

# Research Needs Assessment of Patts College of Aeronautics: A Basis for Research Development Program Improvements

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**Abstract:-** Research in the Philippines is being established as a new culture. This paper aimed to assess the research needs of PATTS College of Aeronautics as a basis for research development program improvements. This paper aimed to identify the perception of the non-teaching staff, faculty and students of the said institution on the different areas for research development program namely: pre-writing skills; library skills; note-taking skills; writing skills; editing skills; editing skills; and presentation and publication process.

The most needed area on the research development program is the editing skill followed by the presentation and publication process. The least needed area is writing skill and pre-writing skills. For pre-writing skills, the most needed skill. The second area is the library skills wherein the most needed skill is assessing sources. For note-taking skill, the most needed skill is synthesizing. In writing skills, the most needed skill is the statement of the problem. In editing skill, the most needed skill is avoiding plagiarism. The last area for is the presentation and publication process. For this area, the most needed skill is the application for patent. It is highly recommended that the administration should focus on giving more trainings and seminars regarding the most needed areas to non-teaching staff, faculty and students. Faculty members who teach research writing should make use of applications such as Mendeley for referencing, SPSS for statistics, Turnitin and Unicheck for plagiarism check. The research department help in choosing and training

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## 1. INTRODUCTION

PACUCOA and PATTS College, are assuring quality education through research.

### 1.1. Statement of the Problem

This research aimed to assess the research needs of PATTS College of Aeronautics as a basis for research development program improvements. Specifically, it aimed to answer the following:

1. What is the perception of the respondents on the different areas for research development program in terms of:
  - a. Pre-writing skills;
  - b. Library Skills;
  - c. Note-taking skills;
  - d. Writing skills;
  - e. Editing skills; and
  - f. Presentation and publication process?
2. What are the most needed skills of the non-teaching staff, faculty and students in terms of the different research program areas?
3. What can be recommended and institutionalized to address the continuous quality improvement efforts of the research development program for the non-teaching staff, faculty and students?

### 1.2. Background of the Study

PATTS College of Aeronautics is establishing its research culture through the faculty, non-teaching staff, and student researches. Various topics, either school-wide or community-based researches, are the focus of the researches. Recently, PATTS College has gained its Level 2 status by the Philippine Association Colleges and Universities Commission on Accreditation (PACUCOA) in the BS Aeronautical Engineering and BS Tourism Management Programs. In 2019, PATTS College is aiming for a Level 3 status. One of PACUCOA's objectives is to assess the research capabilities through the outputs by the faculty, students, and non-teaching staff. It is evident that both institutions,

In 2014, PATTS Research Department started to establish a research culture in PATTS initially with the faculty and students and later on included the non-teaching staff. Since then, several research seminars and workshops were attended by faculty members, students, and non-teaching staff as a promotion of research culture. Research colloquia with various participants within the school were also held. Most of the student participants in colloquia come from the Senior High School, BS Aeronautical Engineering and BS Tourism Management departments.

PATTS College of Aeronautics aims for research sustainability in faculty, students, and non-teaching staff. This research is focused on addressing the research needs of the PATTS students, faculty and non-teaching staff as a basis for research development programs such as trainings, workshops, colloquia, and seminars. Giving the students, faculty and non-teaching staff room for development will not only benefit themselves but the school as well.

### 1.3. Review of Related Literature

#### Non-teaching Staff

School operations are in the hands of the non-teaching staff. They are employed to do the duties to keep the school system running. School support roles vary in their designated offices or positions within the school which may include administrative duties, maintenance, security, and assistance roles for student needs.

Non-teaching staff is defined as “anyone employed by a school system who doesn't serve as a school teacher. This can include administrative staff, guidance counselors, librarians, custodians, food service personnel, and even transportation workers” (Morello, 2014). However, in a more general sense, it is also defined as those employed by educational institutions who have no instructional responsibilities. This varies from country to country but it generally includes head teachers, principals, supervisors, school administrators, health personnel, and the like (UNESCO Institute of Statistics, 2019).

Research culture in Higher Education Institutions of the faculty is becoming established already across the globe. Several researches were made to identify the research needs for them to strengthen research more. However, a school cannot operate with only the faculty. School support must also be looked into to identify their research needs to help in the betterment of the school system.

The non-teaching staff plays an important role in the academic system especially in helping it run smoothly. Most often, their works are not acknowledged because when one thinks of school system, only faculty and students are remembered. In the past years, non-teaching staff have helped ease administrative and clerical work of school heads which also led to quality work. These staff make sure that the school runs orderly and every other jobs other than teaching are finished timely (payrolls, appointments, etc). Non-teaching staff also needs to be given room for development in different aspects because their services are necessary in delivering quality education (SunStar Pampanga, 2018). Trainings are already given to most personnel, however, the field of research is seldom touched. They are left untrained in conducting research. Possessing the necessary skills in research can help them address and identify the needs of their departments. Thus, improving organizational effectiveness.

It is important that non-teaching personnel are equipped with research skills not only for conducting research studies but also for them to be competent in providing information through critical reading, and data/statistical analysis. Since they experience the workload first-hand, research skills can help them critically evaluate methods currently used in the workplace and also help in developing their ability in proposing strategic plans or frameworks in the workplace (Lacsamana, Portugal & Delos Reyes, 2018). Identifying the areas in research that the non-teaching personnel needs can help the management to know the kinds of trainings, seminars, and workshops needed by their staff since they can provide the resources that will support growth and development needs of each personnel (Wanjiku, 2016).

Research skills are referred to as “the ability to search for, locate, extract, organize, evaluate and use or present information that is relevant to a particular topic” (NUI Galway, 2018). Research skills are important in any business because these skills are put into use in report writing, keeping an eye on their competitors, developing new products, and identifying what clients want; all of which are needed by employers. Research also helps in saving money because implementing something could be both risky and costly. Through research, spending money unwisely would be prevented. Some research skills that employers look for are report writing, data collection, analysis of information, finding information off the resources, critical thinking, planning and scheduling, interviewing, and critical analysis. These are also what the management in schools look for (TheBigChoice, n.d.).

Research is vital because its purpose is to impose action and to contribute knowledge for development. A needs assessment is done to determine the gap between the institution’s needs and how or where they want it to be (NC State, 2017). Through Training Needs Assessment (TNA), the gaps identified can help improve the school system by determining and addressing the research needs of the school support and how they, the non-teaching staff, and the institution will benefit from this.

Richard Swanson in 1994 created a model on work performance in relation to organizational development. He created the Five Phases of a Performance Diagnosis. It was a re-model of Rummel and Brache’s (1995) model.

1. *Initial Purpose* phase articulates the original purpose of the diagnosis.
2. *Performance Variables* phase assesses the five performance variables at the three performance levels.
3. *Performance Measures* phase specifies the relevant output units of performance at the organizational, process, and/or individual levels.

4. *Performance needs* phase identifies the performance needs at the organizational, process, and/or individual levels and classifies them according to the taxonomy of performance.
5. *Improvement proposal* phase involves constructing a performance improvement proposal.

This study is guided by Swanson's five phases of performance diagnosis. The needs assessment contained all the performance levels: organization, process, and individual. The performance variables are: mission/goals, system design, capacity, motivation, and expertise (Swanson & Holton, 2008).

## Faculty

The Tripartite functions of Higher Education Institutions are Instructions, Research, Extension and Development. One of the vital thrusts is Research. Thus, it is imperative and expedient that the faculty members are actively engaged in research. In the Research study entitled "What motivates teachers to conduct research" Meerah (2018) highlighted that in order for the formal education to be implemented successfully, the education system should have approaches, methods, techniques, resources and management which are developed in accordance with the National Education Philosophy (NEP), besides upgrading other educational infrastructures. Classroom practitioners, teacher trainers and educational managers should keep abreast with the development in the pedagogical aspects of teaching. This could be achieved if teachers and trainers are practicing research work in their teaching, reflecting consistently and seizing initiatives to improve the effectiveness of teaching.

A research culture must be vigorously imbibed among faculty members to strengthen the acquisition of new and enhanced learning/ knowledge and affirmatively address the challenges that both teachers and students brace in a Higher Education academic environment. Creating, Developing and Sustaining the culture of Research is expedient and indispensable. It is effectively determined that

research is a salient and critical factor in championing intellectual growth and progress among faculty members. The fundamental requirement to faculty development for effective instructions among teachers is the determination and evaluation of the research needs of faculty. The faculty's foremost role in delivering and providing high standard and quality education necessitates the need for the identification of the research needs aimed at improving the acquisition of new knowledge in the salient areas of learning specializations. All faculty members of an institution are stakeholders in developing persistence strategies. Centers for teaching and learning and faculty developers have the chance to significantly help educators develop their teaching skills (Leafsted & Paconsky-Brock, 2016). This research culture is integral to PATTS Objective of providing a continuing professional and academic education geared towards the promotion of an updated knowledge indispensable for the intellectual and Academic upliftment of the institution. Precisely because Faculty development has measurable impacts on teaching. (Condon et al, 2016 p.114) Moreover, Those who participate in a greater and more diverse amount of Faculty development make longer changes in their teaching than faculty who might only participate in one workshop (Condon et.al, 2016).

Majority of Higher Learning institutions have embraced the initiative and responsibility to prove and challenge its faculty to engage in research so as not to compromise the acquisition of novel knowledge among teachers. (Leafsted and Pacansky-Brock, 2016) explains that the goal of faculty development is to provide learning opportunities for faculty that results in the continued growth and development of one teaching. Thus, Faculty developers can utilize the conceptual framework of this study student's expectation of Instructional activities inside and outside the classroom to augment the material they cover in the professional development activities.

Matters of fact, a critical study on the research needs of faculty and students must be in place to determine the research ability and capability to effectively address research skills defined in order to successfully achieve one of the thrusts of the Institutions which is research. The Faculty members



may have difficulty in finding the time to learn about new methods of teachings and then make those changes. If the teachers get motivated to find the time, they may become overwhelmed by the sheer amount of information about college teaching (Fink 2013).

The researchers believe that it will empower the faculty and the institution to create an enriched environment that addresses the increasing complexities of higher education (Camblin and Steger, 2000, as cited in Pearson and Thomas, 2010). This is a tough task and a challenging topic for an action research. It is in this premise that the researchers undertook this study. Faculty developers could use untethered faculty development to provide an online research site, online asynchronous courses on online toolkits; encourage faculty to blog about their teaching practice and reflections; share links, videos photos, tips and ideas on social media (Leafsted and Paconsky – Brock 2016).

## Students

Research culture in Higher Education Institutions is becoming established already across the globe. Several researches were made to identify the research needs HEIs to strengthen research more. Students are the main clients of schools and they carry the name of the school even after they graduate. Equipping the students with research skills is the a plus for the school where they come from.

Research skills are referred to as “the ability to search for, locate, extract, organize, evaluate and use or present information that is relevant to a particular topic” (NUI Galway, 2018). Research skills are important in any business because these skills are put into use in report writing, keeping an eye on their competitors, developing new products, and identifying what clients want; all of which are needed by employers. Some research skills that employers look for are report writing, data collection, analysis of information, finding information off the resources, critical thinking, planning and scheduling, interviewing, and critical analysis. (TheBigChoice, n.d.). When students apply for jobs when they graduate, it will be easier for them to cope and be hired if they are well-equipped with such skills. Aside from equipping

students with research skills, they could also be trained to conduct research and to present their papers in colloquiums. This can be done through student research development programs such as seminars, workshops, and colloquiums.

Usually, students undergo research before they graduate through writing their undergraduate thesis. For some, it would be the first time for them to conduct such research. It would be best to know the needs of students in research while they are in their freshman year for the instructors and management to provide such needs before they conduct their researches.

A survey by Library Journal showed results that only 30% of those who enter college possess the research skills needed to conduct a college-level research. Librarians who were also surveyed addressed the following challenges that freshmen students are facing: inability to evaluate sources for reliability, inability to establish a research topic and design objectives, the inability to properly cite sources, overconfidence/apathy/short attention span, and an overreliance on Google. Students may be able to find something off the internet but somehow lack the skills to evaluate and integrate their sources and to synthesize the findings (Williams, 2017).

The first step in creating strategies to teach research skills is through assessment. It is recommended that students assess themselves to be able to identify the skills that they lack (Carnegie Mellon University, n.d.).

Research is vital because its purpose is to impose action and to contribute knowledge for development. A needs assessment is done to determine the gap between the institution’s needs and how or where they want it to be (NC State, 2017). Through Training Needs Assessment (TNA), the gaps identified can help improve research skills that the students need which will benefit both the school and the students themselves. This provides the information on the training and skills development one may need to progress to whatever career one chooses. It can greatly help in formulating a professional development plan (UCC, n.d.).

In a research entitled *Research Needs and Learning Format Preferences of Graduate Students at a Large Public University: An Explanatory Study*, findings showed that the highest rated skills by students in their self-assessment were citing sources in appropriate style, identify previously published research on the topic and accessing the full text of a previously published research. In the same research, respondents pointed out that they preferred to learn these skills online (Bussell, Hagman, & Guder, 2017).

McGhee and Thayer (1961) stated that “training needs come from underdeveloped skills, insufficient knowledge or inappropriate work attitudes (Ferreira & Abad, 2013). Their model suggests conducting a TNA in three levels: organizational, operational, and individual (ChangeFactory, 2014). The organization level allows one to view the organization’s performance which can also highlight problems in performance. In the Operational level, knowledge, skills, and abilities that are needed to perform certain tasks should be looked at. The last level, the individual, allows analysis on how well the team performs the tasks (JSW Training & Community Services, 2015). McGhee and Thayer’s model guides the researchers in completing the TNA.

#### 1.4. Conceptual Framework

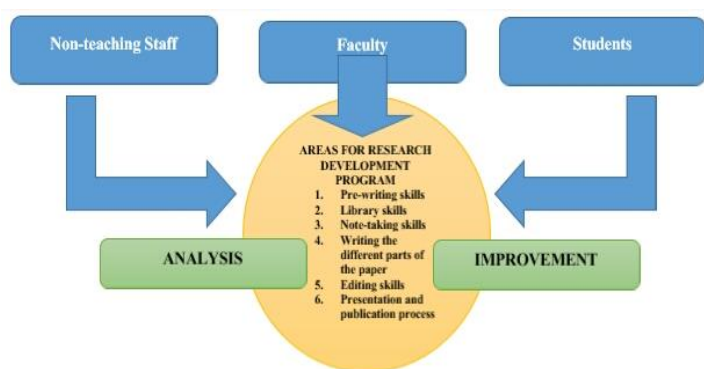


Fig. 1: Paradigm on Research Needs Assessment

This study focuses on the research needs of the non-teaching staff, faculty and students of the institution. There are six areas for the research development program namely: pre-writing skills;

library skills; note-taking skills; writing the different parts of the paper; editing skills; and presentation and publication process. This study is guided by the McGhee and Thayer’s model which focuses on analysis and Swanson and Holton’s model which focuses on improvement. This just shows that analyzing the research needs of the non-teaching staff, faculty and students would help in the improvement of the research development program of the institution.

## 2. METHODOLOGY

### 2.1. Research Design

This study made use of the descriptive method of research wherein survey questionnaire was used to gather the data needed from the non-teaching staff, faculty and student respondents. The study was based on the following areas: pre-writing skills, library skills, note-taking skills, writing skills, editing skills and presentation and publication process which are all under the PATTS College of Aeronautics Research Department.

Survey questionnaires were given to 50 respondents from different offices and departments within the school, 77 from the faculty and 300 freshmen students.

The non-teaching staff respondents were from the different offices of the institution namely: Academic Affairs, Accounting, Administration, Alumni, Bookstore, Building and Maintenance, Cashier, Clinic, Guidance, Library, Marketing, Registrar, Security, and Student Affairs.

The faculty respondents were from the technical, non-technical, Professional Education Department, General Education department and Senior High School Department.

The first year student respondents were from the nine programs offered by the institution namely: BS Aeronautical Engineering, BS Air Transportation, BS Aircraft Maintenance Technology, BS Avionics Technology, Aircraft Technician Course, BS Airline Business Administration, BS Tourism Management, BS Hotel and Restaurant Management and BS Industrial Engineering.

2.2. Respondents

**Profile of Non-teaching Staff**

Table 1: Frequency and Percent Distribution of Non-

Sex	Frequency	Percent
Male	13	26.00
Female	37	<b>74.00</b>
Total	50	100.00

teaching staff Respondents by Sex

The Non-teaching staff respondents are mostly made up of female taking up 74% with 37 frequency while the male respondents are only 13 taking up 26% of the total number of respondents.

Table 2: Frequency and Percent Distribution of Non-teaching staff Respondents by Educational Attainment

Educational Attainment	Frequency	Percent
Bachelor's Degree	34	<b>68.00</b>
With MA/MS units	11	22.00
MA/MS Degree	4	8.00
With PhD/Ed units	0	0.00
PhD/Ed degree	1	2.00
Total	50	100.00

Most of the Non-teaching staff respondents have only Bachelor's degree with a count of 34 or 68% followed by respondents with MA/MS units with a count of 11 or 22%.

Table 3: Frequency and Percent Distribution of Non-teaching staff Respondents by Office

Office	Frequency	Percent
Academic Affairs Office	3	6.00
Accounting Office	3	6.00
Administration Office	2	4.00
Alumni Office	2	4.00
Bookstore	2	4.00
Building and Maintenance Office	2	4.00
Cashier	5	10.00
Clinic	5	10.00
Library	6	12.00
Marketing Office	3	6.00
Registrar Office	5	10.00
Security	9	<b>18.00</b>
Student Affairs Office	3	6.00
Total	50	100.00

The security guards have the most number of Non-teaching staff respondents with a count of 9 or 18% followed by the Non-teaching staff from the library with 6 respondents or 12%.

Table 4: Frequency and Percent Distribution of Non-teaching staff Respondents by Employment Status

Employment Status	Frequency	Percent
Part time	1	2.00
Full time	22	44.00
Probationary	2	4.00
Regular/Permanent	25	<b>50.00</b>
Total	50	100

Most of the Non-teaching staff respondents are regular/permanent with a count of 25 taking up 50% of the total respondents which is followed by 22 respondents with a status of full time or 44%.



Table 5: Frequency and Percent Distribution of Non-teaching staff Respondents by Academic Length of

Academic Length of Service	Frequency	Percent
Less than a year	5	10.00
1-5 years	16	<b>32.00</b>
6-10 years	9	18.00
11-15 years	11	22.00
16-20 years	3	6.00
21-25 years	3	6.00
26-30 years	3	6.00
31-35 years	0	0.00
36-40 years	0	0.00
41 years and above	0	0.00
Total	50	100.00

Service

Out of the 50 Non-teaching staff respondents, 16 or 32% have served the institution for 1-5 years already. This is followed by Non-teaching staff who served the institution for 11-15 years with a count of 11 or 22%.

### Profile of Faculty

Table 6: Frequency and Percent Distribution of Faculty

Sex	Frequency	Percent
Male	54	<b>70.10</b>
Female	23	29.90
Total	77	100.00

Respondents by Sex

Table 6 presents the distribution of the PATTS Faculty according to sex wherein out of the total seventy seven (77) respondents, fifty four (54) are males and twenty three (23) are females.

Table 7: Frequency and Percent Distribution of Faculty Respondents by Educational Attainment

Educational Attainment	Frequency	Percent
Bachelor's Degree	29	<b>37.70</b>
with MA/MS units	25	32.50
MA/MS Degree	13	16.90
with PhD/Ed units	7	9.10
PhD/EdD Degree	2	2.60
Total	77	100.00

Table 7 presents the distribution of the PATTS Faculty according to the level of Educational Attainment, wherein out of the total seventy seven (77) respondents, twenty nine (29) equivalent to thirty seven point seventy percent (37.70%) which is the highest are Bachelors' degree with MA units and two (2) equivalent to two point sixty percent (2.60%) which is the lowest are PhD/EdD degree holders.

Table 8: Frequency and Percent Distribution of Faculty Respondents by Position/Designation

Position/Designation	Frequency	Percent
Faculty	68	<b>88.30</b>
Department Head	4	5.20
Chairperson	5	6.50
Total	77	100.00

Table 8 presents the distribution of the PATTS Faculty according to position or designation. This table shows that out of the total seventy seven (77) respondents sixty eight (68) equivalent to eighty eight point thirty percent (88.30%) which is the highest are the faculty members and four (4) equivalent to five point twenty (5.20%) which is the lowest are occupying positions as department heads.

Table 9: Frequency and Percent Distribution of Faculty Respondents by Department

Department	Frequency	Percent
BS Aeronautical Engineering	5	6.50
BS Air Transportation	4	5.20
BS Aircraft Maintenance Technology	11	14.30
Aircraft Technician Course	1	1.30
BS Airline Business Administration	5	6.50
Basic Engineering	6	7.80
BS Avionics Technology	3	3.90
BS Tourism Management and HRM	3	3.90
BS Industrial Engineering	1	1.30
Languages	15	<b>19.50</b>
Mathematics	2	2.60
Natural Sciences	6	7.80
Physical Education	3	3.90
Social Sciences	7	9.10
Computer	5	6.50
Total	77	100.00

Table 9 presents the distribution of the PATTS Faculty according to Faculty Area Designation. This table shows that out of the total seventy seven (77) respondents fifteen (15) equivalent to nineteen point fifty (19.50%) belong to the Languages Department and one (1) equivalent to one point thirty percent (1.30%) both belong to ATC and I.E Departments.

Table 10: Frequency and Percent Distribution of Faculty Respondents by Employment Status

Employment Status	Frequency	Percent
Part Time	8	10.40
Full Time	68	<b>88.30</b>
Regular/Permanent	1	1.30
Total	77	100.00

Table 10 presents the distribution of the PATTS Faculty according to employment status. This table shows that out of the total seventy seven (77) respondents – sixty eight (68) equivalent to eighty eight point thirty percent (88.30%) which is the highest are full time employment status and one (1)

equivalent to six point fifty percent (6.50%) is a regular permanent employee.

Table 11: Frequency and Percent Distribution of Faculty Respondents by Academic Length/Tenure

Academic length/tenure	Frequency	Percent
less than a year	12	15.60
1-5 years	31	<b>40.30</b>
6-10 year	19	24.70
11-15 years	9	11.70
16-20 years	3	3.90
31-35 years	3	3.90
Total	77	100.00

Table 11 presents the distribution of PATTS Faculty according to the length of Academic Service to the Institutions. This table shows that out of the total seventy seven (77) respondents, thirty one(31) equivalent to forty point thirty percent (40.30%) have rendered one to five years of Academic Services and three (3) equivalent to three point ninety percent (3.90%) have rendered 16-20 years and 31-35 years of service respectively.

### Profile of Students

Table 12: Frequency and Percent Distribution of

Program	Frequency	Percent
BS Aeronautical Engineering	82	<b>27.30</b>
BS Air Transportation	56	18.70
BS Aircraft Maintenance Technology	30	10.00
BS Avionics Technology	44	14.70
Aircraft Technician Course	6	2.00
BS Airline Business Administration	13	4.33
BS Tourism Management	59	19.70
BS Hotel and Restaurant Management	2	0.67
BS Industrial Engineering	8	2.67
Total	300	100.00

Student Respondents by Program

Majority of the respondents are from the BS Aeronautical Engineering program with 82 student respondents followed by the BS Tourism Management program with 59 student respondents.

### 2.3. Instrumentation

The survey questionnaire is a researcher-made questionnaire which was tested and validated. The instrument is divided into three (3) major parts:

Part 1 – Respondent’s profile

For Non-teaching Staff:

- a. Sex
- b. Educational attainment
- c. Office
- d. Employment status
- e. Academic length of service

For Faculty:

- a. Sex
- b. Educational attainment
- c. Position/designation
- d. Department
- e. Employment status
- f. Academic length/tenure

For Students:

- a. Program

Part 2 – Areas for student research development program

- a. Pre-writing skills
- b. Library skills
- c. Note-taking skills
- d. Writing skills
- e. Editing skills
- f. Presentation and publication process

### 2.4 Statistical Treatment of Data

The data gathered in this study were statistically treated using the statistical tools such as frequency, percentage, weighted mean, and ranking.

The 3-point scale was used with the values assigned to each of the perceived rating. The interpretation and corresponding scale value and range of the weighted mean is used to assess the different items.

The answers for part 2 were measured using the following scale:

Table 13: Interpretation of the Corresponding Weight and Range of Weighted Mean

Weight	Description	Range
3	Much Needed	2.51-3.00
2	Needed	1.51-2.50
1	Not Needed	1.00-1.50

## 3. RESULTS AND ANALYSIS

### 3.1. Findings

#### 1. The perception of the non-teaching staff, faculty and students on the different areas for research development program

Table 14: Perception of the Respondents on the

Areas for Research Development Program	Non-Teaching staff	Faculty	Students	Total	Overall Rank
Pre-writing Skills	2.64	2.42	<b>2.66</b>	2.57	6
Library Skills	2.76	2.51	2.58	2.62	3
Note-taking Skills	2.74	2.46	2.53	2.58	5
Writing Skills	2.65	2.49	2.55	2.56	7
Editing Skills	2.75	2.58	<b>2.66</b>	<b>2.66</b>	<b>1</b>
Presentation and Publication Process	<b>2.77</b>	<b>2.61</b>	2.54	2.64	2
Average	2.72	2.51	2.59	2.61	4

Different Areas of Research Development Program

Out of the six areas for Research Development Program, the non-teaching staff and the faculty perceived that the most needed area in research is presentation and publication process with a weighted mean of 2.77 and 2.61. On the other hand, the students identified pre-writing and editing skills as the most needed research development program area having 2.66 as their weighted mean. Overall, based on the perception of the respondents, the most needed area of Research Development Program is the editing skill with the weighted mean of 2.66. When ranked, the most need area is the editing skill followed by presentation and publication process while the least needed one is the writing skill.

**2. The most needed research skills in terms of the different research program areas**

Table 15: Perception of the Respondents on the Different Areas of Research Development Program in Terms of Pre-writing Skills

Pre-writing Skills	Non-Teaching staff	Faculty	Students	Total
Choosing the topic for research	<b>2.81</b>	2.49	2.66	<b>2.65</b>
Analyzing the intended audience	2.50	2.39	2.59	2.49
Analyzing the purpose of the study	2.56	<b>2.53</b>	<b>2.76</b>	2.62
Brainstorming with peers what to write	2.69	2.35	2.67	2.57
Preparing a preliminary outline	2.63	2.35	2.64	2.54
Average	2.64	2.42	2.66	2.57

In the area Pre-writing skills, for the non-teaching staff, the most needed skill in research is choosing a topic for research with 2.81 weighted mean. The faculty and the students both agreed that the most needed skill in pre-writing is analyzing the purpose of the study having a weighted mean of 2.53 and 2.76. Generally, the respondents perceived that the most needed skill when it comes to pre-writing is choosing a topic for research with a weighted mean of 2.65 while the least needed skill is analyzing the intended audience with 2.49 weighted mean.

Table 16: Perception of the Respondents on the Different Areas of Research Development Program in Terms of Library Skills

Library Skills	Non-Teaching staff	Faculty	Students	Total
Using the school's library sources	2.75	2.40	2.44	2.53
Searching the web for online journals	2.75	<b>2.61</b>	2.58	2.65
Searching for major publishers	2.63	2.53	2.62	2.59
Searching for thesis, dissertations and other sources	2.75	2.53	<b>2.68</b>	2.65
Assessing sources	<b>2.88</b>	2.52	2.66	<b>2.69</b>
Listing down a working research bibliography	2.81	2.45	2.50	2.59
Average	2.76	2.51	2.58	2.62

The second area of research development program is the library skills. The non-teaching staff identified assessing sources as the most needed skill for the said area with the highest weighted mean of 2.88. For the faculty, searching the web for online journals with 2.61 weighted mean. While for the students, searching for thesis, dissertations and other sources is the most needed skill with the weighted mean of 2.68. Overall, the most needed library skill is assessing sources having the weighted mean of 2.69

while using the school's library sources is the least needed skill with 2.53 weighted mean.

Table 17: Perception of the Respondents on the Different Areas of Research Development Program in Terms of Note-taking Skills

Note-taking Skills	Non-Teaching staff	Faculty	Students	Total
Quoting	2.69	2.34	2.40	2.48
Citing	<b>2.75</b>	2.40	2.57	2.57
Paraphrasing	<b>2.75</b>	2.52	2.57	2.61
Summarizing	<b>2.75</b>	2.51	2.52	2.59
Synthesizing	<b>2.75</b>	<b>2.53</b>	<b>2.59</b>	<b>2.62</b>
Average	2.74	2.46	2.53	2.58

The area note-taking has five different skills. For the non-teaching staff, they weighed citing, paraphrasing, summarizing and synthesizing as equally needed with the weighted mean of 2.75. On the other hand, both faculty and students perceived that the most needed skill is synthesizing having 2.53 and 2.59. With the weighted of 2.62, generally, the most needed note-taking skill is synthesizing while the least needed one is quoting with 2.48 weighted mean.

Table 18: Perception of the Respondents on the Different Areas of Research Development Program in Terms of Writing Skills

Writing Skills	Non-Teaching staff	Faculty	Students	Total
Abstract	2.69	2.45	2.60	2.58
Introduction	2.75	2.47	2.61	2.61
Statement of the problem	2.75	<b>2.71</b>	2.69	<b>2.72</b>
Related literature and studies	2.75	2.62	2.61	2.66
Methods	2.75	2.70	2.54	2.66
Marketing aspect	2.38	2.35	2.44	2.39
Management aspect	2.44	2.43	2.43	2.43
Technical aspect	2.44	2.60	2.50	2.51
Financial aspect	2.31	2.48	2.45	2.41
Socio-economic aspect	2.56	2.40	2.48	2.48
Questionnaire	2.75	2.64	2.56	2.65
Results	2.81	2.55	<b>2.73</b>	2.70
Discussion	2.81	2.49	2.63	2.64
Conclusion	<b>2.88</b>	2.49	2.71	2.69
Recommendation	2.81	2.47	2.54	2.61
References	2.81	2.44	2.59	2.61
Appendices	2.56	2.31	2.33	2.40
Acknowledgement	2.44	2.25	2.47	2.39
Average	2.65	2.49	2.55	2.56

Writing skills is the area with the most number of skills within it. Based on the results, non-teaching staff perceived conclusion as the most needed skill for the said area with the weighted mean of 2.88. The faculty weighed the statement of the problem as the



most needed having 2.71 as its weighted mean. For students, the most needed skill is results with the weighted mean of 2.73. In general, the most needed writing skill is statement of the problem with 2.72 weighted mean. On the other hand, the least needed writing skills are marketing aspects and acknowledgement.

Table 19: Perception of the Respondents on the Different Areas of Research Development Program in Terms of Editing Skills

Editing Skills	Non-Teaching staff	Faculty	Students	Total
Checking word clarity and accuracy	<b>2.88</b>	2.58	2.75	2.74
Writing terms an spelling with consistency	2.81	2.55	2.68	2.68
Checking grammar and punctuation	2.69	2.58	2.72	2.66
Connecting words to achieve syntax	2.69	2.52	2.54	2.58
Using transition words and phrases	2.63	2.52	2.54	2.56
Evaluating recency, authority, and relevance	<b>2.88</b>	2.61	2.66	2.72
Following school's format	2.63	2.57	2.59	2.60
Avoiding plagiarism	2.75	<b>2.71</b>	<b>2.78</b>	<b>2.75</b>
Average	2.75	2.58	2.66	2.66

Editing skill is ranked 1 by the respondents as the most needed area for the research development program. This area has eight skills wherein the non-teaching staff weighed checking word clarity and accuracy and evaluating recency, authority, and relevance as the most needed skills with a weighted mean of 2.88. On the other hand, the faculty and students perceived that the most needed skill is avoiding plagiarism with a weighted mean of 2.71 and 2.78. Overall, the most needed editing skill is avoiding plagiarism having 2.75 as its weighted mean while the least needed editing skill is using transition words and phrases.

Table 20: Perception of the Respondents on the Different Areas of Research Development Program in Terms of Presentation and Publication Process

Presentation and Publication Process	Non-Teaching staff	Faculty	Students	Total
Preparing a paper for oral presentation	2.81	<b>2.71</b>	<b>2.68</b>	2.73
Preparing a paper poster presentation	2.75	2.56	2.47	2.59
Presenting a paper orally	2.75	2.61	2.57	2.64
Presenting a poster paper	2.75	2.44	2.36	2.52
Participating in national and international conferences	2.81	2.64	2.44	2.63
Sending manuscript for publication	2.69	2.61	2.55	2.62
Production process	2.81	2.62	2.57	2.67
Application for patent	<b>2.94</b>	2.66	2.66	<b>2.75</b>
Average	2.54	2.61	2.54	2.56

The last area for the research development program is the presentation and publication process. The non-teaching staff perceived that the most needed skill for the said area is the application for patent with the weighted mean of 2.94. Both faculty and students identified preparing a paper for oral defense is the most needed skill with 2.71 and 2.68 weighted means. Generally, the most needed presentation and publication process skill is the application for patent with 2.75 weighted mean while the least needed skill for this area is presenting a poster paper.

## 4. DISCUSSION

### 4.1. Conclusions

Based on the findings, the following were concluded:

1. As perceived by the respondents, the most needed area on the research development program is the editing skill followed by presentation and publication process skill. On the other hand, the least needed area on the research development program is the writing skill.
2. For the first area, pre-writing skills, the most needed skill is choosing a topic while the least needed skill in the said area is analyzing the intended audience. The second area is the library skills wherein the most needed skill is assessing sources while the least needed skill is using the school's library sources. Third is the note-taking skill. The most needed note-taking skill is synthesizing while the least is quoting.

When ranked, the least needed area is the writing skills wherein the most needed skill under this area is the statement of the problem. On the other hand, the least writing skills needed are the marketing aspect and acknowledgement. Based on the ranking, the most needed area is the editing skill wherein the most needed skill is avoiding plagiarism while the least needed editing skill is using transition words and phrases.

The last area for the research development program is the presentation and



publication process. For this area, the most needed skill is the application for patent while the least needed skill is presenting a poster paper.

#### 4.2. Recommendations

Based on the conclusions drawn, the following were recommended for the continuous quality improvement efforts of the Research Development Program for the non-teaching staff, faculty and students:

##### To the Non-teaching Staff

1. The non-teaching staff of PATTS College of Aeronautic should gain more interest in research writing. They should understand the importance of choosing a topic and analyzing the intended audience for research that could help in the improvement of their office and the institution.

##### To the Faculty

2. Instructors particularly those who teach subjects with research should guide their students when conducting institutional researches and thesis. Lectures should focus more on pre-writing and editing skills specifically on avoiding plagiarism and using transition words and phrases.
3. Faculty members who teach research subjects should also make use of different applications that could help in improving the writing process of research papers such as Mendeley for referencing and SPSS (Statistical Package for the Social Sciences) for the computation part.

##### To the Students

4. Students of PATTS College of Aeronautics should be motivated to be interested in research writing. They should enhance their curiosity for them to make use of the library and assess different sources. They should focus more on their note-taking skills particularly on synthesizing and quoting and

on their presentation skills focusing on poster papers.

##### To the Research Department

5. The research department should coordinate with different offices and departments of the institution regarding the needs of non-teaching staff, faculty and students on research development program such as statement of the problem, marketing aspect and acknowledgement under the writing skills area.
6. The research department should assist in choosing and training non-teaching staff, faculty and students to present in different colloquia and research competitions.

##### To the Administration

7. PATTS College of Aeronautics Management should send their non-teaching staff and faculty to seminars focusing on the different research skills particularly on presentation and publication process such a application for patent and presenting a poster paper.
8. Faculty development programs which are focused on skills needed should be designed and implemented according to respective areas of specialization regardless of age, sex, educational attainment, employment status, academic experience, and income.
9. More trainings and faculty development programs should be developed for the PATTS faculty.
10. PATTS Management should acquire a program such as Turnitin and Unicheck to assist and help students in avoiding plagiarism when writing their research papers.

##### To the Future Researchers

11. Future researchers may use this institutional research as guide for a deeper understanding of this topic. They may use significant difference and correlation to understand better the importance of research writing skills for non-teaching staff, faculty and students.

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## ANNEX A

Unicheck Plagiarism check



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**Marian Anne Del Rosario**

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Report date:  
**13.11.2019 07:09:01 GMT+0**

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File name: **RNA IMRAD FINAL**

File ID: **18519242** Page count: **21** Word count: **7086** Character count: **48695** File size: **1.14 MB**

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Page 23

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**ANNEX B****Recommended Continuous Quality Improvement Efforts of the Research Development Program Matrix**

<b>Research Development Program Areas</b>	<b>Most Needed</b>	<b>Least Needed</b>	<b>Recommended Continuous quality improvement efforts of the Research Development Program for the non-teaching staff, faculty and students</b>
<b>Pre-writing Skills</b>	Choosing a topic	Analyzing the intended audience	The non-teaching staff of PATTS College of Aeronautic should gain more interest in research writing. They should understand the importance of choosing a topic and analyzing the intended audience for research that could help in the improvement of their office and the institution.
<b>Library Skills</b>	Assessing sources	Using the school's library sources	Students of PATTS College of Aeronautics should be motivated to be interested in research writing. They should enhance their curiosity for them to make use of the library and assess different sources.
<b>Note-taking Skills</b>	Synthesizing	Quoting	Students should focus more on their note-taking skills particularly on synthesizing and quoting and on their presentation skills focusing on poster papers.
<b>Writing Skills</b>	Statement of the problem	Marketing aspect and acknowledgement	The research department should coordinate with difference offices and departments of the institution regarding the needs of non-teaching staff, faculty and students on research development program such as statement of the problem, marketing aspect and acknowledgement under the writing skills area. Faculty members who teach research subjects should also make use of different applications that could help in improving the writing process of research papers such as Mendeley for referencing and SPSS (Statistical Package for the Social Sciences) for the computation part.
<b>Editing Skills</b>	Avoiding plagiarism	Using transition words and phrases	Instructors particularly those who teach subjects with research should guide their students when conducting institutional researches and thesis. Lectures should focus more on pre-writing and editing skills specifically on avoiding plagiarism and using transition words and phrases. PATTS Management should acquire a program such as Turnitin and Unicheck to assist and help students in avoiding plagiarism when writing their research papers.
<b>Presentation and Publication Process</b>	Application for patent	Presenting a poster paper	The research department should assist in choosing and training non-teaching staff, faculty and students to present in different colloquia and research competitions. PATTS College of Aeronautics Management should send their non-teaching staff and faculty to seminars focusing on the different research skills particularly on presentation and publication process such as application for patent and presenting a poster paper.

**ANNEX C**

**Sample Research Involvements of Non-teaching Staff**

Philippine Research Conference on  
Tourism and Hospitality Eastwood  
Richmond Hotel, Quezon City  
October 26-28, 2017  
Ms. Maria Criselda I. Desolo  
Non-teaching Staff Presenter



**Sample Research Involvements of Faculty**

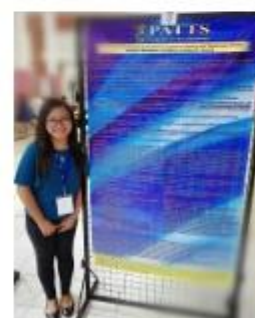


Research Congress of the Philippine  
Association for Graduate Education (PAGE-NCR)  
Emilio Aguinaldo College, Manila  
August 27, 2017  
Engr. Jhonatan D. Elera  
Faculty Presenter

2nd Annual Consortium of the South  
Research Festival  
Olivarez College  
March 3, 2017  
Mr. Angelo Joseph Bautista  
Faculty Presenter



26th Annual Conference of the Philippine Society for Educational Research and  
Evaluation  
Centro Escolar University  
May 16-17, 2018  
Engr. Sheldon M. Cuenca  
Faculty Presenter  
Ms. Meredith Remchie D. Oliveros  
Faculty Presenter





26th Annual Conference of the Philippine Society for Educational Research and Evaluation  
Centro Escolar University  
May 16-17, 2018  
Mr. Brian Ben C. Coronel  
Faculty Presenter



**Sample Research Involvements of Students**



4th Annual Tourism and Hospitality Student Research Conference  
Far Eastern University, Manila  
February 23, 2018  
Patricia Guerra and Crispin Neron  
BS TM Student Presenters

1st National Multidisciplinary Research Conference  
Olivarez College  
March 2, 2018  
Justin Cesar Crusem  
Brianna Pama  
Alberto Garces Luis  
Felisa Maria A. Godoy  
SHS Student Presenters



2nd Annual Consortium of the South Research Festival  
Olivarez College  
March 3, 2017  
Victoria Lapuz  
BS TM Student Presenter





2nd Annual Consortium of the South  
Research Festival  
Olivarez College  
March 3, 2017  
Zachary Buizon  
BS AVTECH Student Presenter



Philippine Research Conference on  
Tourism and Hospitality  
Eastwood Richmond Hotel  
October 26-28, 2017  
Daracel Winona Rivera  
BS TM Student Presenter

Philippine Research Conference on Tourism and Hospitality 2018  
Holiday Inn Hotel, Baguio City  
November 7-9, 2018  
Mary Ann Verona  
BS TM Student Presenter



PATTS Research Department and  
PATTS SHS Student Council Research Seminar  
with Dr. Edward Jay M. Quinto, Mapua University January 26, 2019

