational attainment, academic rank, and trainings attended, respectively, are all higher than the corresponding critical values when tested at 0.05 level of significance. This results lead to the rejection of null hypothesis (Ho) of no significance. This means that there is a significant relationship between the aforementioned faculty profile and their involvement in instructional materials preparations.

On the other hand, the computed X² value of 0.32 for the length of service in the government is very much lower than the tabular value of 11.07 which failed to reject Ho of no significant relationship (df=5, $\alpha=0.05$). This means that there is no significant

relationship between length of service in the government and faculty involvement in instructional preparations. Therefore, faculty members should be encouraged to develop instructional materials regardless of the length of teaching experience in HEIs.

Data of this study on faculty profile revealed that advance studies, academic rank, and trainings attended are considered as factors that affect involvement of faculty members in the preparation of instructional materials. This suggests that the faculty being new and young in the service should continue to upgrade their professional qualifications by sending them advance studies and trainings/seminars relative to instructional preparations for them to be more knowledgeable in the preparation of instructional inventions needed in the classroom setting. This would capacitate faculty in the higher education institutions to produce quality and publishable instructional materials.

Instructional materials developed by the faculty

Figure 1 shows the percentage of faculty respondents who developed instructional materials. It is reflected in the figure that out of 95 faculty, 52 or 55% developed their instructional materials. This only shows that majority of the faculty members of the Sorsogon state College are developing instructional materials intended for classroom teaching. This could be supported by 48 or 51% of faculty respondents who developed IMs aligned to their field of specialization. Of these, 25 faculty members have produced research-based instructional materials and 14 have instructional materials ready for production and publications.

However, only six or 6 percent have instructional materials which are approved for used by the College since they are products of research which have already undergone review and validation procedures. Only three of the faculty respondents have instructional materials which are already copyrighted, published and sold to the public while only two faculty respondents have received royalty through instructional materials development.

It is revealed in this study that although majority of the faculty members are developing instructional materials, yet very few are able to seek approval for its classroom utilization. Similarly, very few are able to apply for copyright of their inventions. If copyrighted, the IMs can be sold to the public for dissemination of information and utilization of knowledge derived from their teaching as professors.

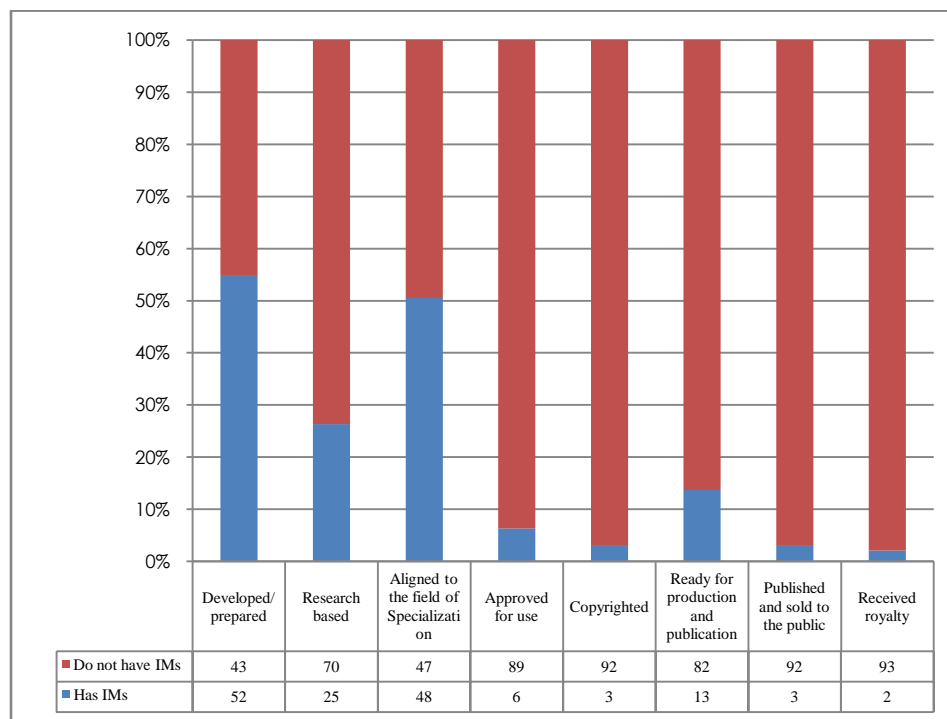


Figure 1. Percentage of faculty who have developed instructional materials

The data suggests that the instructional materials developed by the faculty especially those aligned to their major field of specialization and course syllabus be subjected for review and evaluation for approval by the College Board. The approval will serve as the basis for production, publication, and utilization of the instructional materials in the classroom. This may increase the number of faculty who will develop instructional materials for classroom utilization which could be an income generating project (IGP) of the College.

Benefits enjoyed by the faculty in developing instructional materials

Table 3 shows the benefits enjoyed by the faculty in developing instructional materials (IMs). It revealed that out of 52 faculty members who have developed instructional materials, 26 or half of them were able to have their IMs utilized by the unit or program where they belong for instruction or classroom teaching. Twelve or 23 percent were able to complete their schooling because of developing of IMs, eight or 15 percent have earned points in the NBC evaluation, only five or 10 percent were given recognition for the work. Four or 8 percent have been invited as resource persons in a seminar workshop on IM preparation, only 2 or 4 percent received royalty, and 3 or 6

percent published the IM; were cited and utilized the published IM in/by the community.

Table 3. Benefits enjoyed by the faculty in developing instructional materials (n = 52)

Benefits	F	%
1. Earned points in the NBC evaluation	8	15%
2. Received royalty	2	4%
3. IM developed has been utilized by the unit/college	26	50%
4. instructors for instruction		
5. Invited as resource person in a seminar/workshop on	4	8%
6. IM preparation within/other agency		
7. Given recognition for the work	5	10%
8. Published the IM (local/ national/ international level)	3	6%
9. Cited and utilized the published IM in/by the Community	3	6%
10. Complied requirements for schooling	12	23%

These few number of faculty respondents were able to enjoy these benefits because their IMs are products of their researches so that they are able to publish the research output in the journal of the college or in other research journals. Other faculty were able to have their research outputs turn into policy which results to the utilization of the IMs developed as one of the products of their research

projects such as the student teaching handbook, English proficiency test (EPT) for student teachers, and SSC Admission Tests for both secondary and tertiary level.

Factors that affect the faculty involvement in the preparation of instructional materials

Table 4 reveals the factors that affect faculty involvement in the preparation of instructional materials. The table discloses that the number one factor as shown by 68 or 72% of the faculty respondents is the lack of clear policy for production and publication of instructional materials of faculty. Likewise, 67 or 71% of the respondents revealed that the lack of clear policies for IMs preparations and its benefits is the second factor that affects motivation in the preparation of instructional materials. The third factor as revealed by 66 or 69% is that the college has no publication for the instructional material inventions. These three major reasons imply that the college should formulate and/or disseminate and implement policies, if there is, on the preparation and development of instructional materials for possible production and publication by the college. This would increase engagement of the faculty in the development of quality and publishable instructional materials for utilization of the college and the community.

Results suggest that any policy that may be formulated relative to the instructional materials preparations should contain provisions on copyrighting, patenting, and royalty and/or terms of

income sharing generated from the IMs. This idea could be strengthened by the indicators found in SUC leveling, normative funding, and the new AACCCUP outcomes-based program instrument along the area of research and curriculum and instruction indicating the need to protect inventions of SUCs by the Intellectual Property Right (IPR) laws which could be a rich source of income of the institution. This proposed scheme for the college can be supported by the faculty responses where 65 or 68% of them revealed that policy on copyrighting and patenting and the receipt of royalty for IMs inventions are not visible in the college which could be incorporated for the policy recommendations in response to the requirements for SUC leveling, normative funding, and AACCCUP accreditations utilizing outcomes-based program.

Provisions for trainings on instructional materials preparations that would enhance skills and capability of faculty are also suggested by 61 or 64% of the respondents. Other problems which affect significantly faculty motivation to develop instructional materials as revealed by more than half of the respondents is their observation that college committee to evaluate the prepared/developed instructional material and approved for use is not functional; also the production of the instructional material inventions is not given attention and priority; and the developed instructional materials are not properly documented for recognition of the college for use; and the heavy faculty workload.

Table 4. Factors that affect the faculty involvement in the preparation of instructional materials (n=95)

Factors	f	%	Rank
1. The college committee to evaluate the prepared/ developed instructional material and approved for used is not functional	58	61	7
2. The prepared/developed instructional materials are not properly documented for recognition of the college for used	53	56	9
3. The college has no publication for the instructional material inventions	66	69	3
4. Production of the instructional material inventions is not given much attention/priority	54	57	8
5. Did not earn points in the NBC Evaluation for the development of IMs	39	41	11
6. Heavy Faculty Workload	52	55	10
7. Lack of trainings in the instructional preparations	61	64	6
8. There is no clear policy for college copyrighting and patenting of IMs	65	68	4.5
9. Absence of clear policy for production and publication of instructional materials of faculty	68	72	1
10. There is no clear policy for the receipt of royalty for the IMs invention	65	68	4.5
11. Absence of clear policies for IMs preparations and its benefits	67	71	2
Personal Factors*	22	23	12

*identified by the faculty themselves

Results of this study imply that most of the faculty members are not aware of the issuance of SSC Memorandum No. 42, series 2006 [8] on its directive that the instructional materials prepared by faculty members be reviewed, approved and recommended for use by a committee. The memorandum further recommends that every program of the College is advised to have its own Instructional Materials Committee. This further shows that dissemination and compliance to the memorandum was not given much attention by the College academic community since there was no functional committee created to implement such policy. This issuance may be revisited for further review and enhancement and be disseminated to the whole college to strengthen its implementation.

The findings of this study also suggest that the college should form a committee that would evaluate the instructional materials prepared by the faculty which are ready for production and publication. This should be documented with due recognition to the faculty as the author of the IMs. Faculty workload is another reason because during the time of the gathering of pertinent data, most of the faculty members are having overload subjects due to the increase of enrolment. Although it maybe mentioned that the overloads are being compensated with honorarium.

Data in the table also revealed that personal factors as identified by 22 or 23% of the faculty themselves is another factor that affects their motivation. This is because some faculty members are retirable, some are working mothers, and others lack the passion or commitment to develop IMs which require much time to complete the task.

Policy recommendation for production and publication of instructional materials

It is evident from the study that policies on the production and publication of instructional materials be devised incorporating the formation of the instructional materials committee from the campus level to institutional level, the evaluation procedures, approval of IMs by the committee, copyrighting and patenting, up to the production, publication and utilization of instructional materials. This policy recommendation caters to the needs of the faculty and of the college in general with some modifications and enhancements on the existing college policy which was stipulated in SSC Memorandum No. 42, series 2006 [8].

There is a proposed process flow for approval of instructional materials developed by the faculty. This will guide the faculty and the college on how to submit the instructional materials for evaluation of the committee and if approved by the board for classroom utilization, a possible source of income could be generated by both the proponent and the college. Utilization of the instructional materials produced by the college is not only limited for the institution but could also be extended to the community for adoption and commercialization.

CONCLUSIONS AND RECOMMENDATIONS

Most of the faculty respondents are new in the government service with the academic rank of instructor and are holder of masters' degree. The faculty members advance studies, academic rank, and trainings attended are significantly related to their involvement in instructional materials preparations. Despite the fact that most of them do not have appropriate trainings on instructional materials preparations yet majority of the faculty respondents are developing instructional materials which they utilized for instruction. However, very few are able to seek approval for its classroom utilization and were not able to apply for copyright of their inventions hence these were not sold to the public for utilization and commercialization. As a result, very few faculty enjoyed the benefits of earning points for the NBC evaluation and publication of the inventions for dissemination, citations, and utilization of the community.

There are factors that significantly affected the motivation of the faculty members in developing instructional materials. These include: absence of clear policy for production and publication of instructional materials and policies for IMs preparations and its benefits; absence of publication for the instructional material inventions; the policy on copyrighting and patenting and the receipt of royalty for IMs inventions are not visible in the college, lack of trainings on instructional materials preparations; and no functional college committee to evaluate and approve the use of the instructional material.

With this situation, the study proposed a scheme on policy recommendation relative to the production and publications of instructional materials to provide the faculty with the needed guidance and information and ensure the quality of their instructional materials for classroom utilization. This policy recommendation contains provisions on the formation of the

instructional materials committee from the campus level to institutional level, the evaluation procedures, approval of the committee, copyrighting and patenting, the reproduction, publication and utilization of instructional materials. This may increase engagement of the faculty in the development of quality and publishable instructional materials for utilization of the community in response to the indicators found in SUC leveling, normative funding, and the new AACUP outcomes-based program instrument. Likewise it is recommended that the faculty especially those still young in the government service should continue to upgrade their professional qualifications by taking advance studies and attending trainings/seminars to enhance their capabilities in instructional materials preparations.

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