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Research Article

Exploring Research Capacity and Capacity Building Needs Among Faculty Members and Personnel of AIMS: Inputs for Effective Research Training Plan for AIMS

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ABSTRACT

This study focused on assessing the research capacity and capacity-building needs of faculty members and personnel at the Asian Institute of Maritime Studies (AIMS) to enhance the institution's research culture. The study revealed that AIMS has lagged in terms of research production. To overcome this challenge, the Center for Research and Institutional Development (CRID) at AIMS has developed research programs and training to cultivate a research-oriented environment.

Using a descriptive correlational design, the study involved 167 faculty members and personnel. Three domains were assessed: individual, team, and organization. A questionnaire comprising three parts was utilized for data collection. The first part aimed to gather respondents' profiles, while the second part contained statements pertaining to research capacity assessment in the three domains. The third part addressed research capacity-building needs and the available resources at AIMS. The results indicated that respondents possessed a basic understanding and capabilities in research, as reflected in their average weighted mean scores. They also identified research funding, facilities and infrastructures, research training, and support for presentation and publication as vital components for successful research endeavors.

Furthermore, the study established a strong relationship between research capacity assessment and the need for funding, facilities/infrastructure, training, and presentation/publication support. Higher research capacity assessment scores correlated with greater capacity-building needs across the three domains. Consequently, the study recommended that the CRID office should assess the research-level capabilities of faculty members and personnel and provide targeted research training to address their specific needs.

Keywords: *Asian Institute of Maritime Studies, Center for Research and Institutional Development, Research Capacity Building, Research Culture, University Research Capacity*

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Introduction

As mandated by CHED, any Maritime Higher Educational Institution like the Asian Institute of Maritime Studies (AIMS) must venture through continuous innovation and development through research to keep stakeholders satisfied with the quality of education and programs has to offer. In a study by Alimen et al., (2014) that was published in the Journal of Institute Research South East Asia, the John B. Lacson Foundation Maritime University (JBLFMU) was highlighted as a top maritime higher education institution to highlight various research practices, accomplishments, developments, and collaborations of the Higher Education Institution with other research organizations in Asia as a pathway to global excellence in maritime education. These results gave the number of significant studies produced a total of 133 in the three years from 2008-2011. Likewise, AIMS has a share of highlighted institutional research outputs from its almost three decades of service as a maritime institute. A total of fifteen (15) institutional research studies have been presented in a colloquium from 2018 to 2023. This comparison gave a gargantuan difference in the number of research outputs. This clearly shows the manifestations that AIMS has been lagging in terms of research production.

Therefore, the Asian Institute of Maritime Studies (AIMS) as a Maritime Higher Education Institution (MHEI) must strive for organizational innovation. As universities and HEIs worldwide strive to become world-class institutions, driven by the growth of a globalized information economy (Marginson, 2014), they serve as information hubs for accessing advanced global knowledge networks. However, many of these universities lack the institutional capacity to build research capabilities. They may lack essential resources such as skilled personnel, funding, infrastructure, and supportive policy environments (Nguyen, 2013b). According to a study by Nguyen et al. (2016), research-intensive universities enhance research capacity through strategies such as recruiting the right personnel, providing staff training, and implementing reward systems. However, the scholarly understanding of research capability is still developing, leading to significant uncertainties in this area.

These challenges are faced by the Center for Research and Institutional Development (CRID) at AIMS. CRID has formulated research policies, programs, and training to cultivate a research culture among AIMS stakeholders and overcome barriers to research production. However, not all faculty members are prepared, and resistance is evident. Wa-Mbaleka (2015) identifies limited time, lack of publication training, fear of rejection, lack of interest, faculty laziness, limited funds, and lack of institutional support as the seven most challenging factors preventing faculty members from publishing or publishing enough.

Despite resistance from faculty members and personnel, the Commission on Higher Education (CHED) in the Philippines continues to pressure HEIs to produce research outputs. CHED's support for research is exemplified in Memorandum Order No. 46 Series of 2012, Article V, which emphasizes the role of universities in nation-building through specialized education and the creation of new knowledge and skills through research and development. Additionally, the CHED 2019 Guidelines for Granting Autonomous Status to Private Higher Education Institutions require faculty members to engage in research or creative work, with a specified percentage having patents or publications in refereed journals, including internationally indexed journals and reputable academic presses.

Hence, this study shall assess the research capacity of AIMS faculty and personnel in embracing the culture of research. Likewise, results can be utilized in enhancing CRID's capacity-building policy and programs in doing institutional research.

This study shall assess the research capacity of faculty members and personnel and explore the capacity-building needs to promote research culture in AIMS. Specifically, the study will seek answers to the following questions:

1. What is the profile of the respondents in terms of:
   1.1 Course
   1.2 Highest Educational Attainment
   1.3 Honors/Awards

1.4 Research Produced
1.5 Position
1.6 Department/Program

2. How do the respondents assess their research capacity in terms of the three domains:
   2.1 Individual domain
   2.2 Team Domain
   2.3 Organizational Domain
3. What is the level of importance of the following research capacity-building needs of the respondents clustered under the following research resources:
   3.1 Funding;
   3.2 Facility and Infrastructure;
   3.3 Training;
   3.4 Presentation and Publication Support?
4. Is there a significant relationship between the following paired variables:
   4.1 Between course and research capacity assessment;
   4.2 Between highest educational attainment and research capacity;
   4.3 Between number of research produced and research capacity assessment;
   4.4 Between research capacity building needs and research capacity assessment?
5. What inputs can be recommended to contribute to the development of a research-training plan for AIMS?

Hypotheses. At 0.05 level of significance, the following hypotheses were tested:

Ho_1. There is no significant relationship between the following paired variables:

1.1 Between course and research capacity assessment;
1.2 Between highest educational attainment and research capacity assessment;
1.3 Between number of research produced and research capacity assessment;
1.4 Between research capacity-building needs and research capacity assessment.

Significance of Study. This study may guide AIMS management to explore the research capacity across the department whether administrative or academic to develop effective policy and training plans for the Center for Research and Institutional Development (CRID). This will further robust organizational innovation and development.

This study is limited to faculty members and administrative personnel of AIMS. The questionnaires were sent through Google Forms to 167 employees taken from 288 total employees as respondents for this school year, 2022-2023. The duration of this study covers the second to the third trimester of the current Academic Year 2022-2023.

Conceptual Framework. The researchers adopt the Independent, Main Phenomenon, Outcome (IMPO) Model. This model provides the general structure and guide for the assessment of the research capacity of AIMS faculty and personnel in doing institutional research. The conceptual model, as shown in Figure 1 shows the profiles of respondents and the three domains relative to research capacity assessment and research capacity building needs as independent variables. The main phenomenon includes the research capacity assessment and research capacity needs to develop using the distribution of the survey instrument to the respondents, collating and presenting data, interpretation based on the result, looking at the significant relationships, and lastly the analysis and interpretation. The analysis would correlate the relationship between these two variables to strengthen the 3 identified domains needed to improve the research capacity building needs of respondents. The outcome of the study is proposed enhancements of CRID policy, programs, training, and development at AIMS. Thus, the whole study can be summarized in the following research paradigm.

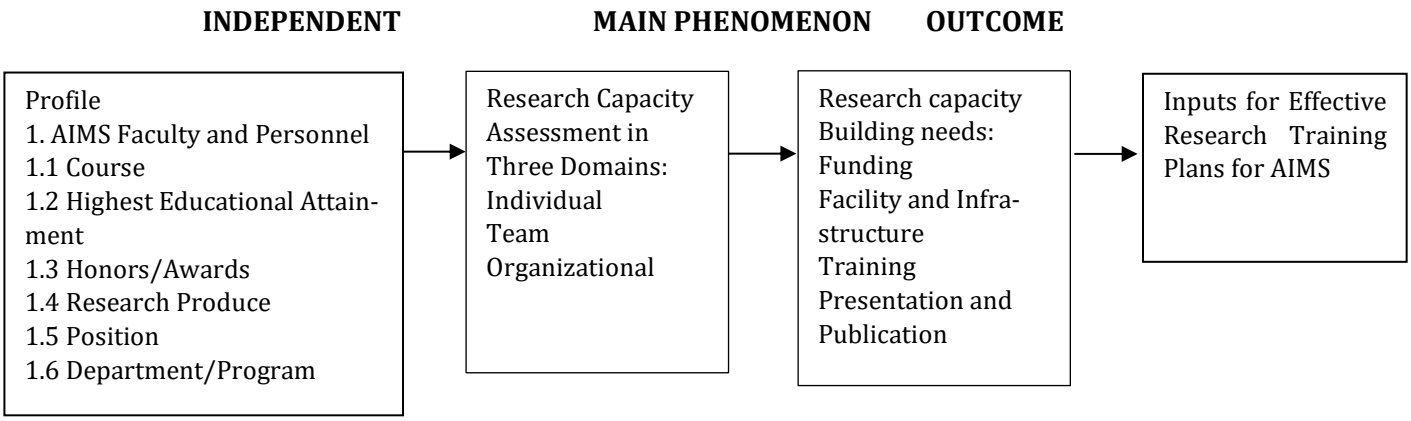

Figure 1: Research Paradigm

Methodology

Research Design. The descriptive correlation was used in this study. Descriptive correlational design was used in research studies that aim to provide static pictures of situations as well as establish the relationship between different variables (McBurney & White, 2009). This descriptive-correlational study generally aimed to determine if research capacity assessment and research capacity building provided through the CRID office have helped the faculty members and personnel of AIMS. Further, it would determine the level of agreement of research capacity assessment of respondents in three domains as stated: individual, group/team, and organizational domain. The respondents of this study will be 167 faculty members and personnel of AIMS as employees. The researchers have adopted the questionnaires from the "Research Capacity and Culture (RCC) tool". Mean and standard deviation were employed for the descriptive mean analysis of the study. The researchers used inferential statistical tools like and Pearson's Product-moment Correlation Coefficient (Pearson's r), and Chi-Square, all set at a .05 alpha level of significance.

The Research Instrument. The researchers developed a questionnaire by adapting the Research Capacity and Culture (RCC) tool used in the study titled "An Evaluation of Research Capacity and Culture in a Sample of Western Australian Allied Health Professionals" by Matus et al. (2021). The tool consists of statements that will examine the level of agreement of respondents in the areas related to research capacity or culture across three domains namely: individual, professional/team, and organization. The questionnaire, after validation from the CRID office, was sent to prospective respondents through AIMS Family via Google Forms. The questionnaires consisted of statements that correspond to individual, group/team; and organization domain skills based on RCC tools.

The questionnaire consisted of statements related to research capacity across three domains: the organization, the team or professional group; and the individual. The respondents have given instructions to indicate their level of agreement with the statements in the three domains. Furthermore, respondents were asked to check the column representing their choice.

To signify the level of agreement, using closed-ended items was rated using a 5-point Likert scale (SpringerLink, 2010) to wit: 5 = Strongly Agree (SA); 4 = Agree (A); 3 = Neutral (N); 2 = Disagree (DA); and, 1 = Strongly Disagree (SDA). None of the items were reverse-scored. The higher the scores, the more strongly the respondents agree with the statements.

Likewise, to signify the level of importance, close-ended items were rated using a 5-point Likert scale to wit: 5 = Very Important (VI); 4 = Important (I); 3 = Moderately Important (MI); 2 = Slightly Important (SI); and, 1 = Not Important (NI).

Results and Discussions

1. Demographic Profiles of Respondents

Table 1. Frequency Distribution of AIMS Faculty Members and Personnel According to Their Course

Course	Frequency	Percent
High School	5	2.98%
Social Science Courses	89	52.98%
Science, Engineering, and Technology Courses	49	29.17%
Maritime Courses	25	14.88%

Table 1 shows the frequency of distribution of AIMS employees according to their courses taken before and during employment institution with Social Sciences courses as the majority (52.98%) while Science, Engineering and Technology, and Maritime courses got 21.17% and 14.88% respectively. There are also personnel who finished their secondary education (2.98%) as reflected. It is noticeable that most of the respondents are in the fields of social sciences, engineering, science, and technology. It is a known act that these courses are accompanied by basic research to tedious applied and experimental research.

Table 2. Frequency Distribution of AIMS Faculty Members and Personnel According to Their Highest Educational Attainment

Highest Educational Attainment	Frequency	Percent
Undergrad	9	5.36%
Bachelors	111	66.07%
MA units	11	6.55%
MA	33	19.64%
Doctoral units	2	1.19%
Doctoral	2	1.19%

Table 2 shows the frequency distribution of AIMS faculty members and personnel according to their educational attainment. The majority of respondents finished a Bachelor's Degree (66.07%), with Masteral degree (19.64%), and with Masteral Units undertaken (6.55%). As a Maritime Higher Educational Institution (MHIE) only 1.19% got their Doctoral degrees and 1.19% have Doctoral units taken. It can be noted that less than 10% of respondents have finished their Master's and Doctorate degrees which are the basic requirement to teach in a Higher Education Institution. Moreover, less than 20% of respondents are pursuing their master's studies and less than 2% are in their doctorate pursuit. Therefore, it can be inferred that most of the respondents have experienced writing research during their college, master's, and doctorate degrees.

Table 3. Frequency Distribution of AIMS Faculty Members and Personnel According to Their Honors/Awards Received

Honors Received	Frequency	Percent
Academics/Research-related	25	14.88%
Non-academics, leadership, loyalty	11	6.55%
None	132	78.57%

Table 3 presents the frequency distribution of AIMS employees according to their Honors/Awards received before and during their employment in AIMS whereas most of the respondents answered they have not received any awards and recognition (78.57%), Academic/ Research-related awards (14.88%) and

non-academics awards (6.55%). This can be attributed that less than 15% of respondents have undergone rigorous research training and are academically recognized in their studies.

Table 4. Frequency Distribution of AIMS Faculty Members and Personnel According to The Number of Research They Produced

Number of Research Produced	Frequency	Percent
None	93	55.36%
1	43	25.60%
2	13	7.74%
3 or more	19	11.31%

Table 4 presents the frequency distribution of AIMS employees according to their total number of research produced before joining the institution and during their employment. Most of the respondents (53.26%) have not done any research, while one (1) research was produced (25.60%), and two (2) research was produced (7.74%). Respondents with more than 3 or more (11.31%). This can be noted that more than half of the respondents are new to research and need guidance and assistance.

Table 5. Frequency Distribution of AIMS Faculty Members and Personnel According to Their Position

Position	Frequency	Percent
Job Level 1	10	5.95%
Job Level 2	44	26.19%
Job Level 3	73	43.45%
Job Level 4	29	17.26%
Job Level 5	12	7.14%

Table 5 presents the frequency distribution of AIMS faculty members and personnel based on their position at AIMS. The majority of the respondents are from Job Level 3 positions (43.45%) which are composed of associates, technically skilled personnel, and faculty members, while Job Level 4 positions like Heads and Program Chair (17.26%), and Job Level 5 positions consist of Directors and Deans (7.14%). Job Level 2 positions like secretaries and administrative staff (26.19%) and Job Level 1 positions like housekeeping personnel and technicians (5.95%) are both positions that are not mandatory required to join research activities at AIMS. The rest of the administrative positions are encouraged to join and participate. Full-time faculty members are mandatory to produce (1) institutional research in an academic year based on CRID-QSP 4.4.2 of Execution of Institutional Research Process.

Table 6. Frequency Distribution of AIMS Faculty Members and Personnel According to Their Department/Program

Department	Frequency	Percent
Academics	56	33.33%
Administrative	85	50.60%
Academics Support	27	16.07%

Table 6 shows the frequency distribution of AIMS faculty members and personnel according to their department or program. More than half of the respondents are from administrative departments and offices (50.60%), while academics and academic support offices and centers are 33.33% and 16.07% respectively. However, results reflected a huge difference in

the participation percentage from the academic department in comparison to the administrative department considering the full implementation of face-to-face classes.

2. Research Capacity Assessment of AIMS Faculty Members and Personnel Based on Three Domains: Individual, Team, and Organization

Table 7. Mean Distribution of Research Capacity Assessment of AIMS' Faculty Members and Personnel Based in Individual Domain

Individual Domain Research Capacity Assessment	Mean (N=168)	Interpretation
I can find relevant literature for the study	3.88	Agree
I can critically review the literature that I have found	3.74	Agree
I can use a computer referencing system (e.g. Endnote)	3.80	Agree
I can write a research protocol	3.59	Agree
I can secure research funding	3.35	Neutral
I can write an ethics application	3.53	Agree
I can design questionnaires	3.69	Agree
I can gather and collect data (e.g. surveys, interviews)	3.87	Agree
I can use computer data management systems	3.74	Agree
I can analyze qualitative research data	3.65	Agree
I can write a research report	3.65	Agree
I can write for publication in peer-reviewed journals	3.48	Agree
I can integrate research findings into practice	3.60	Agree
I can provide advice to less experienced researchers	3.56	Agree
Average Weighted Mean	**3.65**	**Agree**

Legend: 1.00-1.80 (Strongly Disagree); 1.81-2.60 (Disagree); 2.61-3.40 (Neutral); 3.41-4.20 (Agree); 4.21-5.00 (Strongly Agree)

Table 7 shows the mean distribution of the research capacity assessment of AIMS employees based on individual domains with an average weighted mean of 3.65. Most of the respondents agreed with all the statements except for the statement that they can secure research funds (M=3.35) which respondents answered with neutrality. They self-assessed their research capacity based on the statements and results show that in the individual domains, respondents agree that they can do better in retrieving related literature of the study (M=3.88); they can collect and gather data (M=3.87); they can do proper referencing as required by the study (M=3.80); and they can understand computer data management and correlate the literature found to the study (M=3.74).

However, they agree that they need improvement in these areas like mentoring new researchers (M=3.56), analyzing qualitative data (M=3.65), and writing research reports (M=3.65). Moreover, they agree on the need for enrichment in writing research protocol (M=3.59), ethics application (M=3.53), and peer-reviewed journal publication. Furthermore, they agree with the need for enhancement of their knowledge in designing questionnaires (M=3.69) and integrating and utilizing findings (M=3.60).

By analyzing the data, it can be inferred that respondents based on their research capacity assessment have the basic understanding and capabilities to do research. They can write, review, gather data, analyze, and use sophisticated technology in producing quality research except for securing funds which they neither have an understanding of where and whom they can secure grants. This result is supported by Tarrayo et al. (2020) who explored the research practices of English language faculty members in the Philippines are constrained by

factors like heavy workload, lack of funding and financial support, a challenge in comprehending published research, and difficulty in utilizing research findings despite their positive and interest in doing it.

Table 8. Mean Distribution of Research Capacity Assessment AIMS Faculty Members and Personnel Based in Team Domain

Team Domain Research Capacity Assessment Statements	Mean (N=168)	Interpretation
Has resources to support staff research training.	3.64	Agree
Has funds, equipment, or administration to support research.	3.54	Agree
Does team-level planning for research development.	3.69	Agree
Ensures staff involvement in developing team plans.	3.77	Agree
Has team leaders that support research.	3.80	Agree
Provides opportunities to get involved in research.	3.82	Agree
Has applied for external funding for research.	3.42	Agree
Conducts research activities relevant to practice.	3.76	Agree
Supports applications for research scholarships and degrees.	3.68	Agree
Has mechanisms to monitor research quality.	3.65	Agree
Has identified experts accessible for research advice.	3.71	Agree
Disseminate research results at meetings.	3.65	Agree
Supports a multidisciplinary research approach.	3.73	Agree
Has incentives and support for research mentoring.	3.61	Agree
Have external partners (e.g. universities) engaged in research.	3.55	Agree
Supports peer-reviewed publication of research.	3.63	Agree
Has software available to support research activities.	3.60	Agree
Average Weighted Mean	**3.66**	**Agree**

Legend: 1.00-1.80 (Strongly Disagree); 1.81-2.60 (Disagree); 2.61-3.40 (Neutral); 3.41-4.20 (Agree); 4.21-5.00 (Strongly Agree)

Table 8 presents the mean distribution of the research capacity assessment of AIMS employees about the Team or Professional group domain with an average weighted mean of 3.66. They mostly agree with statements that successful research outputs in a given team which in AIMS represents Departments, Offices, Centers, and Schools Programs the need for research support for funds and equipment (M=3.54), secure external funds (M=3.42) and intensify collaborative research engagements with other academe and industry partners (M=3.55).

The respondents also agree that the department they belong to has resources to support research training (M=3.64), has the necessary software to support research activities (M=3.60), and supports research scholarship and pursuit of advanced education (M=3.68). Likewise, they agree with the need for a team leader (M=3.80) who continuously monitors research qualities (M=3.65), and is readily available for research advising (M=3.71). They also agree with the mechanism of incentives that supports research mentoring (M=3.61) in administrative and academic departments. Furthermore, they agree that the department with the involvement of staff can provide opportunities (M=3.82) that allow research climate through team-level planning (M=3.69), research activities (M=3.77), and practices (M=3.76).

The respondents find that dissemination of research results through the utilization of findings (M=3.65) is the key to fostering innovation in a department and program. Likewise, they agree to support a multidisciplinary research approach (M=3.73) that involves social sciences and applied scientific endeavors and publication in a reputable peer-reviewed organization (M=3.63). Niemczyk, (2020) sup-

ported this claim that the most important players in bringing academic research to society are those researchers who also develop new information and innovation. As a result, researchers face the same expectations, including the need to obtain financing, participate in worldwide and multidisciplinary research collaborations, and provide usable results.

Table 9. Mean Distribution of Research Capacity Assessment AIMS Faculty Members and Personnel Based in Organizational Domain

Organization Domain Research Capacity Assessment Statements	Mean (N=168)	Interpretation
Resources to support staff research training.	3.76	Agree
Has funds, equipment, etc., to support research.	3.66	Agree
Has a plan or policy for research development.	3.77	Agree
Executive Managers support research.	3.79	Agree
Staff career pathways in research are available.	3.71	Agree
Organizational planning is guided by evidence.	3.80	Agree
Encourages research relevant to practice.	3.80	Agree
Has software for analyzing data.	3.68	Agree
Monitors research quality.	3.78	Agree
Arrange experts to give research advice.	3.71	Agree
Multidisciplinary approaches supported.	3.71	Agree
Engages external partners in research.	3.70	Agree
Supports applications for research training.	3.76	Agree
Supports peer-reviewed publication.	3.72	Agree
Average Weighted Mean	**3.74**	**Agree**

Legend: 1.00-1.80 (Strongly Disagree); 1.81-2.60 (Disagree); 2.61-3.40 (Neutral); 3.41-4.20 (Agree); 4.21-5.00 (Strongly Agree)

Table 9 presents the mean distribution of the research capacity assessment of AIMS employees based on Organizational Domains as reflected average weighted mean of 3.74 with a verbal interpretation of Agree. It can be noticed that support for funds got the lowest mean from the three domains: individual, team, and organizational (M=3.66). Also, the respondents agree with the pressing need for software in analyzing data (M=3.68), an organization that can monitor the research quality (M=3.78) through research advice from experts (M=3.71), and application of research training (M=3.76). Kyvik & Aksnes (2015) stressed that in research institutions or universities, research expansion entailed adding more faculty to existing units, offering to mentor, and the required infrastructure to boost individual achievement.

They all agree that training is important in cultivating research culture in an organization or institution. These involve research training of staff (M=3.76) and career uptake (M=3.71) that encourages research practices (M=3.80) from a multidisciplinary approach and fields of knowledge and sciences (M=3.71). However, a study by Huenneke et al (2017) stressed that faculty members and personnel retention is important in long-term plans for university research capability status. Employees' departures after the training and seminars for career research advancement could affect the organizational goal.

Executive Managers' support (M=3.79) and refining research policy and development are important (M=3.77) through organizational planning guided by evidence (M=3.8). As stated in the study of Fredua-Kwarteng, (2021) emphasized that institutional leaders should create opportunities for stakeholders to participate in key research decisions and encourage open communication in matters such as establishing clear research goals and expectations; and how those goals and expectations could be achieved given the number of available resources – funding, expertise, and infrastructure.

According to Birx et al (2013) strategized organizational planning through research in cluster areas has demonstrated advantages for emerging research universities. Data shows that institutional engagement with external partnerships is viable for organizational research capacity assessment (M=3.70). The same study by Huenneke et al (2017) as cited in Kornreich (1973) stated that establishing partnerships or collaborations is a method that is regularly used to encourage institutions to forge knowledge and resources exchange. However, Thompson et al (2013) detailed the challenges posed by differences in institutional cultures and described strategies for surmounting differences.

Moreover, the respondents agree that the organization supports the publication of institutional research in a peer-reviewed organization (M=3.72).

3. Level of Importance of Research Capacity Building Needs of AIMS Faculty Members and Personnel Based on the Present Research Resources: Funding, Facility/Infrastructure, Training, and Presentation/Publications

Table 10. Mean Distribution of AIMS' Funding Provision for Faculty Members' and Personnel's Research Capacity Needs

Research Funding	Mean (N=168)	Interpretation
Provision of research monetary grant.	4.24	Very Important
Provision of funds for national oral presentation.	4.17	Important
Provision of funds for international oral presentation.	4.23	Very Important
Provision of funds for national journal publication.	4.19	Important
Provision of funds for international journal publication.	4.17	Important
Average Weighted Mean	**4.20**	**Important**

Legend: 1.00-1.80 (Not Important); 1.81-2.60 (Slightly Important); 2.61-3.40 (Moderately Important); 3.41-4.20 (Important); 4.21-5.00 (Very Important)

Table 10 shows the mean distribution of AIMS' research funding provision for employees' research-capacity needs with the average weighted mean of 4.20 as important. The provision of funds for research grants (M=4.24) and international oral presentations (M=4.23) are perceived to be very important in enhancing research capacity. It is deemed important for respondents the provide funds for national oral presentations (M=4.17), national journals (M=4.19), and international journal publications (M=4.23).

The data shows proximity in mean difference with each other. The mean with the verbal interpretation of "important" can be interpreted as "very important" with a 0.1 to 0.3 decimal difference. It is relatable from previous results of research capacity assessment that the statement "need for research funds" is the only provision that got the lowest mean across the three domains: individual, team, and organization. Wa-Mbaleka et al (2017) stated that research is conducted and disseminated in large part with the help of financial resources or funds. Typically, some form of financial support is needed for the gathering of research data and the distribution of finished research through presentations at conferences and paper publications. Accessing these funds is quite challenging for many Higher Education Institutions. Additionally, the study emphasized the importance of funding in the improvement and training of research professors. Regular training in research capability must be funded for professors and all HEI faculty members, especially those who are actively engaged in research. It is a known fact that research monetary fund is one of the motivational factors in producing research.

Table 11. Mean Distribution of AIMS' Research Facility and Infrastructure for Faculty Members' and Personnel's Research Capacity Needs

Research Facility and Infrastructure	Mean (N=168)	Interpretation
Provision of adequate and conducive room for research writing works	4.20	Important
Provision of research writing equipment such as computers, printers, and scanners	4.27	Very Important
Provision of strong and reliable internet connection	4.30	Very Important
Subscription of grammar checker application for use by authors	4.24	Very Important
Subscription of plagiarism checker software for use by authors	4.26	Very Important
Provision of electronic library resources such as thesis, books, etc.	4.29	Very Important
Provision of physical library resources such as thesis, books, etc.	4.26	Very Important
Provision of statistical derivation software (e.g. SPSS).	4.24	Very Important
Provision of other data processing software (e.g. NVivo).	4.20	Important
Average Weighted Mean	**4.25**	**Very Important**

Legend: 1.00-1.80 (Not Important); 1.81-2.60 (Slightly Important); 2.61-3.40 (Moderately Important); 3.41-4.20 (Important); 4.21-5.00 (Very Important)

Table 11 shows the mean distribution of the importance of the research facility and infrastructure in the research capacity needs of AIMS faculty members and personnel with an average weighted mean of 4.25 as interpreted as Very Important. Most of the statements are indicated as Very Important such as research writing equipment (M=4.27), strong and reliable internet services (M=4.30), electronic library resources (M=4.29), physical library (M=4.26), and statistical derivation software (M=4.24). Likewise, the respondents perceived the importance of subscription to grammar checker (M=4.24) and plagiarism checker applications (M=4.26) as Very Important in the research capacity needs. Vogel (2012) emphasized that to increase organizational capacity, it is necessary to give local research organizations and networks of research organizations access to the infrastructure and architectural frameworks that individual researchers can rely on.

The respondents also see the need for a conducive room for research writing (M=4.20) and data processing software (M=4.20) as Important respectively. As Lee et al. (2019) described building capacity involves not only infrastructure and human capital investments but also sustained capacity building that is relevant to the local context and a cultural environment that can support a healthy research community.

Hence, facility and infrastructure are not as physical in nature but also the software application necessary for this digitalized research world. Furthermore, an article published by Spilka (2022) stated that in digitalized research platforms, Artificial Intelligence (AI) is becoming more important in data processing. AI-based algorithms are being utilized to increase research productivity and offer fresh viewpoints on previously studied subjects. They help establish links between various bits of knowledge and evaluate new hypotheses.

Table 12. Mean Distribution of AIMS' Research Training for Faculty Members' and Personnel's Research Capacity Needs

Research Training	Mean (N=168)	Interpretation
Conduct annual research orientation.	4.26	Very Important
Conduct trimestral research orientation.	4.11	Important
Conduct one-on-one mentoring on research writing.	4.20	Important

Research Training	Mean (N=168)	Interpretation
Conduct group mentoring in research writing.	4.21	Very Important
Conduct institutional research writing seminars by internal trainers (e.g. professors, CRID personnel, etc.).	4.23	Very Important
Conduct of institutional research writing seminar by external trainers (e.g. speakers, lecturers, etc.).	4.26	Very Important
Sponsorship/Funding for external research writing training.	4.27	Very Important
Specialized training for the following parts of a research paper (Average):	4.23	Very Important
· Writing introduction	4.23	Very Important
· Writing Statement of the Problems	4.24	Very Important
· Writing of Theoretical/Conceptual Framework	4.25	Very Important
· Conceptualizing and Interpreting Research Paradigm	4.26	Very Important
· Writing of Review and Related Literature	4.26	Very Important
· Writing of Research Design and Instruments	4.26	Very Important
· Writing of Scope and Limitations	4.25	Very Important
· Writing of Significance of Study	4.23	Very Important
· Writing of Data Analysis	4.23	Very Important
· Writing of Results	4.22	Very Important
· Writing of Conclusion	4.21	Very Important
· Writing of Recommendation	4.22	Very Important
· Writing of References	4.22	Very Important
Average Weighted Mean	**4.22**	**Very Important**

Legend: 1.00-1.80 (Not Important); 1.81-2.60 (Slightly Important); 2.61-3.40 (Moderately Important); 3.41-4.20 (Important); 4.21-5.00 (Very Important)

Table 12 shows the mean distribution of the importance of research training in the capacity-building needs of AIMS employees with the average mean distribution of 4.22 as Very Important. The institutional requirement of conducting trimestral research orientation got the lowest mean of 4.11 but the annual research orientation (M=4.26) was very important. The respondents might find trimester research orientation repetitive in nature. However, all respondents believe that each aspect is significant to level up the research capacity needs of faculty members and personnel through training. They find one-on-one mentoring (M=4.20) important but group mentoring even more important (M=4.21). Likewise, they believe that conducting internal research seminars (M=4.23) and institutional research seminars with external resource trainers (M=4.26) is very important. The respondents perceived the importance of external research writing training sponsorship (M=4.27) and specialized training for writing parts of research papers (M=4.23) as very important. Altbach (2014) stressed the importance of the expansion of university-based training programs in higher education on a global scale will result from the realization that academic institutions need skilled researchers. Certain programs might provide academic degrees and necessitate a demanding course of study. Others could include other educational experiences, such as shorter courses or research seminars that could benefit a larger research community.

Table 13. Mean Distribution of AIMS' Research Presentation and Publication for Faculty Members' and Personnel's Research Capacity Needs

Research Presentation and Publication Support	Mean (N=168)	Interpretation
Search for national/international conferences/forums.	4.26	Very Important
Search of national/international research journals.	4.25	Very Important
Preparation and submission of abstract.	4.20	Important
Preparation and submission of full manuscript.	4.25	Very Important
Booking of airline/bus tickets.	4.21	Very Important
Booking of hotel accommodation.	4.18	Important
Assistance in visa application and processing. (For international presentation)	4.23	Very Important
Orientation and coaching before presentation.	4.24	Very Important
Revision of manuscript before final publication.	4.29	Very Important
Average Weighted Mean	**4.23**	**Very Important**

Legend: 1.00-1.80 (Not Important); 1.81-2.60 (Slightly Important); 2.61-3.40 (Moderately Important); 3.41-4.20 (Important); 4.21-5.00 (Very Important)

Table 13 presents the mean distribution of the importance of presentation and publication of AIMS employees with an average weighted mean of 4.23 as Very Important. With the degree of importance stated respondents believe that searching national and international conferences (M=4.26) and journals (M=4.25) is very important for new and esteemed researchers. Likewise, all respondents find the leg works of preparation for national and international presentations like assistance in the submission of a full manuscript (M=4.25), visa application (M=4.23), and booking of transportation (M=4.21) are very important while booking accommodation as important. Additionally, orientation and coaching before the presentation (M=4.24) could boost the confidence of the researcher/s. In the same way, they find the help in submitting the abstract (M=4.20) and revising the manuscript before publication (M=4.29) significantly important in enhancing the research capacity needs of researchers.

4. Correlational Relationship Between the Paired Variables: Research Assessment Versus Course, Highest Educational Attainment, Research Produced, and Research Capacity Building Needs

Table 14. Correlational Relationship of Research Capacity Building Needs of AIMS based on the Three Domains: Individual, Team, and Organization

Variables	Pearson r	p-value	Interpretation
Individual versus. Funding	0.527	0.000	Significant positive
Individual versus Facility	0.472	0.000	Significant positive
Individual versus Training	0.527	0.000	Significant positive
Individual versus Presentation and Publication	0.532	0.000	Significant positive
Team versus Funding	0.523	0.000	Significant positive
Team versus Facility and Infrastructure	0.486	0.000	Significant positive
Team versus Training	0.564	0.000	Significant positive
Team versus Presentation and Publication	0.53	0.000	Significant positive
Organization versus Funding	0.602	0.000	Significant positive
Organizational versus Facility and Infrastructure	0.547	0.000	Significant positive
Organizational vs Training	0.571	0.000	Significant positive
Organizational versus Presentation and Publication	0.551	0.000	Significant positive

Table 14 shows that the research capacity assessment from the individual to the research capacity building needs of facilities (Pearson r, 0.472) is lower than compared to other research capacity building needs for the funds (Pearson r, 0.527), training (Pearson r, 0.527), and presentation/publication (Pearson r, 0.532). Although all capacity building needs respondents are significantly positive to the individual capacity assessment, they are more related to the latter three sub-factors of capacity building needs: funds, training, and presentation/publication. These findings are the same when we correlate the capacity assessment to capacity capacity-building needs of teams and organizations. There is a strong relationship between the research capacity assessment of the team about the needs of funds, facility/infrastructure, training, and presentation and publication. It is the same relationship reflected with the research capacity of assessment versus the research-capacity building needs components. It is therefore directly proportional relationship, the higher the research capacity assessment the higher the capacity building needs across the three domains.

Contrary to the hypothesized relationship that employees' assessment of their research capabilities is inversely proportional to their perceived capacity-building needs, the results revealed that every sub-factor of capacity assessment has a significant positive relationship with each of the assessed needs, as reflected from the p-values of 0.000. These results may imply that the higher the research capacity of the employees, the higher their knowledge and understanding of the capacity-building needs, maybe not for themselves, but for other employees in the organization.

Table 15. Relationship of AIMS Faculty Members and Personnel Course, Highest Educational Attainment and Research Produced with the Research Capacity Assessment in Three Domains: Individual, Team, and Organization

Variables	Chi-square	p-value	Interpretation
Course versus Individual	41.21	0.000	Significant
Course versus Team	14.85	0.095	Not Significant
Course versus Organization	14.45	0.107	Not Significant
Highest Educational Attainment versus Individual*	53.76	0.000	Significant
Highest Educational Attainment versus Team	21.05	0.135	Not Significant
Highest Educational Attainment versus Organization	18.14	0.255	Not Significant
Research Produced versus Individual*	37.62	0.000	Significant
Research Produced versus Team	5.02	0.833	Not Significant
Research Produced versus Organization	10.51	0.311	Not Significant

*Relationship is positive (direct)

Table 15 shows the relationship is significant for a course and individual research competence, with a chi-square value of 41.21, and a p-value of 0.000. The results further show from the distribution of frequencies, that all courses revealed high-capacity assessment, except for high school graduates with low research capacity.

On the other hand, course is not significantly associated with team research capacity (x^2=14.85, p=0.095), and organizational (x^2=14.45, p=0.107).

The results show that the highest educational attainment and individual capacity (x^2=53.76, p-value=0.000), and the number of research produced and individual capacity (x^2=37.62, p-value=0.000) are all significantly related as reflected by the p-values of less than 0.05. Further, the analysis revealed that these relationships are direct, which implies that the higher the level of profile, the higher the assessed research capacity.

Summary and Conclusion

The majority of the respondents are college graduates from the Social Sciences, Science, Engineering and Technology Courses and Maritime Courses. There are few with High School diplomas before joining AIMS. Most of the respondents graduated with Bachelor's and Master's degrees with few undergoing Masteral studies while working, and very minimal Doctorate graduates. It can be noted that less than 10% of respondents have finished their Master's and Doctorate degrees which is one of the basic requirements to teach in a Higher Education Institution. Moreover, less than 20% of respondents are pursuing their master's studies and less than 2% are in their doctorate pursuit. Therefore, it can be inferred that most of the respondents have experienced writing research during their college, master's, and doctorate degrees. However, the honors and awards received by respondents reflect otherwise. The data shows that less than 15% of respondents have undergone rigorous training about research awards received and are academically recognized in their studies. Also, the data shows that more than half of the respondents are new to research and need guidance and assistance about the number of research produced. Moreover, the majority of the respondents are from the Administrative Department holding Job Level 2, Job Level 3, and Job Level 4. The data reflected a huge difference in the participation percentage from the academic department in comparison to the administrative department considering the full implementation of face-to-face classes.

Based on the Individual Domain, the self-assessment of AIMS employees can be inferred that they have the basic understanding and capabilities in doing research. They can write, review, gather data, analyze, and use sophisticated technology in producing quality research except for securing funds which they neither have an understanding of where and whom they can secure grants.

Based on Team Domain, respondents' research capacity assessment mostly agrees with statements that successful research outputs need research support for funds and equipment, secure external funds, and intensified collaborative research engagements with other academe and industry partners. The respondents also agree that the department they belong to has resources to support research training, has the necessary software to support research activities, and supports research scholarship and the pursuit of advanced education. Likewise, they agree with the need for a team leader that continuously monitors research qualities, and is readily available for research advising. They also agree with the mechanism of incentives that supports research mentoring in administrative and academic departments. Furthermore, they agree that the department with the involvement of staff can provide opportunities that allow research climate through team-level planning, research activities, and practices. The respondents find that dissemination of research results through the utilization of findings is the key to fostering innovation in a department and program. Likewise, they agree to support a multidisciplinary research approach that involves social sciences and applied scientific endeavors and publication in a reputable peer-reviewed organization.

Based on the Organizational Domain, the respondents' research capacity assessment agrees on the need for support for funds, software for analyzing data, an organization that can monitor the research quality through research advice from experts, and the application of research training. They all agree that training is important in cultivating research culture in an organization or institution. These involve research training of staff and career uptake that encourages research practices from a multidisciplinary approach and fields of knowledge and sciences. Executive Managers' support and refining research policy and development are important through organizational planning guided by evidence

The provision of funds for research grants and international oral presentations is perceived to be very important in enhancing research capacity. It is deemed important for respondents the provision funds for national oral presentations, national journals, and international journal publications.

Most of the respondents believe that research writing equipment, strong and reliable internet services, electronic library resources, physical library, and statistical derivation

software are very important. Likewise, the respondents perceived the importance of subscription to grammar checker and plagiarism checker applications as very important in the research capacity needs.

All respondents believe in the significance of leveling up the research capacity needs of faculty members and personnel through training. They find one-on-one mentoring important but group mentoring is even more important. Likewise, they believe that conducting internal research seminars and institutional research seminars with external resource trainers is very important. The respondents perceived the importance of external research writing training sponsorship and specialized training for writing parts of research papers as very important.

Respondents believe that searching national and international conferences and journals is very important for new and tenured researchers. They all find the preparation for national and international presentations like assistance in the submission of a full manuscript, visa application, and booking of transportation are very important while booking accommodation is important. In the same way, they find the help in submitting the abstract and revising the manuscript before publication significantly important in enhancing the research capacity needs of researchers.

Furthermore, when we correlate the capacity assessment to the capacity building needs of teams and organizations, the findings show directly proportional. There is a strong relationship between the research capacity assessment of the team about the needs of funds, facility/infrastructure, training, and presentation and publication. It is the same relationship reflected with the research capacity of assessment versus the research capacity-building needs components. Therefore, the higher the research capacity assessment the higher the capacity-building needs across the three domains contrary to the hypothesized relationship that employees' assessment of their research capabilities is inversely proportional to their perceived capacity-building needs.

Data also reveals that all courses have high research capacity assessment. On the other hand, the course is not significantly associated with team research and organizational research capacity-building needs. The results show that the highest educational attainment and individual capacity and the number of research produced and individual capacity are all significantly related.

Therefore, the relationship is directly proportional which implies that the higher the level of profile, the higher the assessed research capacity and the higher the research capacity-building needs.

Recommendation

The Center for Research and Institutional Development (CRID) office could conceptualize frameworks for securing and accessing research funds and grants from government agencies supporting research-intensified projects, private institutions, and industry-academe partners through research collaborations considering the limited funds allocated by the institution. It is recommended to continuously monitor the research qualities and activities through mentoring and advising by assigned Academic and Administrative Heads. It is highly recommended that dissemination of results through the utilization of findings could have a mechanism of monitoring and evaluation procedure.

It is also recommended to have research writing training sponsorship from basic research for new faculty members and personnel and advanced research writing seminars for those who have undergone a series of research writing workshops and seminars. CRID office should classify through assessment the research-level capabilities of faculty members and personnel and provide research training based on the research-level needs.

There should be specialized training for writing parts of research papers like writing: 1. Introduction, 2. Statement of the Problems, 3. Theoretical/Conceptual Framework, 4. Conceptualizing and Interpreting the Research Paradigm, 5. Review and Related Literature, 6. Research Design and Instruments, 7. Scope and Limitations, 8. Significance of Study, 9. Data Analysis, 10. Results, 11. Conclusion, 12. Recommendation and 13. Writing of References. This specialized training can be planned in one Academic Year and institutionalized in three

(3) trimesters. This can be attended by all faculty members and personnel with the mechanism of enrolling it. They could enroll in one level to another after they have passed the assessment satisfactorily in the research level they are classified. There would be methods for monitoring and evaluation of outputs for assessment.

With all the above recommendations, there could be another level of research for further study of the effectiveness of the new and enhanced training programs and plans of the Center for Research and Institutional Development toward the Sustainable Research Culture of AIMS at 30 years and beyond.

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References

Alimen, R. A., & Ortizo, C. D. (2014). Institutional Research Capabilities ofA Maritime University in Asia: Pathway Towards Global Excellence in Maritime Education. Nirwan Idrus PhDMonash IQALondon, 12(2), 135.

Altbach, P. (2014). Research and Training in Higher Education. DOI:10.1080/03075079.2014.949541

Birx, D. L., Anderson-Fletcher, E., & Whitney, E. (2013). Growing an emerging research university. Journal of Research Administration, 44(1), 11–35.

Fredua-Kwarteng, E. (2021). How to improve the quality of Africa's doctoral education. University World News. Africa Edition.

Fredua-Kwarteng E. (2021). Effective leadership is key to building research capacity.

Huenneke, L.F., Stearns, D.M., Martinez, J.D. (2017). Key Strategies for Building Research Capacity of University Faculty Members. Innov High Educ 42, 421–435. https://doi.org/10.1007/s10755-017-9394-yLee, J. T., & Kuzhabekova, A. (2019). Building local research capacity in higher education: A conceptual model. Journal of Higher Education Policy and Management, 41(3), 342-357.

Marginson, S. (2014). University rankings and social science. *European journal of* education, 49(1), 45-59

Matus, J., Walker, A. & Mickan, S. (2018). Research capacity building frameworks for allied health professionals – a systematic review. BMC Health Serv Res 18, 716. https://doi.org/10.1186/s12913-018-3518-7

McBurney, D. & White, T. (2009). Research Methods. New York, NY: Cengage Learning.

Niemczyk, E. K. (2020). Building Research Capacity in BRICS and Beyond: Lessons from the International Community. Space and Culture, India, 7(5), 23-37.https://www.iotforall.com/artificial-intelligence-in-research#:~:text=Artificial%20intelligence%20is%20also%20used,by%20providing%20real%2Dtime%20guidance.

Nguyen, T. H. (2016). Building human resources management capacity for university research:
The case at four leading Vietnamese universities. Higher Education, 71(2), 231-251.

Tarrayo, V. N., Hernandez, P. J. S., & Claustro, J. M. A. S. (2020). Teachers and research practices: Perspectives from English language educators in a Philippine university. Australian Journal of Teacher Education (Online), 45(12),73–90. https://search.informit.org/doi/10.3316/informit.747089000758320

Vogel, I. (2012). Research Capacity Strengthening: Learning from experience. Retrieved from https://www.ukcdr.org.uk/wp-content/uploads/2018/03/UKCDS_Capacity_Building_Report_July_2012.pdf

Wa-Mbaleka, S. (2015). Factors leading to limited faculty publications in
Philippine higher education institutions.

Wa-Mbaleka, S., & Gomez, M. (2017). State funding of research in the Philippines:
processes and stakeholders' experiences. Prism, 22(1).