

Dentistry Faculty Members' Research Competencies and Attitude towards Research Engagement

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Abstract – This study aimed to determine the level of competencies and attitude towards research engagement of the Faculty Members of College of Dentistry. The study used descriptive survey using weighted mean, ranking and correlation matrix to test the relationship of the selected variables.

The findings indicate that the respondents are competent in grammar and sentence construction and communication but need support in research format and research organization when it comes to technical aspect. The respondents need more training in major parts of research in terms of formulating theoretical/conceptual paradigm, statistical treatment, develop research design and synthesizing result whereas they are competent in doing the abstract and references. The respondent's attitude towards research engagement shows that they strongly agree that they are highly motivated in research because it is part of the requirement for job/career while they are more demotivated because of limited time to gather and interpret the data.

Keywords – research, research competency, research engagement.

INTRODUCTION

Research is one of the major tools in the higher education institutions to achieve academic excellence. It is one of the standards of accreditation in assessing the development of competent professionals. The research element is being assessed by the accreditors to evaluate the programs and the institutions. It concretizes the ability of the university to produce research that would generate knowledge for productivity of the institutions and the community.

Research competency and research engagement are fundamental drivers to encourage the faculty members to do research to increase research production.

Research competency is a needed skill and experience to do research. Skills could have been developed or enhanced through schooling, seminars and

similar activities attended. Experiences contribute to enhancing research competencies. Development of research competencies of academic staff and faculty is an integral process of strengthening their decision making whether in business, government or international development organization and in higher education institutions. [1].

Research competence is connected with the capability to search for an answer to a research problem with unidentified solution. Research competence recognize the integral quality of personality, reflected in the willingness and ability to independently find solutions to new problems and creative transformation of reality based on the totality of personally meaningful knowledge, capabilities, skills, ways of life and value systems [2]. Similarly, research competence is the ability to recognize the methods and techniques, designing and implementing research in educational fields which support collaboration with colleagues and other specialists or people that are interested in curriculum studies and education. Research competencies also are important factors for teachers in developing their field of interest and in developing themselves. It also helps the teachers to improve all their competencies and support research-based teacher education that is a new approach in teacher education [3].

On the other hand, research engagement is one of the vehicles that is always open to teachers for professional development. It influences the professional development like in increasing the number of teaching plans, educational objectives, teaching strategies and teacher's knowledge of what was being taught [4]. As a classroom manager, they can create and manage positive esteem within the organization because of the value of recognition they receive. There is a virtuous cycle in faculty's performance when the pre-conditions of engagement are met. Likewise, organizations that are engaged in research have strong and authentic values with clear evidence of trust and fairness in their deeds.

This is because people will believe that the statements they utter are based on mutual respect [5].

Lyceum of the Philippines University mission is to become a recognized university in the Asia Pacific Region by 2022 (LPU-B Manual). As part of their academic functions and research involvement, faculty members are required to do a researches. And to achieve this mission, the management help the faculty by providing continuous training and seminars to enhance their research capabilities and increase their opportunities of involvement particularly in the conduct of research. The management also designed a university's policy for research work which described the process of the research conduct with necessary mentoring and assistance to the faculty researchers. Besides from this, the management are also give incentives and recognitions to the faculty researchers to motivate them in conducting research projects [6].

However, based on the data of the Center for Research Innovation and Data Management, the College of Dentistry is one of the colleges with low research productivity that could be associated with the level of the competencies and attitude of its faculty members. Even they are aware on the benefits and incentives they will gained on doing research they don't have initiatives to engage in it. Awareness alone is not sufficient condition for the teachers to do research. They must have a reason for wanting to engage in it, which is through motivation which can be viewed as the belief, as opposed to the awareness, that the process will be beneficial to their work or it may be more instrumental [7].

It is necessary to consider the competencies of the faculty members in the accomplishment of their duties and responsibilities towards the attainment of the vision and mission of the university. Having them involved in the various research activities would somehow shape their character and attitude to become interested and motivated to be engaged in research. This will serve as the basis in planning the enhancement of the research capability and motivation of the faculty of College of Dentistry to do conduct research.

OBJECTIVES OF THE STUDY

This study generally endeavors to determine the research competencies and attitude towards research engagement of the faculty of College of Dentistry. Specifically, it aims to determine the respondents' level of competency in writing a research paper in terms of technical aspects, major and other parts of research paper; the level of attitudes of LPU faculty towards research engagement in terms of motivations and de-motivations to determine if there is significant relationship between

the research competency and research engagement of the respondents and to propose an action plan based on the findings of the study.

MATERIALS AND METHODS

Research Design

This study used descriptive survey method. This survey method will describe the status of the research competencies and research engagement of the faculty members in the College of Dentistry.

Participants

The participants in this study are the 100% total population of the faculty members in the College. The faculty members were both new and regular faculty members.

Instrument

The questionnaire was used in this study to gather the necessary information about the subject. The researchers adopted the questionnaire from the previous researches [6], [13]. The questionnaire consists of two parts: part one was used to determine the level of competency of the respondents on the components of research while the second part the level of attitudes of LPU faculty towards research engagement in terms of motivations and de-motivations.

Procedures

Then the researchers distributed the questionnaire to the respondents of the study and 100% retrieval rating was achieved. The respondents are informed regarding the purpose of the study and strict confidentiality of the data gathered was ensured and observed. They are very cooperative in the accomplishment of the questionnaires. They answered it during their break time or after classes. The researches also asked some questions regarding their experience to validate the result of the survey.

Data Analysis

The gathered were be tallied by the researchers and tabulated by the statistician using the statistical tools. Then the researchers analyzed and interpreted the results. Weighted mean and ranking were used to determine level of competency in writing research paper in terms of technical aspects, major and other parts of research and to determine the level of attitudes towards research engagement in terms of motivations and de-motivations. Composite mean is used to obtain the average mean of both tools. Correlation matrix was used to find the significant relationship between the level of competency in writing research and level of attitudes towards

research engagement, that defined as a table showing the correlation coefficients between the variables. The given scale was used to interpret the result of the data gathered: Legend: 3.50 – 4.49 Highly Competent; 2.50 – 3.49 Competent; 1.50 – 2.49 Less Competent; 1.00 – 1.49 Not Competent

RESULTS AND DISCUSSION

Table 1. Research Competence of Faculty Members in terms of the Technical Aspect

Items	WM	VI	Rank
1. research paper format	2.94	Competent	3
2. grammar and sentence construction	3.35	Competent	1
3. research organization	2.88	Competent	4
4. communication skills (in writing and the conduct of research data gathering, interviews, etc.)	3.11	Competent	2
Composite Mean	3.07	Competent	

Table shows the research competence of the faculty members of Dentistry in terms of technical aspect. The overall all assessment of 3.07 showed that they are competent in the technical aspects.

The results show that the respondents are competent in all items. But the item grammar and sentence construction and communication skills (in writing and the conduct of research data gathering, interviews, etc.) got the highest weighted mean of 3.35 and 3.11, respectively. This shows that even they are not in the field of language, they consider themselves confident in these items since they practiced it in their profession and teaching duties. But still they need to be trained and developed to be more confident in writing research.

The quality of research is not only relying on the result and the effectivity of the action plan but also in the presentation of the paper through correct grammar and sentence constructions since most of the research are being published locally and internationally [8].

The research paper format and research organization got the lowest weighted mean of 2.94 and 2.88 but still they assessed as competent. This is due to some reasons that they are that most of them are not familiar with the research protocols and format. Some of them will not able to religiously attend in all training and seminar provided due to the nature of their work.

Table 2. Research Competence of Faculty Members in terms of the Major Parts of Research Paper

Introduction	WM	VI	Rank
1. writing an introduction	3.11	Competent	1
2. creating research problem	3.05	Competent	2.5
3. formulating theoretical conceptual paradigm	2.88	Competent	6
4. formulating hypothesis	3.00	Competent	4.5
5. sources of literature review	3.05	Competent	2.5
6. conceptualizing research literature	3.00	Competent	4.5
Composite Mean	3.01	Competent	
Methods			
1. develop research design	2.82	Competent	7
2. data collection	3.11	Competent	1
3. data entry (coding and cleaning)	3.05	Competent	2.5
4. sampling/ sample framework	2.94	Competent	5
5. constructing questionnaires	3.00	Competent	4
6. wording and ordering of questions	3.05	Competent	2.5
7. statistical tools / treatment	2.88	Competent	6
Composite Mean	2.98	Competent	
Results and Discussion			
1. presentation of data gathered	3.17	Competent	1
2. interpretation / analysis of results	3.11	Competent	2.5
3. correlate literature to affirm results	3.11	Competent	2.5
Composite Mean	3.13	Competent	
Conclusion / Recommendation			
1. synthesizing results	3.11	Competent	3
2. expressing additional value or importance to the existing facts	3.17	Competent	1.5
3. formulating recommendations to address the research problem and concerns found in the study	3.17	Competent	1.5
Composite Mean	3.15	Competent	
Overall Mean	3.06	Competent	

Table 2 presents the research competence of faculty members in terms of the major parts of research paper. It has an overall mean of 3.06 which respondents assess themselves competent in all major parts of research.

In terms of introduction, the respondents assess themselves competent in writing introduction (3.11), creating research problem (3.05) and sources of literature (3.05). With the help of internet and materials in the library they can easily find sources which help them to theorize the research they want to undergo. Meanwhile, they are also competent in formulating hypothesis (3.00), conceptualizing research literature (3.00) and formulating theoretical / conceptual paradigm (2.88) but still there is a need for them to strengthen their skills in this aspect. Integrating concepts & theories relevant to health care is one of the important aspects or research that they need to know.

Integrating research into clinical training can enhance research skills and foster development of adept clinicians and competent scientist. Adapting a research-focused science model can help address the pervasive deficiency in the availability and depth of research training for psychiatric residents [9].

In terms of method, the data gathering (3.11) got the highest rank. They find it manageable since they can distribute instruments through themselves or they can distribute it through online and follow up from time to time. It is followed by the items data entry (3.05) and wording and ordering questions (3.05). This is due to the support given by the grammarian assigned to read their research. However, the items statistical tools/treatment and develop research design got the lowest rank of 2.88 and 2.82 but they still assessed themselves as competent. In light of this difficulty, the school has a university statistician that they can visit anytime for consultation. Not everyone from the academe is knowledgeable on how to treat different kinds of data, therefore, faculty members are advised to seek assistance of statistician for proper guidance.

As to results and discussion, presentation of data gathered got the highest weighted mean of 3.17 and verbally interpreted as competent. This is due to the support given by the statistician. After treating their data, the statistician will have sent the generated result in tabulated format where they can easily elaborate and the findings and explain the generated result. The respondents also assess themselves as equally competent in terms of interpretation / analysis of results and correlate literature to affirm results with the weighted mean of 3.11. This is an affirmation that when the research is loaded of related literature they can easily

simply provide understandings in the findings of the study.

Lastly with regards to conclusion and recommendations, expressing additional value or importance to the existing facts and formulating recommendations to address the research problem and concerns found in the study got the highest weighted mean of 3.17 followed by synthesizing result with weighted of 3.11. They assessed themselves competent in all this item, since this is the last part of the research they can easily formulate conclusion and recommendations base on results of their research. Since this is the part of the research where the interpretation of the results is presented, they can easily draw a conclusion based on the analysis of the results and then make a recommendations based on the analysis of the researchers.

The overall result of this table is supported [10] that in research competencies there should be the following competencies, the competencies in acquiring knowledge where the main ability is to systematize and analyze scientific information; competencies in anticipation of the results in hypothesizing where there are various knowledge sphere on formulating the target, the objectives of the research and to form a hypothesis of the study; competencies in selecting optimal solutions to the problem and their implementation where is the ability to self-organized the expected ways of solving problems, analyze the resources to conduct research and to independently choose the necessary equipment and materials; competencies in critical evaluation and explanation of the obtained results where they can interpret the results based on a particular theory, able to process the results of the studies and constructively assess the validity and possible errors made during the research.

Table 3 shows the research competency in terms of other parts of research paper with over-all composite mean of 3.23 and with verbal interpretation of competent.

In terms of abstract, the summarizing the research methods used got the highest weighted of 3.23 followed by clearly stating the research focus (3.17). While, the item using the abstract format got the lowest weighted mean of 3.00. Since the abstract is brief summary of the research where the readers quickly ascertain the purpose of the study, the respondents effortlessly simplify what they been found in their study. Even they assessed as competent, the faculty still need to be familiarized in the format since most of the research now are being published in the refereed journals. As cited, [11] in order to make a good abstract, the researchers must one well-

developed paragraph that is coherent and concise and is able to stand alone as a unit of information. It covers the entire essential elements of full paper such as the background, purpose, focus, methods, results and conclusions. It should use the language of original paper, in a more simplified form for the more reader.

Table 3. Research Competence of Faculty in terms of the Other Parts of Research Paper

Abstract	WM	VI	Rank
1. clearly stating the research focus	3.17	Competent	2
2. summarizing the research methods used	3.23	Competent	1
3. outlining the results and discussion of the study	3.11	Competent	3.5
4. summarizing conclusion and recommendations of the study	3.11	Competent	3.5
5. using the abstract format	3.00	Competent	5
Composite Mean	3.12	Competent	
References			
1. presentation / format of references in APA format	3.35	Competent	1.5
2. accessing of available and updated materials	3.35	Competent	1.5
Composite Mean	3.35	Competent	
Over-all Composite Mean	3.23	Competent	

With regards of writing the references, the respondents are equally competent in presentation/format of references and accessing of available and updated materials with weighted mean of 3.35. This mean that the respondents has equal knowledge in presentation of references in APA format and accessing of available and updated material. References is the last page of the research which contains list of all the sources that being used in the study, so the readers can easily find what research is being cited. This result is a manifestation that respondents can easily transcribe their references because nowadays most of the research are using APA format. There are also tools in the internet (e.g Google Scholar) where the references are already in APA format and they will just copy/paste it on their reference list.

Referencing is a way to give credits to the writers from whom borrowed words and ideas. By citing the work of particular scholar, they acknowledge and respect the intellectual property rights of the researchers [12].

Table 4 show the attitude of faculty members towards research engagement in terms of motivation factors with composite mean of 3.22 and with verbal interpretation agree.

Table 4. Attitude of Faculty Members towards Research Engagement in term of Motivation Factors

Motivations	WM	VI	Rank
1. Earn money aside from the present income	3.47	Agree	2
2. Prestige of position, career and job	3.29	Agree	5.5
3. Requirement for the job/career	3.52	Strongly Agree	1
4. Visit places and meet new friends	3.41	Agree	3
5. Use results for self and other improvement	3.35	Agree	4
6. Help others and improve humanity	2.88	Agree	10
7. Impress friend and other professionals	3.00	Agree	8
8. Prepare future other engagements	3.11	Agree	7
9. Locate for greener pastures	3.29	Agree	5.5
10. Just for passion and satisfaction	2.94	Agree	9
Composite Mean	3.22	Agree	

Respondents strongly agreed doing research is part of the requirement for the job/career (3.52) being the item with highest weighted mean. It is followed by earning money aside from the present income (3.47) and visit places and meet new people (3.41). It is a manifest that doing research or involving in any research activities is part of their job. This also be a manifest that as part of their faculty teaching job, the result of this research engagement can help improve student performance, teaching strategies and managing their engagements. This is could also be because that research is part of the faculty performance evaluation and classification. They also considered that in every research project they undertake there is a corresponding incentive/honorarium. They will receive 24,000 thousand pesos upon completion of their research and additional 5,000 pesos if their paper will publish in Non-Scopus/Non-ISI international journal and 25,000 thousand if it is Scopus/ISI indexed journal. Aside from this incentives, they also have the chance to present their paper in any international research conference. This is supported by

the study [13], that the faculty can be highly motivated by conducting research and managing their engagement as a job requirement for them to improve and as a preparation to another engagement. While according to another study [14], a very important institutional support in cultivating and nurturing the research climate are research incentives. Same importance in boosting the researchers would be the provision of facilities and equipment in support of research function. Primary facilities provide better research sources and output, while incentives provide good attraction to undergo research.

However, impress friend and other professionals, just for passion and satisfactions and help others and improve humanity were rated lowest by the respondents as evidenced by their weighted mean of 3.00, 2.94 and 2.88 respectively. For the faculty members, their research engagement is just part of their job as academe. They just do it within the school premises. And not affect their personal matter and life.

Table 5. Attitude of Faculty Members towards Research Engagement in term of De-Motivation Factors

De-motivations	WM	VI	Rank
1. Limited time to gather and interpret data	3.58	Strongly Agree	1
2. Inadequate skill in concepts and interpretation	3.05	Agree	2
3. No confidence in own capacities	2.94	Agree	3
4. Environmental constraints in job work	2.52	Agree	5
5. Lack of internet connections	2.82	Agree	4
6. Family problems affect engagement	2.29	Disagree	7
7. Employee-employer relations	2.41	Disagree	6
Composite Mean	2.80	Agree	

With regards to the de-motivation factors, the result shows that the respondents strongly agree that the limited time to gather and interpret data (3.58) is the first de-motivation factors that affects their research engagement. They also agree that inadequate skill in concepts and interpretation (3.05) and no confidence in own capacities (2.94) as one of the highest de-motivations factors. This is a manifest that most of the faculty has limited time to gather data since most them are full time faculty and at the same time most them have their own dental clinic business to attend. Even the respondents assess themselves as competent in doing the

major parts and other parts of research they still have inadequate skill and no confidence in doing research due to the fact that most of them has no proper training or not attending seminar/workshop on research due to their busy schedule.

Research engagement can enhance their job satisfaction, professional confidence and contribute to enhanced attitudes towards research. Given these benefits, building research capacity and supporting research engagement are key strategic goals for many healthcare providers [15].

Nevertheless, the family problems and employee-employer relations got the lowest weighted mean of 2.41 and 2.29. This means that respondents disagree that these de-motivated items does not affect their research engagement. This is supported by the result on the motivations on their level of engagement. The respondent assess that just to impress friends, just for fashion and satisfaction as the least motivational factors that affect their level of research engagement. This is a manifest that they separate personal life to their research engagement in this institutions. Their main motivation for involving in research is just for their professional development.

The teachers' primary motivation for getting involved in research was for professional development. Research engagement help practitioners obtain an outside perspective the practice of teaching, finding out what other people are doing, see the practical relevance of research to classroom setting and to develop social networking [16].

Table 6. Relationship between the Level of Research Competencies and Attitudes towards Research Engagement

Attitudes towards Research Engagement	Level of Research Competency		
	r-value	p-value	Interpretation
Motivation Factor	.564	.018	Significant
De-motivation Factor	.340	.181	Not Significant

Legend : Significant at p -value < 0.05 :S- Significant; NS-Not Significant

As to relationship between the level of research competencies and attitudes towards research engagement of the respondents in Table 6, the results show that the computed r-value of motivation factor indicates a moderate positive correlation and the resulted p-values was less than 0.05 thus the null hypothesis is accepted. This indicates that there is significant relationship exists between the level of competencies and attitudes towards research engagement in terms of motivation factors only. This is a manifestation that motivational factors give them more confidence in managing their research

engagement. This could also be indicating that even some of them has no experienced in doing research, they already had an idea about the research organizations of the institutions.

The faculty motivation is significantly related to confidence and managing their research engagement which means that the more motivated the faculty, the better they will improve their self-confidence and manage their research engagements [13].

CONCLUSION AND RECOMMENDATION

Generally, this study was conducted to evaluate the competency and attitude of faculty member towards research which affect the research productivity of the department of College of Dentistry. The findings concluded that the respondents are competent in doing the technical, major and other parts of the research. But still they need support in doing their research. The management may provide seminar/training and more in-depth lecture for continuous development of the respondents.

The study also revealed that the respondent's research engagement is highly motivated since doing research is part of the requirement of their job in the academe. On the other hand, respondents revealed that they are demotivated because of the limited time to gather and interpret the data. In this result, the management may spend more on continuous faculty development and professional exposure for them to improve their research engagement.

With regards to the relationship, it indicates that there is a significant relationship exist between level of competencies and attitudes towards research engagement in terms of motivational factors.

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