

RESEARCH TRAINING NEEDS ASSESSMENT OF THE FACULTY MEMBERS OF THE RIZAL TECHNOLOGICAL UNIVERSITY

MR. JULIUS L. MENESES, MR. MAGNO M. QUENDANGAN

ABSTRACT

Research and publication are now being part of the duties of teachers at all institutions of higher education throughout the world. Regardless of the motivation, faculty research fulfills a vital need for new knowledge generation. The primary aim of the current study was to pilot test a survey instrument to evaluate the common problems being encountered by the faculty members of the Rizal Technological University in conducting research. It has been conducted to track misconceptions, difficulties and the different challenges that are being experienced in order to come up with the proper program that are manageable, feasible and output oriented that will lead to the production of more and more researches that would change faculty motivation and research involvement over time, with an emphasis on submissions and publications as effective outcomes. The survey instrument consists of scales measuring research related problems on the basic parts of conducting research as well as the needs that have to be addressed. Data revealed that the faculty members need to have massive trainings to overcome their problems and address their needs in conducting research. A training program had been proposed in order to help them cope up with the identified problems that they have encountered in conducting researches.

Keywords: research training, research assessment, needs assessment,

INTRODUCTION

Research is a foundation for currency in teaching. It is critical for all professional accreditation and recognition of education/degree and global benchmarking. The innovations made through research contribute to the productivity and prosperity of a society.

Doing research requires an understanding of the current research by other scholars. It is a well-known fact that it takes about four to five years for research findings to become full blown text-book wisdom. Accordingly, a professor who is engaged in active research will be contemporary in knowledge but a professor who is inactive in research (and whose teaching has to be largely based on text-books) will probably lag by about four to five years. Thus, research is important and integral to contemporariness in curriculum and teaching aside from a fact that aside from instruction and extension, research is one of the trifocal functions of an institution of learning.

According to Best & Kahn (1993) education in a research setting is done to improve school practices and at the same time to improve those individuals who strive to improve those practices. The importance of research in an educational setting is often overlooked. However, it is now a must for faculty members to undertake research not only a way to earn tenure or remain

in favor by the university that employs them but also to contribute to the body of knowledge to fulfill their pedagogical responsibilities in their field of teaching interest. It is then the reason why this study has to be undertaken to identify the needs of the faculty and staff of the university leading to the creation of a research climate in this academic community. Several interventions are now being undertaken by every higher education institutions in order to come up with a teaching force capable of producing more and more researches which could either be an add on to the body of knowledge, to improve teaching capabilities and pedagogies and also those researches that give a meaningful impact not only to the educational institutions but to the society. Unique methodologies had also been conducted in order to measure the research proficiency and knowledge of every faculty members. But most uses training needs analysis in order to identify the strengths and weaknesses of their faculty members.

Training needs assessment is a systematic inquiry of training needs within an organization for the purposes of identifying priorities and making decisions, and allocating finite resources in a manner consistent with identified program goals and objectives. Though beginning with training as the desired solution, it has been argued, diminishes the value of the needs assessment, the popularity of the term "training needs assessment" has made it part of the training and adult learning lexicon.

According to Judith Brown, (Director of Research), training needs assessment is an ongoing process of gathering data to determine what training needs exist so training can be developed to help the organization accomplish its objectives. Therefore, conducting needs assessment is fundamental to the success of a training program. Often, organizations that develop and implement training without first conducting a needs analysis, run the risk of overdoing training, doing too little training or missing the point completely.

Brown (2012) pointed out four main reasons why needs analysis must be done before training programs are developed. To wit: (1) to identify specific problem areas in the organization; (2) to obtain management support; (3) to develop data for evaluation; and (4) to determine the costs and benefits of training.

Significantly, it is also important to determine what needs can be met by training and development. If there is indication of performance deficiency, the next step is to determine what needs that can be met by training and development.

In a related point, a needs assessment is a part of planning processes, often used for improvement in individuals, education/training, organizations, or communities. It can refine and improve a product such as training or service a client receives. It can be an effective tool to clarify problems and identify appropriate interventions or solutions. By clearly identifying the problem, finite resources can be directed towards developing and implementing a feasible and applicable solution. Gathering appropriate and sufficient data informs the process of developing an effective product that will address the groups' needs and wants. Needs assessments are only effective when they are ends-focused and provide concrete evidence that can be used to determine which of the possible means-to-the-ends are most effective and efficient for achieving the desired results.

Training Needs Assessment refers to the organizational process of collecting and analyzing data that supports decision making about when training is the best option (or not) to improve individuals' performances, define who should be trained, and exactly what content should be taught (Clarke, 2003). For Wright and Geroy (1992), TNA should be a systematic process of collection, analysis and interpretation of data on individual, group and/or organizational skill gaps. They should have seven key characteristics: (a) be based mainly on culture and organizational philosophy; (b) be proactive instead of reactive; (c) have a method that permits the distinction between situations that can be addressed through training and those that cannot; (d) allow various organizational actors who are directly or indirectly interested and involved in training to participate; (e) be based on observable skills rather than leaders', managers' and professionals' perceptions; (f) consider the varied use of sampling techniques and data analysis; and (g) in the end, have a cost/benefit analysis.

For over 50 years, Training, Development and Education (TD&E) literature has been concerned with the importance of systematic procedures for TNA and the investigation of internal and external variables that influence or originate needs for training in work contexts (McGehee & Thayer, 1961). However, the scientific production in the area has yet to provide plausible answers to this and other important questions surrounding the topic.

In order to help find possible ways to fill these gaps, it is of great importance to describe the current state of scientific literature on TNA, bringing to light and evaluating the methods and theories employed until today and drawing some possible scenarios to the future.

Training Needs Assessment determines the purpose and learning objectives of tailor-made training in organizations. It forms the basis of focused design and evaluation of training sessions.

The purpose of a training needs assessment is to identify performance requirements or needs within an organization in order to help direct resources to the areas of greatest need, those that closely relate to fulfilling the organizational goals and objectives, improving productivity and providing quality products and services. The needs assessment is the first step in the establishment of a training and development Program. It is used as the foundation for determining instructional objectives, the selection and design of instructional programs, the implementation of the programs and the evaluation of the training provided. These processes form a continuous cycle which always begins with a needs assessment. This is the reason why this study had been conducted in order to identify the research related problems and needs of the faculty members of Rizal technological University particularly those who do not involved themselves in conducting research.

THEORETICAL FRAMEWORK

In the past 50 years, needs assessment been an essential element of educational planning. Over the past four decades, there has been a proliferation of models for needs assessment with dozens of models to choose from. This is also the same basic process used in business under the term "market research". That is the process used to determine customer needs and wants for

products and services. Other terms used somewhat interchangeably to describe this process include needs analysis, market analysis, front end analysis, and discrepancy analysis.

A Needs Chain Model

A needs chain model is composed of aligned horizontal and vertical processes in which there are four different kinds of needs that describe and identify the ultimate performance goal, solutions, and what might affect these solutions. These needs include: (1) Performance need which is a state of existence or level of performance required for satisfactory functioning; (2) Instrumental need which entails an intervention, product, or substance that is required to obtain a satisfactory level of functioning in a particular context; (3) Conscious need that are known to those who have them; and (4) Unconscious need that is unknown to those who have them.

Also, it has four vertical factors that consider: (1) Organizational needs that usually pertain to behavior or tangible outcomes, such as market share or sales target; (2) Individual needs that usually pertain to the individual's attitudes about the organization or himself, such as job satisfaction; (3) the causes; (4) Level of objectivity for all needs that requires all needs to have a certain level of objectivity and to be based on deep investigation or further analysis.

The Needs Chain Model provides tools that assist organizations in prioritizing resources and identifying areas that require improvement.

A needs chain model is a framework that allows organizations to consider the individuals needs within and organization as well as the organizations needs simultaneously in order to come to solutions to prioritizing resources and areas of improvement for the organization. Once the organization has completed the model, it gives them a better picture of the organization's priorities in a timely manner. One of the benefits of this model is that it can be used to help decision makers quickly come to solutions to priorities that may change over time.

In order to conduct a needs chain model, the organization must identify: Instrument needs, performance needs, conscious and unconscious needs on the organizational level and the individual level. The organizational level applies to behavior or outcomes, whereas the individual level pertains to individual attitudes to things such as job performance or how they view the organization. The data about each of these levels comes from different data collection methods: (1) Organizational level: Goals of the organization; (2) Individual level: Surveys or interviews.

The most difficult data to collect in this model are the unconscious needs. In order to gather this information about the individual, careful methods must be used to allow for trust from the individual while discussing sensitive topics about their thoughts on the organization.

Rouda & Kusy (1995) introduced the four steps in conducting a needs assessment. To wit:

Step 1. Perform a "gap analysis". The first step is to check the actual performance of our organizations and our people against existing standards, or to set new standards. There are two parts to this: (1) *Current situation*: This is to determine the current state of skills, knowledge, and abilities of our current and/or future employees. This analysis also should examine organizational goals, climate, and internal and external constraints; (2) *Desired or necessary situation*: This is to identify the desired or necessary conditions for organizational and personal success. This analysis focuses on the necessary job tasks/standards, as well as the skills,

knowledge, and abilities needed to accomplish these successfully. It is important to identify the critical tasks necessary, and not just observe our current practices. One must also distinguish the actual needs from the perceived needs, and wants.

The difference in the "gap" between the current and the necessary will identify the needs, purposes, and objectives.

The following are some questions to ask, to determine where HRD may be useful in providing solutions: (1) *Problems or deficits*. Are there problems in the organization which might be solved by training or other HRD activities?; (2) *Impending change*. Are there problems which do not currently exist but are foreseen due to changes, such as new processes and equipment, outside competition, and/or changes in staffing?; (3) *Opportunities*. Could we gain a competitive edge by taking advantage of new technologies, training programs, consultants or suppliers?; (4) *Strengths*. How can we take advantage of our organizational strengths, as opposed to reacting to our weaknesses? Are there opportunities to apply HRD to these areas?; (5) *New directions*. Could we take a proactive approach, applying HRD to move our organizations to new levels of performance? For example, could team building and related activities help improve our productivity?; (6) *Mandated training*. Are there internal or external forces dictating that training and/or organization development will take place? Are there policies or management decisions which might dictate the implementation of some program? Are there governmental mandates to which we must comply?

Step 2. Identify priorities and importance. The first step should have produced a large list of needs for training and development, career development, organization development, and/or other interventions. They must examine these in view of their importance to the organizational goals, realities, and constraints. They must determine if the identified needs are real, if they are worth addressing, and specify their importance and urgency in view of our organizational needs and requirements. For example: (1) *Cost-effectiveness*: How does the cost of the problem compare to the cost of implementing a solution? In other words, we perform a cost-benefit analysis; (2) *Legal mandates*: Are there laws requiring a solution? (For example, safety or regulatory compliance.); (3) *Executive pressure*: Does top management expect a solution?; (4) *Population*: Are many people or key people involved?; (5) *Customers*: What influence is generated by customer specifications and expectations?

If some of the needs are of relatively low importance, it has to be done better to devote energies to addressing other human performance problems with greater impact and greater value.

Step 3. Identify causes of performance problems and/or opportunities. Now that management has prioritized and focused on critical organizational and personal needs, it will next identify specific problem areas and opportunities in the organization. One must know what the performance requirements are, if appropriate solutions are to be applied. Two questions have to be asked for every identified need: (1) Are our people doing their jobs effectively?; (2) Do they know how to do their jobs? This will require detailed investigation and analysis of our people, their jobs, and our organizations -- both for the current situation and in preparation for the future.

Step 4. Identify possible solutions and growth opportunities. If people are doing their jobs effectively, perhaps they should have to be left well enough alone. ("If it ain't broke, don't fix

it.") However, some training and/or other interventions might be called for if sufficient importance is attached to moving people and their performance into new directions. But if our people are not doing their jobs effectively: (1) Training may be the solution, if there is a knowledge problem; (2) Organization development activities may provide solutions when the problem is not based on a lack of knowledge and is primarily associated with systematic change. These interventions might include strategic planning, organization restructuring, performance management and/or effective team building.

These solutions have to be looked into including training and development and organization development.

The following are techniques for investigating organizational and personal needs:

(1) Use multiple methods of Needs Assessment. To get a true picture, don't rely on one method. It is important to get a complete picture from many sources and viewpoints. Don't take some manager's word for what is needed.

There are several basic Needs Assessment techniques. Use a combination of some of these, as appropriate: direct observation, questionnaires, consultation with persons in key positions, and/or with specific knowledge, review of relevant literature, interviews, focus groups, tests, records and report studies, and work samples.

Remember that actual needs are not always the same as perceived needs, or "wants". Look for what the organization and people really need they may not know what they need, but may have strong opinions about what they want. Use the collected data in proposing HRD solutions: (a) Use your data to make your points. This avoids confronting management since your conclusions will follow from your Needs Assessment activities; (b) Everybody should share the data collected. It is important to provide feedback to everyone who was solicited for information. This is necessary if everyone is to "buy into" any proposed training or organization development plan. Having identified the problems and performance deficiencies, the difference must be laid out between the costs of any proposed solutions against the cost of not implementing the solution. Here's an economic "gap analysis": (1) What are the costs if no solution is applied?; (2) What are the costs of conducting programs to change the situation?; and (3) The difference determines if intervention activities will be cost-effective, and therefore if it makes sense to design, develop, and implement the proposed HRD solution.

The steps in needs analysis include:

- (1) Perform a "gap" analysis to identify the current skills, knowledge, and abilities of your people, and the organizational and personal needs for HRD activities;
- (2) Identify the priorities and importance of possible activities;
- (3) Identify the causes of performance problems and/or opportunities;
- (4) Identify possible solutions and growth opportunities;
- (5) Compare the consequences if the program is or is not implemented; and
- (6) Generate and communicate the recommendations for training and development, organization development, career development, and/or other interventions.

Kaufman's Need Assessment Model

Roger Kaufman first developed a model for determining needs defined as a gap in results. This particular emphasis in results focuses on the outcomes (or ends) that result from an organization's products, processes, or inputs (the means to the ends). Kaufman argues that an actual need can only be identified independent of premature selection of a solution (wherein processes are defined as means to an end, not an end unto themselves). To conduct a quality needs assessment according to Kaufman, first determine the current results, articulate the desired results, and the distance between results is the actual need. Once a need is identified, then a solution can be selected that is targeted to closing the gap. Kaufman's model in particular identifies gaps in needs at the societal level, what Kaufman calls "Mega" planning, along with gaps at the Macro (or organizational) and Micro level (the level of individuals and small groups).

Organizational elements vary among the three different levels: they are outcomes at the Mega level, outputs at the Macro level, and products at the Micro level. A Mega level needs assessment should be conducted if the primary beneficiary of the desired results is society itself (as with the results of a clean environment or continuing profit). If the desired results are not directly societal, but are delivered to society (such as automobiles or college graduates), then a Macro level assessment should be performed. If the desired results are building blocks for larger results (such as a single sale or a passed inspection), then a Micro level needs assessment is appropriate.

STATEMENT OF THE PROBLEM

1. What is the profile of the faculty members of the Rizal Technological University in terms of:
 - a. Age
 - b. Gender
 - c. Educational Qualifications
 - d. Length of Years in Service
 - e. Areas of Specializations
2. What are the research-related problems and research needs of the faculty members of the university?
3. What is the magnitude of the gap of respondents' research –related problems and needs?
4. Are there significant differences between the selected personal profile and the identified research related problems and research needs of faculty members of the university?
5. What intervention plan can be done in order to address the research related problems and research needs of the faculty members of the university?

HYPOTHESIS

There are no significant differences between the personal profiles of the respondents and their research problems and needs.

SCOPE AND LIMITATIONS OF THE STUDY

This study covered faculty members teaching at Rizal Technological University across levels who determined and revealed the problems they encountered in coming up with a research that served as basis for a proposed long - term training plan.

SIGNIFICANCE OF THE STUDY

Taking into consideration the relevance and impact of the study pertinent to identifying the teachers' encountered problems and their training needs, the said study may sound significant to the following beneficiaries:

Administration. The results of this study would provide the management data as input on its faculty development training initiative to be planned each school that would further develop the latter's instructional system and hone their pedagogical skills toward realizing the institutional goals.

Human Resource Development Center (HRDC). Results of this study may provide information to the HRDO in formulating annual staff development training plan as one of its services and functions research capability, instructional improvement and staff development. This may also guide the latter in planning, implementing, monitoring and evaluating the said plan.

Planning Office. Findings of this study may best feedback certain information on encountered problems along instructional delivery that may affect intended results. This would further assess and analyze cases and thereby determine resolutions and intervention programs that would supplement institutional plans.

Research and Development Office. The result of the training need assessment would further assist the Director of the said Center in identifying possible topics and constructs for annual faculty development seminar plans. More so, this may guide the latter in the conduct of pedagogical mentoring, advising and counseling towards effective research productivity.

Deans and Department Heads. This study may provide enough data in designing academic frameworks appropriate for the kind of instruction that the institution requires at large and the department demands in particular. As curriculum managers and designers, the latter may consider the results of this study in monitoring, supervising the faculty members in coming up with a valuable research outputs.

Faculty Members. Considering to be the key player in delivering instructional services in every classroom, the results of this study may help the latter in finding solutions and interventions to the problems that they usually encounter in class using theory knowledge in research with management support and assistance for training. With this, once the problems are solved and related instances are reduced, effective teaching at most possible cause will be realized. With this TNA, teachers' encountered problem and concerns will be addressed appropriately.

Students. Being the central core of every institutional endeavor, this study may be of best beneficial to the latter as they may guarantee quality instruction that they will receive in the

classroom. Through teachers' training, students may get the best education in the school through effective instructional delivery.

DEFINITION OF TERMS

For clarity and better understanding of this study, the following terms are hereby defined as they are used in the investigation.

Analysis of Organizational Policy. It undermines reviewing the organization's policy on training, and the amount and type of training offered to employees.

Appraisal Reviews. Within a performance review, questioning the employee about their duties and training allows supervisor to uncover reasons for poor performance.

Difficulty Analysis. It involves identification of an employee's duties that cause them the most difficulty, and allowing for more training in those areas.

Interviews. It includes series of predetermined questions to gauge opinions and perceptions which allows the employee to comment on their performance, and allows the interviewer to ask in depth questions about performance

Job Descriptions. It pertains to study of all responsibilities of a certain job to define an employee's expectations and responsibilities, allowing for more thorough training and supervision.

Needs Assessment. It is a systematic process for determining and addressing needs, or "gaps" between current conditions and desired conditions or "wants".

Needs Chain Model. It is a framework that allows organizations to consider the individuals needs within and organization as well as the organizations needs simultaneously in order to come to solutions to prioritizing resources and areas of improvement for the organization.

Observation. It is a strategy that is used to gather first hand data about an employee's strengths and weaknesses.

Problem Solving Conference. It pertains to a conference setting that allows employees and other staff to identify a plan for a new task or technology and mold the training to it.

Questionnaires. It allows for a big picture of the environment by asking respondents identical questions and allows for more respondents than individual interviews, and takes less time.

Task Analysis. It provides data about a job or a group of jobs and the knowledge, skills, attitudes and abilities needed to achieve optimum performance.

Teacher Training. It is more than the matter of only mastery of certain practical knowledge, pedagogical skills, and techniques, but it also concerns teachers' own perception about the fields in which they don't feel knowledgeable.

Training. It is the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies. Training has specific goals of improving one's capability, capacity, productivity and performance.

Training Analysis. It is most often used as part of the system development process.

Training Needs Analysis. It is the identification of training requirements and the most cost effective means of meeting those requirements which should always be performed where a major new development in policy, equipment acquisition or procedures is deemed to have potential impact upon the current training regime.

Training Needs Assessment (TNA). It is an ongoing process of gathering data to determine what training needs exist so training can be developed for the purposes of identifying priorities and making decisions, and allocating finite resources in a manner consistent with identified program goals and objectives to be accomplished.

REVIEW OF RELATED LITERATURE

Training Analysis: Grounded on Training Needs

Training can be described as “the acquisition of skills, concepts or attitudes that result in improved performance within the job environment”. Training analysis looks at each aspect of an operational domain so that the initial skills, concepts and attitudes of the human elements of a system can be effectively identified and appropriate training can be specified. Training analysis as a process often covers: (1) Training Analysis is most often used as part of the system development process. Due to the close tie between the design of the system and the training required, in most cases it runs alongside the development to capture the training requirements.

K. Tara Smith proposed and developed tools and methods for an Integrated Approach Design Integrated Training Analysis, where the trade-offs between design and training are both assessed in the light of the understanding of the operational tasks. This approach also used information regarding recorded critical incidents to review proposed training and to provide traceability between hazards and training. This single integrated approach to human factors and training analysis has been successfully used on a number of defense projects.

The task of training can be broken down into a number of discrete components, each addressing a different part of the overall learning process. This breakdown is as follows: (1) Psycho-motor Skills; (2) Procedural Skills; (3) Knowledge Transfer; (4) Communication Skills; (5) Colossal Thinking; (6) Attitude Learning; (7) Performance Training; and (8) Physiological Stresses.

The role of training analysis is to build a formal bridge between the available design data and the training media and training objectives, in order to facilitate the transfer of training elements into the operational environment.

For complex multi-user system a user-to-task map is often constructed to present the relationship between the tasks and the identified team structure and also to identify new groups of users that would need to have an understanding of the system. The training gap is assessed by a comparison between the goals and tasks undertaken by the individuals and the existing training.

There is a wide variety of training media that can be used, ranging from traditional lecture-based teaching to sophisticated simulators. Different media will be more or less appropriate for different activities. It is necessary to determine the most suitable and cost-effective training media for the different areas.

There have been many different approaches defined; however, the system approach to training has been the most successful.

Training Needs Assessment: A Provocative Concept

Training needs assessment is a systematic inquiry of training needs within an organization for the purposes of identifying priorities and making decisions, and allocating finite resources in a manner consistent with identified program goals and objectives. Though beginning with training as the desired solution, it has been argued, diminishes the value of the needs assessment, the popularity of the term "training needs assessment" has made it part of the training and adult learning lexicon.

Rouda & Kusy (1995) redefined needs assessment as a systematic exploration of the way things are and the way they should be. These "things" are usually associated with organizational and/or individual performance.

The benefits of training needs assessments are: (1) Puts training needs in context of organizational needs (business drivers); (2) Validates and/or augments sponsor's ideas about the need for training; (3) Ensures training design will respond to need; (4) Identifies non-training issues influencing performance; (5) Ensures survival of training function; and (6) Establishes foundation for post-training evaluation.

Henceforth, conducting a training needs analysis is usually done to gauge what training is needed for new employees or to identify and find solutions to: (1) Problems with performance; (2) New system, task or technology; (3) An organizational need to benefit from an opportunity; and (4) Organizational training needs.

Needs analysis focuses on the requirements related to the goals, aspirations and needs of the users and/or the user community and feeds them into the system requirement analysis process. The main purpose of needs analysis is the user's satisfaction.

As it focuses on the needs of the human, needs analysis is not limited to addressing the requirements of just software, but can be applied to any domain, such as automotive, consumer product or services such as banking. Although it is not a business development tool, it can be used to help in the development of a business case.

Underlying principles of needs analysis include: (1) User's need based requirements help to identify trade-offs that need to happen in the design process (i.e. where a design cannot resolve the user's need based requirement conflicts); (2) User's need based requirements are there to unify the multi-disciplinary design team; enabling them to meet their business case; (3) Formulate and ask questions to do with the business plan that provide an indication of the human aspects of the system, including the relative merit of functionality; (4) Always express these findings from the user's perspective; (5) Cross-relate these requirements to each other and to the impactors on the activity; (6) Allocate sufficient time during the development process to check and validate your user's need based requirements; (7) Ensure that all user's need based requirements are derived as low level user requirements before being transposed into system requirements; (8) Word your requirements precisely and ensure that you cover all categories of human-related requirements; (9) Create test statements to validate the user's need based requirements, the concept and the implementation; (10) Prior to freezing your design, validate your user's need based requirements with users; (11) Accept that there still may be contradictory

requirements; (12) Understand the nuances of the requirements and ensure that these are reflected in the precise wording of the requirements; (13) Keep asking your users until you have a true understanding of their requirements; and (4) Elegant design can only be created from understanding the nuances of the requirements.

A needs assessment is a systematic process for determining and addressing needs, or "gaps" between current conditions and desired conditions or "wants". The discrepancy between the current condition and wanted condition must be measured to appropriately identify the need. The need can be a desire to improve current performance or to correct a deficiency.

A needs assessment is a part of planning processes, often used for improvement in individuals, education/training, organizations, or communities. It can refine and improve a product such as training or service a client receives. It can be an effective tool to clarify problems and identify appropriate interventions or solutions. By clearly identifying the problem, finite resources can be directed towards developing and implementing a feasible and applicable solution. Gathering appropriate and sufficient data informs the process of developing an effective product that will address the group's needs and wants. Needs assessments are only effective when they are ends-focused and provide concrete evidence that can be used to determine which of the possible means-to-the-ends are most effective and efficient for achieving the desired results.

Training Need Analysis: Propelling Need Assessment

Training Needs Analysis (TNA) is defined as the "identification of training requirements and the most cost effective means of meeting those requirements". A TNA should always be performed where a major new development in policy, equipment acquisition or procedures is deemed to have potential impact upon the current training regime.

Needs analysis focuses on the requirements related to the goals, aspirations and needs of the users and/or the user community and feeds them into the system requirement analysis process. The main purpose of needs analysis is the user's satisfaction.

Training Need Assessment: Determining Purposes

The purpose of a training needs assessment is to identify performance requirements and the knowledge, skills, and abilities needed by an agency's workforce to achieve the requirements. An effective training needs assessment will help direct resources to areas of greatest demand. The assessment should address resources needed to fulfill organizational mission, improve productivity, and provide quality products and services. A needs assessment is the process of identifying the "gap" between performance required and current performance. When a difference exists, it explores the causes and reasons for the gap and methods for closing or eliminating the gap. A complete needs assessment also considers the consequences for ignoring the gaps.

Likewise, a needs assessment can also be used to assist with: (1) Competencies and performance of work teams; (2) Problem solving or productivity issues; (3) The need to prepare for and respond to future changes in the organization or job duties.

The purpose of a training needs assessment is to identify performance requirements or needs within an organization in order to help direct resources to the areas of greatest need, those

that closely relate to fulfilling the organizational goals and objectives, improving productivity and providing quality products and services.

Training Need Assessment: Process and Procedural Perspectives

The needs assessment is the preliminary step in the establishment of a training and development program. It is used as the foundation for determining instructional objectives, the selection and design of instructional programs, the implementation of the programs and the evaluation of the training provided. These processes form a continuous cycle which always begins with a needs assessment.

The first step in designing a training and development program is to conduct a needs assessment. The assessment begins with a "need" which can be identified in several ways but is generally described as a gap between what is currently in place and what is needed, now and in the future. Gaps can include discrepancies/differences between: (1) What the organization expects to happen and what actually happens; (2) Current and desired job performance; and (3) Existing and desired competencies and skills.

There are three levels of a training needs assessment.

Organizational assessment evaluates the level of organizational performance. An assessment of this type will determine what skills, knowledge, and abilities an agency needs. It determines what is required to alleviate the problems and weaknesses of the agency, as well as to enhance strengths and competencies. Organizational assessment takes into consideration various additional factors, including changing demographics, political trends, technology, and the economy.

Occupational assessment examines the skills, knowledge, and abilities required for affected occupational groups. Occupational assessment identifies how and which occupational discrepancies or gaps exist, potentially introduced by the new direction of an agency. It also examines new ways to do work that can eliminate the discrepancies or gaps.

Individual assessment analyzes how well an individual employee is doing a job and determines the individual's capacity to do new or different work. Individual assessment provides information on which employees need training and what kind.

What follows are the Training Needs Assessment Process.

Determine Agency Benefits of Needs Assessment of which this part of the process will sell and help the decision makers and stakeholders understand the concept of the needs assessment. Needs assessment based on the alignment of critical behaviors with a clear agency mission will account for critical occupational and performance requirements to help your agency: a) eliminate redundant training efforts, b) substantially reduce the unnecessary expenditure of training dollars, and c) assist managers in identifying performance requirements that can best be satisfied by training and other developmental strategies. To go beyond learning and actually achieve critical behaviors the agency will also need to consider how required drivers will sustain desired outcomes.

Plan of which the needs assessment is likely to be only as successful as the planning: (1) sets goals/objectives for the needs assessment; (2) evaluate organizational (agency) readiness and identify key roles; (3) evaluate prior/other needs assessments; (4) prepare project plan; (5)

inventory the capacity of staff and technology to conduct a meaningful training skills assessment and analysis; (6) clarify success measures and program milestones.

Conduct Needs Assessment that entails the following processes; (1) obtain needs assessment data; (2) analyze data; (3) define performance problems/issues; (4) occupational group/individuals; (5) describe critical behaviors needed to affect problems/issues; (6) determine and clarify why critical behaviors do not currently exist; (7) research integrated performance solutions; (8) if training is the best solution, determine best training and development approach(es); (9) assess cost/benefit of training and development approach(es); build a "business case"; (10) include organizational drivers needed to reinforce the critical behaviors that will affect problems/issues; (11) describe how the critical behaviors will be monitored and assessed after implementation of the improvement plan.

The results of the needs assessment allow the management to set the training objectives. Then, it is more likely that an accurate identification of whom, if anyone, needs training and what training is needed. Sometimes training is not the best solution, and it is virtually never the only solution. Some performance gaps can be reduced or eliminated through other management solutions, such as communicating expectations, providing a supportive work environment, and checking job fit. These interventions also are needed if training is to result in sustained new behaviors needed to achieve new performance levels, for an individual, an occupation, or an entire organization (<http://www.csc.noaa.gov/needs/>).

Training Need Assessment: Executing Effective Methods and Strategies

Christian and Reyntjens (1998) recommended a series of methods available and commonly used in a Training Needs Assessment (TNA) for the gathering and subsequent analysis of information related to the job functions and tasks performed by staff potentially in need of training: (1) analyzing answers to personal questionnaires; (2) interviewing key persons; (3) conducting focused workshops with staff in charge of resource assessment at each institute; (4) reviewing recent key publications; and (5) observations of working practices and working conditions in each institute.

Questionnaires should be forwarded thru E-mail to the institutes at least two-three weeks before the visits by consultants. The questionnaires should consist of three separate questionnaires to be completed by potential training candidates (= respondents): (1) Q1. A profile of potential training candidates (personal history form); (2) Q2. A description of job functions and tasks performed by potential training candidates; and (3) Q3. An assessment of the training needs, skills and knowledge, as identified by potential training candidates.

The Training Needs Assessment should only cover staff involved with related activities and therefore should be handed to selected staff only. The questionnaires are designed to provide basic personal information, as well as being the main source of information for the assessment of staff knowledge and need for training in related topics.

Questionnaire 1 is designed to collect basic personal information. In Questionnaire 2, respondents are presented with a list of the major job functions normally assigned to staff involved in the assessment of available resources. In the list, respondents are asked to identify the job functions that best correspond to the job functions in their present position. Under each major job function, tasks are enlisted, that are normally performed by officers. Respondents are

then asked to rate how often they perform each task; how important they rate the task compared to other tasks; and whether they have difficulties in performing the task, by using rating scales. In Questionnaire 3, respondents are asked to rate their competency, i.e. skills and knowledge, in a number of disciplines and activities directly or indirectly related to the job functions and tasks that have been identified in Questionnaire 2. Three questions are to be answered: (1) At what level do you possess the skill or knowledge?; (2) How important is the skill or knowledge for your present job?; and (3) How do you perceive your need for training in this discipline/subject? Again, each respondent is asked to use a rating scale for their answers.

The Advent of Conducting Service Trainings: Opportunities and Challenges

Rouda & Kusy (1995) identified the benefits of any Human Resource Development (HRD) intervention regarding the learning to be accomplished, the expected changes in behavior and performance, the expected economic costs and benefits of any projected solutions.

The benefits of training needs assessments are: (1) Puts training needs in context of organizational needs (business drivers); (2) Validates and/or augments sponsor's ideas about the need for training; (3) Ensures training design will respond to need; (4) Identifies non-training issues influencing performance; (5) Ensures survival of training function; and (6) Establishes foundation for post-training evaluation.

People are often in too much of a hurry to implement a solution, but sometimes not always the correct intervention. Hence, one has to plan very carefully and cautiously, before making most other investments in process changes and in capital and operating expenditures.

The largest expense for HRD programs, by far, is attributable to the time spent by the participants in training programs, career development, and/or organization development activities. In training, costs due to lost production and travel time can be as much as 90 - 95% of the total program costs. Direct and indirect costs for the delivery of training are about 6% of the total cost, and design and development count for only about 1-2% of the total. Realistically, it makes sense to invest in an assessment of needs to make sure we are making wise investments in training and other possible interventions.

Opportunities and Challenges

Depending on the scope of the project a needs assessment can be a costly and labor intensive project. A general twelve step process might entail the following: (1) Confirm the issue and audiences; (2) Establish the planning team; (3) Establish the goals and objectives; (4) Characterize the audience; (5) Conduct information and literature search; (6) Select data collection methods; (7) Determine the sampling scheme; (8) Design and pilot the collection instrument; (9) Gather and report data; (10) Analyze data; (11) Manage data; and (12) Synthesize data and create report.

Training Need Assessment: Determining Outcome

The results of the needs assessment allows the training manager to set the training objectives by answering two very basic questions: who, if anyone, needs training and what training is needed. Sometimes training is not the solution. Some performance gaps can be reduced or eliminated through other management solutions such as communicating expectations,

providing a supportive work environment, arranging consequences, removing obstacles and checking job fit.

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Christian and Reyntjens (1998) asserted that it is becoming widely recognized that the outputs of informal and formal training activities will be enhanced by assessing the needs and the level of skills and knowledge of potential participants before implementing the training. By knowing the overall objectives of an organization or an institute and the profiles, jobs and daily tasks of each staff, it becomes possible to tailor training activities to the needs of an organization or institute as well as to the personal needs of the staff members. Furthermore, it becomes easier for the organization or external funding agencies to identify who should, and who should not participate in specific courses or workshops. The immediate gains are motivated participants and a higher satisfaction of their immediate needs. The long-term gains are longer-lasting effects of training, when needs have been addressed at the right time in the right way.

Formative research, also known *as situation analyses or needs assessments*, collect information and data needed to plan programs and initiatives. They may describe the needs of the community or population, types and extent of violence against women and girls, the factors that put people at risk, the context in which the program will be operating (political, environmental, social, cultural, economic, institutional), as well as what resources are available, and what interventions are currently being implemented and by whom. This information is critical to the planning stage and should be collected before or during the development of a programme's monitoring and evaluation framework.

The situation analysis is a comprehensive review of the situation at hand, providing an understanding of many contextual factors (Vann, 2002 and RHCR 2004). Likewise, needs assessments can be used to determine what the gap is between the existing situation and what is desired or what 'ought' to be. Therefore, needs assessments can be used to improve the quantity and quality of services available; enhance the knowledge and skills of individuals by assessing the current knowledge and skill level against what is desired or required; align existing (or lacking) national legislation with international standards by reviewing existing legal mechanisms against international standards and recommended practice; develop, update or expand national policies and plans to address the determined need by assessing the current frameworks vis-à-vis a comprehensive, multi-sectoral response; improve the information and data available by surveying existing data collection and analysis systems; and enhance the capacities of organizations to implement their programs by assessing the knowledge and skills and policies that are in place, and the infrastructure needed to carry out the program. Much of the information for situation analyses and needs assessments can be collected from existing sources, though primary research can also be conducted. If primary research is undertaken, then it is critically important that safety and ethical standards are followed.

Safety and ethical guidelines for conducting research to address issues; ensuring the privacy and confidentiality of the interview; providing special training; providing a minimal level of information or referrals for respondents in situations of risk; and providing emotional and technical support for interviewers (United Nations, 2006).

Hence, situation analyses and needs assessments can also be seen as interventions as they often initiate public discussion, raise awareness of the issue and its context, and opens dialogue (<http://www.endvawnow.org>).

Assuming that the needs assessment identifies more than one training need, the training manager, working with management, prioritizes the training based on the urgency of the need (timeliness), the extent of the need (how many employees need to be trained) and the resources available. Based on this information, the training manager can develop the instructional objectives for the training and development program.

All three levels of needs analysis are interrelated and the data collected from each level is critical to a thorough and effective needs assessment.

Christian and Reyntjens (1998) derived some expected outputs from needs assessment missions. To wit: (1) a description of the objectives and activities undertaken by the marine resource division(s) at each institute; (2) a brief description of the environment in which the institute is presently operating; (3) the job descriptions and present tasks all professional staff involved in marine resource assessment and related activities; (4) a profile and analysis of the performance of each member of staff involved in marine resource assessment and related activities; (5) recommendations for informal and formal training to be undertaken by research staff; (6) recommendations on immediate follow-up activities to be organized by COPEMED, e.g. consultant support, workshops and training courses in the region.

Training Need Assessment: Impact and Implications on Teaching

Results from the study of Crews, Brown and Miller (2009) revealed that the survey provided the Center for Teaching Excellence with pertinent information for improving training and pedagogical sessions for faculty, along with data essential for internal planning and strategy development for the center and for future best Institutes. Analyzing the data has led the Center for Teaching Excellence to implement more sessions, including those during new faculty orientation, specifically designed to help faculty use technology to increase teaching efficiency and save time. The Center for Teaching Excellence are involved in new faculty orientation through a variety of sessions.

The survey results have also helped stimulate conversation about involving more faculty to serve as session presenters at the Center for Teaching Excellence and during the BEST Institute. Many faculty members are implementing technology in useful ways to enhance student learning, and faculty can learn from other faculty who have seen results in their own classrooms. This would not only provide incentives to try new technology and techniques, but would serve as a vehicle to promote awareness of the tools available to faculty and the ways these tools can be used to enhance teaching and learning. Such a technology conference would broaden the impact of seminars, sessions, and workshops to meet all of the faculty needs noted through this study and provide recognition for innovative teaching with technology.

Other institutions may learn from this research and identify the importance of meeting faculty needs on their own campuses. Centers for teaching excellence at other universities can draw from the data provided to offer seminars, workshops, grants, and other opportunities for their faculty to enhance their teaching. Other centers for teaching excellence could also develop their own needs assessment survey, whether based on technology or on seminars and workshops specific to their faculty's needs.

Further research to support this study should be conducted to measure whether the Center for Teaching Excellence and BEST Institute events developed based on this data have met the needs of faculty and improved the use of technology in the classroom. Additionally, we recommend conducting research on the departmental, unit, and administrative levels to measure willingness to invest in new technologies and their support.

Extensive Needs Assessment vs. Intensive Needs Assessment

The broad difference between extensive and intensive needs assessment is that extensive research uses a large number of cases to determine the characteristics of a population, while intensive research examines one or a few cases in depth to understand cause and effect. A variety of data collection and decision making tools and processes can be used for each, including the examples below (Watkins, West Meiers, Visser, 2011).

The use of population-based indicators is common in extensive needs assessments and has several strengths. These strengths include that such data are available for broad geographical areas, available on a large number of individuals or cases, allow description of entire populations, allow trend analysis over time, are relatively easy to access, inexpensive to use, and perceived as unbiased. Another method commonly used in extensive needs assessments is the survey. The strengths of the survey method are: they allow for direct feedback to the public as well as stakeholders, can foster public awareness about a problem or concern, can be customized to address specific issues, can be targeted to specific population groups or geographic areas, and can provide very timely results. An additional potential data source for extensive needs assessments are service and program databases. The strengths of this source of data are: they often contain data collected over many years, are readily accessible by existing program staff, provide the most current data, and they are relatively inexpensive to operate and maintain.

One type of extensive needs assessment is SWOT analysis. SWOT stands for strengths, weaknesses, opportunities, and threats. The basic process involves gathering information about an organization's activities and outcomes within a set time period. The figure below lists a simplified version of the SWOT process.

Further, intensive needs assessment requires the ranking of priorities. While there are many methods to rank needs, it is important to develop ranking criteria. Feasibility is often used as criteria, but it is often useful for a group to identify their own set of criteria. This part of the research is not so much concerned with developing a detailed plan for solving the needs situation, but rather for examining the depth of the need and potentially required resources. Force field analysis, developed by Kurt Lewin, is one method for facilitating determining needs feasibility.

A model force field analysis consists of (1) Recruit research group of 10-20 stakeholders or core group members for one or more meetings lasting approximately two hours each; (2)

Review the list of needs developed through a SWOT analysis or other procedure. Allow for some limited discussions of each without dwelling on any; (3) Develop criteria for rating the feasibility of meeting needs; (4) Using the feasibility criteria, collect information on facilitating and impending forces inside the group or organization and outside it. This can be done through separate data collection or in a meeting if the stakeholders are well informed; and (5) Apply the data to determine the feasibility of meeting each need.

The use of surveys, however, can be appropriate for intensive, as well as extensive needs assessments. Regardless of the method used, intensive needs assessments typically allow deeper analysis and greater flexibility in terms of type of data collected. While often not as convenient as extensive needs assessments, they can be quite useful for determining needs in a small setting. One method of data collection for intensive needs assessments is a structured group. Some strengths of this method are: (1) it allows account of many different perspectives, as they involve diverse sets of people, including the target audience, key informants, stakeholders, and the general community, in direct conversation; (2) it can foster acceptance of and cooperation with the entire needs assessment process within the community and various target populations; (3) it accounts for opinions, perceptions, and desires in a manner that no other method does; (4) it generates new ideas about an existing problem as well as potential solutions; (5) it can be conducted relatively quickly and provide immediate feedback; and (6) it is relatively inexpensive.

However, because intensive needs assessments typically require much more coordination and planning in the data collection phase and it is often inappropriate to generalize from them, extensive needs assessments seem to be much more common.

Comparative Analysis of Related Studies

Christian and Reyntjens (1998) came up with the Report on Training Needs of Research staff at the National Fisheries Institutes in Libya, Morocco and Tunisia. Results of missions to Libya, Morocco and Tunisia in October - November 1998 utilizing a series of methods are available and commonly used in a Training Needs Assessment (TNA) for the gathering and subsequent analysis of information related to the job functions and tasks performed by staff potentially in need of training: (1) analyzing answers to personal questionnaires; (2) interviewing key persons; (3) conducting focused workshops with staff in charge of resource assessment at each institute; (4) reviewing recent key publications; and (5) observations of working practices and working conditions in each institute.

Questionnaires were forwarded thru E-mail to the institutes at least two - three weeks before the visits by consultants consisted of three separate questionnaires completed by potential training candidates.

The study covered the staff involved with marine resource assessment and related activities at the national fisheries research institutes, and handed to selected staff only. The questionnaires were designed to provide basic personal information, as well as being the main source of information for the assessment of staff knowledge and need for training in topics related to fishery resources assessment. (1) Questionnaire1 was designed to collect basic personal information; (2) In questionnaire 2, respondents were presented with a list of the major job functions normally assigned to staff involved in the assessment of natural resources at

National Fisheries Institutes. In the list, respondents were asked to identify the job functions that best correspond to the job functions in their present position. Under each major job function, tasks were enlisted, that were normally performed by fisheries officers. Respondents were then asked to rate how often they performed each task; how important they rated the task compared to other tasks; and whether they had difficulties in performing the task, by using rating scales; (3) In questionnaire 3, respondents are asked to rate their competency, i.e. skills and knowledge, in a number of disciplines and activities directly or indirectly related to the job functions and tasks, that had been identified in Questionnaire 2.

Three questions were answered: (1) At what level do you possess the skill or knowledge?; (2) How important is the skill or knowledge for your present job?; and (3) How do you perceive your need for training in this discipline/subject? Each respondent was asked to use a rating scale for their answers.

The research on the need for training served as basis for a recommended workshop among resource assessment staff. Individually and in small groups, staff were asked to identify what skills and knowledge were needed to do proper resource assessment and to help each other in identifying areas of improvement in their work plans and working practices.

An international study Columbia College in Chicago covering faculty development programs from eight different countries found that proper faculty training can increase the extent to which faculty take student - focused approaches to teaching and can, thereby, improve their students' approaches to learning. The study propelled sponsoring workshops, colloquia, and communities of practice, and technical and pedagogical sessions.

When targeting 21st century learners, implementing technology should have strong implications for better learning outcomes. If implementing technology has the potential to change how students learn, then the implementation must occur so that students are "empowered to succeed as lifelong learners in an information-rich environment.

The demands of producing research often distract faculty at research universities from improving teaching excellence. In response, universities have developed faculty committees, programs, or centers to improve teaching and thus more effectively improve student performance. Communities where faculty can share ideas and collaborate were a product of the 1970s, when universities were encouraged to create programs to improve teaching excellence. Such communities have evolved over time into centers for teaching excellence or a variety of teaching support areas spread throughout various units within universities. However, many faculty members are at different developmental stages in striving for teaching excellence. It has been noted that teachers must transition from Stage 1, teaching is telling; to Stage 2, teaching is hoping students will learn; through Stage 3, teaching is transmitting knowledge; and on to Stage 4, teaching is a complex interaction which is unique and dynamic. Therefore, teaching centers should offer a variety of programs such as: (1) Observing and consulting in the classroom; (2) Resources on teaching; (3) Campus events, lectures, and workshops; (4) Grants for developing new courses, conducting research on teaching, or investigating instructional strategies; (5) Mentoring programs for teaching improvement, tenure, and promotion; (6) Centers for teaching excellence must provide assistance in the transition as faculty become better

teachers; (7) Programs must also transition from a supportive resource to a large-scale development program.

Like teaching and learning centers elsewhere, our center approaches faculty development as an ongoing reflective practice for all faculty at all stages of their career, not simply as remediation for faculty in difficulty, nor reserved for faculty new to teaching.

The center for teaching excellence at Columbia College Chicago emphasizes the need for faculty to utilize the center for unfamiliar territories, content, and practices.

Survey participants provided feedback on survey items using the following five-point Likert scale. Participants were also asked to provide feedback on the level of helpfulness of different types of support and training using the following five-point Likert scale. Additionally, the survey included space for respondents to enter responses to open-ended questions on how the Center for Teaching Excellence could provide additional support to further enhance faculty's teaching skills.

The technology needs assessment survey was completed by 197 respondents. Approximately 77 percent were faculty, 11 percent were instructors, and 2 percent were graduate assistants. The remaining respondents selected "other" or did not respond to the question. The only other demographic information gathered related to the campus on which the respondents were housed. The majority of respondents were on the main campus as opposed to regional or other campuses.

Participants were also asked to list any suggestions to help the university understand their needs to enhance their teaching. Participants were also asked to list any challenges they face in their teaching. These comments were analyzed and grouped into themes. The participants were also surveyed on the challenges they faced in teaching.

Crews, Brown & Miller (2009) in their study revealed the participants' identified biggest challenges for implementing technology as: (1) Time constraints for preparing new lectures that integrate technology, or learning new technology in order to implement it effectively; (2) Lack of knowledge about new and available technologies; (3) Lack of new and available technologies at the institution.

While some challenges lie in redefining the role of the faculty and the use of technology, other challenges may surface from inadequate training and support on behalf of the institution.

Findings in this study further revealed that participants have little interest in using some tools in the classroom, but indicated a strong interest (30 percent or higher) in learning more about e-portfolios, online lectures with video, podcasts, and survey tools. Participants also revealed a strong interest in learning about electronic whiteboards and some disinterest in using classroom response systems. Results also revealed that participants are comfortable and do not need help with word processing, presentation, and e-mail software. However, 43 percent of the respondents reported needing assistance in learning web page design software.

Participants identified face-to-face training as a preference when learning about new technologies. Such training sessions could include brainstorming sessions, a series of meetings, and one-time events. Slight inconsistency with responses and comments provided suggest some faculty are not aware of the capabilities of the various technologies, although that conclusion is not clear in the study results.

This survey has not only provided the Center for Teaching Excellence with information about online, classroom, and software tools, it has made the director and staff aware of faculty's changing needs. An expansion to the University of South Carolina Center for Teaching Excellence events has also led to Power Lunches for new faculty designed to assist them with teaching needs and to help them stay on track for tenure and promotion through their research. These events are supported by the vice provost for faculty development. This support keeps an emphasis on the importance of excellence in teaching and research.

Results indicate that participants favor face-to-face training; the following types of training received the highest responses as being helpful or extremely helpful: (1) One-time events, such as faculty forums run by current faculty or experts in the field (62.95 percent); (2) Series of meetings, specifically a community of practice with face-to-face sessions (59.30 percent); (3) Session for department, college, senior campus, or regional campus for brainstorming (54.82 percent); and (4) CD-ROM/DVD video training (54.16 percent).

The global 2012-13 Peacekeeping Training Needs Assessment (TNA), conducted by the Integrated Training Service (ITS) of DPKO-DFS, identified training needs among civilian, police and military personnel in peacekeeping missions, service centres and at Headquarters. In July 2013 the Expanded Senior Management Team (E-SMT) endorsed the final report of the TNA along with its overall findings and recommendations. These guided the development of a new peacekeeping training strategy.

An information and training needs assessment for improving the quality of agriculture exports and processing was conducted in response to two recommendations of the 13th Regional Conference of the Permanent Heads of Agriculture and Livestock Production Services (PHALPS) in Guam, 27 April -1 May 1998. The SPC Agriculture Adviser secured funding from Taiwan to assist with the costs of conducting the assessment. Eleven SPC member countries were visited to conduct the survey with fifty-one Ministry of Agriculture staff interviewed and thirty-six private sector people contacted. A further six SPC member countries provided feedback during visits to Fiji or via fax, email, and telephone which involved 19 Ministry of Agriculture staff and 10 private sector people.

There are assessment results from seventeen of SPC member countries and territories. Only seven of the seventeen PICTS have significant exports of fruits and vegetables but fourteen PICTs are interested in improving the quality of agricultural products for the local market. This implies that attention should be given to quality improvement for the export market and the local market. Coconut exports are significant from eleven of the seventeen PICT but coconuts are important for the local market in all the PICTs. Commercial processing of agriculture products is currently undertaken in only eight of the seventeen PICTs but nearly every PICT is interested in developing processing for the local market, tourist market, and export.

The capacity for agricultural research to link up with rural radio is dependent on the performance of individual researchers and broadcasters, who work together within a supportive institutional environment. Researchers and broadcasters require both management and technical roles to perform well as partners and to set and achieve common objectives.

Therefore, performance is a function of a person's managerial knowledge and attitudes on the one hand, and technical knowledge and specific skills on the other. Performance is also

markedly influenced by the organizational constraints that affect an individual's morale and output. Programs to build capacity through training and other learning initiatives must respond to actual gaps in managerial and technical knowledge, attitudes, and skills, so as to improve performance and enhance supportive partnerships. ISNAR's TNA approach provides the opportunity to learn how to explore the strengths and weaknesses of one's knowledge and skills, as related to an individual's on-the-job performance and contribution to achieving collaborative activities.

The TNA framework and methodologies aim to document technical and managerial knowledge, attitudes, and skills, as well as organizational constraints that affect performance, to assess the kinds of training and non-training interventions needed to improve performance. The basic framework of the TNA comprises six steps: (1) Presentation and discussion of the analytical framework for linking agricultural research and rural radio; (2) Analysis of jobs, duties, and tasks; (3) Suggestions to improve job descriptions by including the link between agricultural research and rural radio; (4) Definition and identification of knowledge, attitudes, and skills required for improving job performance as related to linking agricultural research and rural radio, and how these qualities influence the working environment of researchers and broadcasters—and, therefore, their morale and overall output; (5) Definition of on-the-job performance and identification of managerial and technical aspects of the jobs; (6) Definition and identification of the organizational constraints that affect technical and managerial performance.

The TNA exercise entitled "Linking Agricultural Research and Rural Radio" was conducted in a three-and-a-half-day workshop convened in Accra, Ghana, from March 27 to 30, 2001. There were 15 participants in this workshop (7 broadcasters and 8 researchers) representing the four countries involved in the project (Cameroon, Ghana, Mali, and Uganda). The results of this intense exercise were analyzed, summarized, and presented in this report. The highlights of these results, conclusions, and recommendations were as follows:

(1) The results of the TNA suggested that the five highest priorities in managerial knowledge were closely related to one another, and mutually reinforcing.

(2) The top priority, how to mobilize financial resources, was ranked significantly higher. The second-highest priority, how to identify common objectives, relates closely to the fifth priority, how to identify common objectives in relation to communities. The third priority, how to demonstrate the added value of researchers and radio broadcasters working together is similar to the fourth priority, how to evaluate the impact of rural radio and research collaboration.

(3) The difference between these third- and fourth-ranked priorities reflects a prospective or existing partnership (demonstrating added value) versus assessing the actual partnership experience over the longer term (impact assessment). The third-highest priority, how to plan and bring all the stakeholders together, reinforces the collaboration process.

(4) The participants reported that most of the gaps in managerial attitudes cover areas related to communication between researcher, farmers, and broadcasters, which reinforces the top priorities given to managerial knowledge development. The top attitudes were improving their tact/diplomacy (in working together), willingness to invest in farmers, and being bold about their initiatives.

(5) With regard to the highest priorities in technical knowledge the three top ranked priorities were each distinct. They were: techniques to evaluate the impact of rural radio and research collaboration, how to write proposals for collaborative activities, and how to adapt, translate and interpret information to respond to the needs of farmers. It was noted that each of these three top priorities for technical knowledge reinforce the areas of managerial knowledge development.

(6) Finally, the specific skills prioritized in the TNA reflect skills that are required to access internet-based information, facilitate e-mail communication between researchers and broadcasters, and analyze and present data. The top three priorities were how to use Internet/email, how to use data analysis software, and how to use graphics software.

Another study was conducted with an aim of systematically reviewing Training Needs Assessment (TNA) scientific literature. Based on two research questions (where are we? where should we go?), we hoped to evaluate the current state of scientific production on TNA and to point out some possible developments. The following databases were consulted: Web of Knowledge, Ovid, Proquest, Wiley Online Library, Emerald, PsycNet, CAPES Database and Scielo. Fifty-One articles were analyzed. The results show that: (a) there is little agreement on how to measure training needs; (b) most of the current TNA models and methods are reactive and do not consider contextual factors and multiple levels of analysis in a proactive way; (c) there are gaps in TNA and a need for theoretical definitions; (d) there is little concern with building theories and concepts related to TNA. Based on these findings, we point out that TNA practice and research should: (a) be based exclusively on measurable human competences gaps, in multiple possible levels of analysis; (b) not focus only on individual professional roles, but also on internal and external contextual factors that can be important in the future; (c) discuss and criticize in depth what work needs, training needs and training needs assessment mean; (d) elaborate and test TNA theories, concepts, models and methods.

The African Union (AU), the Regional Economic Communities and Mechanisms (RECs/RMs) and various training institutions are collaborating in a Training Needs Assessment (TNA) whose main objective is to identify the training needs for the military, police and civilian personnel of the ASF, based on doctrine and existing policies, and develop guidelines for the delivery of courses by African training centers at strategic and operational levels for the ASF. This is in line with the provision in Roadmap III of the operationalization of the African Standby Force (ASF), as endorsed by the AU Specialized Technical Committee on Defense, Security and Safety (STCDSS), at its 5th Ordinary Meeting, held in Addis Ababa, Ethiopia, on 26 October 2011.

A Training Need Assessment for international economic integration, so as the information gathered was formulated as a primary data collected from numbers of sources, different target groups within the sector. Data collections include face-to-face interviews driven by standardized questionnaire forms, workshop group discussions with the participation of different target groups. The questionnaire forms were designed in two types: (1) form for organization use, designed to collect integration training need information of the organizations provided by their leaders basing on the number of staffs and assessment of their organization (2) Individual used form designed to collect relevant information on personal basis.

The needs assessment by MoEF, DBT and BCIL in the last few years received feedback from the participants in these programs through surveys conducted from time to time (for IBSCs, state level officers, agriculture service providers, farmers etc.) as well as presentations made by eminent experts have also been taken into account for assessment of training needs.

The field survey findings have been combined with the above to work out the requirements of various stakeholders by drawing a training needs matrix, based on which the training modules have been proposed. A stakeholder consultation was organized to discuss the field survey findings with experts from government, industry, institutions, etc. The participants endorsed the field survey findings and gave suggestions.

Results of the empirical studies on Libyan management practice generally, and MTD in particular, indicate that the administrative functions are practised and operated without effective methods, and away from acceptable standards. Libyan public companies have difficulty in identifying the training required for their employees, which has led to a common feeling among employees that they do not have enough training to enable them to perform their job properly. Furthermore, the decisions related to MTD activity are still dependent on personal relations, family ties, tribalism, etc. rather than on an established procedure. Focuses on the assessment of MTD needs and selection for MTDPs in Libyan industrial companies by finding out how these companies select their employees for MTDPs and the main ways and techniques used by the companies to perform this activity. The study revealed that the approaches and techniques used by companies for selecting their employees for MTDPs and for assessing MTD needs depend mostly on indications of performance reports and on bosses' and supervisors' views. At the same time, surveyed and interviewed managers did not indicate any communication with the employees who are the basic ground for MTDPs. Identifies the difficulties and problems in MTD needs assessment and, therefore, allows readers to contrast Libyan management training and development practices with their own local counterparts.

A total of 856 nurses and midwives from hospitals and community settings, 40 first-line managers from hospitals and community settings (the functional managers who manage or co-ordinate a specific grade in hospital wards or health centres) and 54 senior managers in district offices, health centres and hospital management participated in the study. The UoB TNA tool was used for this survey and the tasks were adapted and tested for use in Indonesia. The adapted tool was found to be valid and reliable.

The "Santa Clara County Trends & Needs Assessment Report" is an extensive community needs assessment conducted by United Way Silicon Valley, a non-profit organization that claims to be a leading expert on human needs in Silicon Valley. The report's purpose is to define and measure the most pressing needs in Santa Clara County.¹

An example of an intensive needs assessment is a project conducted by the Environmental Law Institute, titled *Building Capacity to Participate in Environmental Protection Agency Activities: A Needs Assessment and Analysis*. In that study, in-depth interviews with open-ended questions were conducted with experts on citizen participation in environmental issues and community capacity building. The purpose of the interviews was to identify: (1) areas most in need of an investment in capacity building; (2) capacity building tools and techniques that are perceived to be effective by communities and citizens; (3) effective

mechanisms for delivering capacity building tools; and (4) approaches that could be taken to implement capacity building efforts.

After the interviews were conducted, the next step was to analyze each need and approach that had been identified by the interviewees and accordingly identify possible constraints and barriers to implementation, design issues, and potential efficacy for each approach in addressing perceived capacity building needs. Another phase of this needs assessment, occurring concurrently with the others and informing the construction and analysis of the various approaches examined, was a literature review on public participation relevant to capacity building.

Tools for an effective CLNA project

There are a number of components in a community level needs assessment, all of which are aimed at gathering data that will answer what the practitioner needs to know and inform the decisions that he or she makes. According to the National Consumer Supporter Technical Assistance Center (www.ncstac.org) the following are crucial components of a community level needs assessment.

Community needs assessment involves assessing the needs that people have in order to live in: (1) an ecologically sustainable environment; (2) a community that maintains and develops viable social capital; (3) a way that meets their own economic and financial requirements; and (4) a manner that permits political participation in decisions that affect themselves.

Community needs assessment has especial usefulness in action-learning projects, and in ensuring that organizations meet green objectives of: (1) social justice; (2) participatory democracy; (3) non-violent resolution of conflict; and (4)

Watkins, et al. conducted a comparison of the major needs assessment models based on the level of organizational planning each addressed and the direction of linkages between the levels of planning. The following reflect the models included in that analysis, with a few new additions:

Altschuld (2010) came up with the Needs Assessment Kit outlines a three-phase generic needs assessment model, consisting of Phase I (what's known, getting organized and determining priorities), Phase II (collection of new data), Phase III (designing, implementing, and evaluating solution.

Burton & Merrill (1991) explores developing effective instructional educational material. Four basic elements include: identifying a broad range of potential goals, prioritize goals, identify discrepancies between expected and actual performance, and prioritize actions.

Hannum & Hansen (1989) outlined a general steps for a needs assessment to create a training program. Hannum and Hansen suggest identifying the purpose, sample data, and expected impact for each of the following steps: organizational environment, baseline performance data (what's the expected and actual level, target audience, training policy.

Robinson & Robinson (1995) applied a performance perspective to needs assessments. The model includes developing a performance relationship map and identifying operational business needs. Rossett (1987) formulated a guide to conducting a training needs assessment using various data collection methods, analysis of findings, and implementation. Rothwell & Kazanas (1992) applied typical needs assessment steps to identifying human performance

problems, including clarifying objectives, target audience, sampling procedures, data collection methods, instruments and protocols, data analysis methods, and description of action plan based on data found. Witkin & Altschuld (1995) designed a three-phase model for conducting a needs assessment to fit a variety of situations.

Just like any other training needs assessments, research assessment is a broad endeavour. In its deepest sense, it serves as an attempt to measure the return on investment in every scholarly works. Since research assessment does not confined in identifying the knowledge and skills of the researcher, it also includes the evaluation of research quality and measurements of research inputs, outputs and impacts, and embraces both qualitative and quantitative methodologies, including the application of bibliometric indicators and mapping, and peer review.

As research performance is increasingly regarded as a key factor in educational performance for higher education institutions, each and every faculty members must have researches that must be published and produced not only in terms of quantity but also in terms of quality. As such, research assessment has become a major issue for a wide range of administrators, and there is consequently an increasing focus on research quality and excellence, transparency, accountability, comparability and competition.

RESEARCH METHODOLOGY

Research Method Used

This research used the descriptive research method since collections of information demonstrates relationship and describes the existing condition of the topics being studied and suggest that descriptive studies can answer questions such as “what is” or “what was.” De Matteo et al. (2005) elucidated that descriptive research is used to describe the data collected in research studies and accurately characterize the variables under observation within a specific sample. In addition, descriptive analyses are frequently used to summarize a study sample prior to analysing a study’s primary hypotheses. This provides information about the overall representativeness of the sample, as well as the information necessary for other researchers to replicate the study, if they so desire. In other research efforts (i.e., purely descriptive studies), precise and comprehensive descriptions may be the primary focus of the study. In either case, the principal objective of descriptive statistics is to accurately describe distributions of certain variables within a specific data set. This method examines the distribution of a variable as a starting point of reference in statistical analyses, its characteristics and features in questions. It also determines the common features and examines the relationship between two or more variables in interest.

Since the study aimed to assess the research training that needs to be conducted to the faculty members, the evaluation design of descriptive research method was used. According to Chantrill et al. (1984), an evaluation design is done to determine the program strengths, weaknesses or gaps with the purpose of improving it through modification. In addition, evaluation design is the systematic process of collecting and analyzing data in order to make decisions (Gay, 2006). It is also a process used to determine what has happened during a given

activity or in institution which is evident in the objectives of the present study. The purpose of its usage is to see if the quality assurance is being harness in the academic programs of the university and complies with the qualifications frameworks and if an institution is successful according to the goals set for it or if the original intent is being successfully carried out (Best and Kahn, 1998).

Furthermore, the causal comparative design of descriptive research was used in determining the differences on the responses of the different groups of respondents. According to Wallen and Fraenkel (2008), causal comparative design is used to determine the cause or consequences of differences that already exist between or among group of individuals. It is also used to look at conditions that have already occurred and then collects data to investigate a possible relationship between conditions and subsequent characteristics or behaviors (Leedy and Omrod, 2001).

Population and Sampling Technique

Since only those faculty members and quasi admin faculty members who were identified to have problems in conducting researches are the main respondents of the study, purposive sampling had been utilized. The main goal of purposive sampling is to focus on particular characteristics of a population that are of interest, which will best enable to answer the problem statements identified. In this study, units were selected based on their having similar characteristics because such characteristics are of particular interested to the researcher.

Table 1 shows the population frame of the respondents by college.

As shown from the table, majority of the respondents were from the College of Education – Laboratory High School with a frequency of 28 or 32.18%. This was followed by the faculty members of College of Engineering and Industrial Technology with a frequency of 17 or 19.54%. Third in rank were from the Institute of Physical Education with a frequency count of 16 & 15

Table 1
Frequency and Percentage Distribution of the Respondents by College

COLLEGE	FREQUENCY	PERCENTAGE	RANK
College of Arts and Sciences (CAS)	15	17.24	4
College of Business and Entrepreneurial Technology (CBET)	11	12.64	5
College of Education (CED)	28	32.18	1
College of Engineering and Industrial Technology (CEIT)	17	19.54	2
Institute of Physical Education (IPE)	16	18.40	3
TOTAL	87	100	

from the College of Arts and Sciences while the last in rank were from the College of Business and Entrepreneurial Technology with a frequency of 11 or 12.64%. Above data revealed that College of Education has the greatest number of faculty members because the faculty members of the laboratory high school have now been merged.

Description of the Respondents

There were eighty eight faculty members of the Rizal Technological University who had been the respondents of the study. They were classified according to their college, specialization, age, sex, length of service and the number of researches made. Only those respondents who had produced for at least one (1) research output had been chosen to be the respondents of the study in order to identify the needs and difficulties encountered by them in preparation and conceptualization of the research outputs.

Instruments Used

The instrument that had been used in this study was standardized instrument by De Leon (2014). It consists of three different parts. Part I of the instrument includes the personal or demographic profile of the respondents such as their age, sex, length of service, specialization, Second part of the instrument covers the different problems that are commonly encountered by the respondents. These items were answered by the respondents through the five point-likert scales as shown below:

Responses	Arbitrary Ranges	Verbal Interpretation
5	4.20-5.00	Most Serious
4	3.40-4.19	Very Serious
3	2.60-3.39	Moderately Serious
2	1.80-2.59	Slightly Serious
1	1.00-1.79	Least Serious

Part III exhibits the research needs of the faculty members and it can be answered using the five-point Likert Scales as depicted below:

Responses	Arbitrary Ranges	Verbal Interpretation
5	4.20-5.00	Most Needed
4	3.40-4.19	Very Much Needed
3	2.60-3.39	Moderately Needed
2	1.80-2.59	Slightly Needed
1	1.00-1.79	Least Needed

Data Gathering Procedure

Questionnaire with a Likert scale and checklist was used to gather data in determining the research need training assessment of the faculty members of the Rizal Technological University. Distribution of questionnaires was the primary data collection technique that had been used to determine the common problems encountered by the faculty members as well as their research needs. The researchers had carefully explained the objectives of the research undertaking to the

respondents after securing permit from the deans of the different colleges. The data gathered was tallied, tabulated and analyzed.

Statistical Treatment of Data

The following statistical techniques were utilized in the processing of quantitative data of the study:

Descriptive Statistics

- 1. Frequency Count and Percentage.** These measures are as basic as counting the number of responses and comparing them to the total number of responses and later convert them to equivalent percentages. The profile data, referring to the personal characteristics of the respondents as that of demographic characteristics like age, gender, academic qualifications, and field of specialization were determined using these statistical measures.
- 2. Weighted Mean.** Summated scale ratings in a continuum of 5 that was used to determine the research needs and the problems encountered by the respondents.
- 3. Standard Deviation.** This is used to determine the variability of respondents on their research-related problem and needs.
- 4. Kruskal–Wallis Test.** A rank-based nonparametric test that can be used to determine if there are statistically significant differences between two or more groups of an independent variable on a continuous or ordinal dependent variable. This was applied in determining the differences between then the research needs and problems encountered by the respondents with that of their selected demographic profiles such as age, specialization and educational qualifications. The formula used was:

$$H = \frac{12}{n(n+1)} \sum_{i=1}^k \frac{R_i^2}{n_i} - 3(n+1)$$

Where,

H = Kruskal-Wallis Test statistic

N = total number of observations in all samples

T_i = Sum of the ranks assigned

- 5. Mann Whitney U Test.** This was used to compare differences between two independent groups when the dependent variable is either ordinal or continuous, but not normally distributed. In this study, it was used to determine the significant relationship between gender and that of the research needs and problems encountered by the respondents. The formula was:

$$U = n_1 n_2 + \frac{n_2(n_2+1)}{2} - \sum_{i=n_1+1}^{n_2} R_i$$

Where:

U=Mann-Whitney U test

N₁ = sample size one

N₂= Sample size two

R_i = Rank of the sample size

The data that were gathered were processed and analyzed through the use of the Statistical Package for Social Sciences (SPSS) version 20.

RESULTS AND DISCUSSION

This part presents analyses and interprets the data collected. The tables presented provide the major results of the study and interpretations based on the specific problems raised in the statement of the problem.

1. Profile of the Respondents

Table 2 presents the profile of the respondents according to age. As shown in the table, it can be noted that only 13 or 15% belong to the age bracket 60 years old and above, while 15 or 17.2% have ages ranging from 20-29 years. Data further show that 17 or 19.5% are categorized under the 40-49 age group while 18 or 20.7% belong to the 50-59 age bracket. However, 24 or 20.7% fall under the age bracket of 30 – 39 years.

As a whole, the faculty members post a mean age of 43.07 years which only shows that they are in the prime of their lives as educators. As such, they can benefit a lot from staff development trainings to be provided by the university. Data further imply that faculty respondents gradually grow in the service which seemingly suggests that they need to provide more opportunities in training in order to develop their capabilities and that they could perform better not only in the teaching but also in coming up with a research output which is said to be another important function of a teacher especially in the tertiary level.

Table 2
Frequency and Percentage Distribution of the Respondents According to Age

Age	Frequency	Percent	Rank
20 - 29	15	17.2	4
30 - 39	24	27.6	1
40 - 49	17	19.5	3
50 - 59	18	20.7	2
60 and above	13	15	5
Total	87	100	

Mean Average = 43.07 years

Table 3 shows the distribution of the respondents 'gender.

Table 3
Frequency and Percentage Distribution of the Respondents According to Gender

Gender	Frequency	Percent	Rank
Male	34	39.1	2
Female	53	60.9	1
Total	87	100.0	

As gleaned from the table, data show that only 34 or 39.1% of the faculty respondents are males. Majority of these however were females as indicated by the frequency distribution of 53 or 60.9%. Data clearly reveal that teaching is still a female-dominated profession.

Table 4 presents the frequency and percentage distribution of faculty respondents according to Educational Qualifications.

As gleaned from the table, the respondents have diverse educational attainments. It be noted that majority of the respondents were holders of master's degree with a frequency of 51 or 58.6%. This is followed by the respondents with MA or MS units of 13 or 14.9%. While third in rank were the

Table 4
Frequency and Percentage Distribution of the Respondents According to Educational Qualifications

Educational Qualifications	Frequency	Percent	Rank
Bachelor Graduate	6	6.9	5
With MA/MS Units	13	14.9	2
Masters Graduate	51	58.6	1
With Doctorate Units	7	8.0	4
Doctorate Graduate	10	11.5	3
Total	87	100.0	

respondents who had finished doctorate degree which has a frequency of 10 or 11.5%. Data also revealed that only few of the respondents pursue their doctorate after taking their master degree with a frequency of 7 or 8% while 6 or 6.9% who had bachelor's degree.

Above data show that the University had been strictly implementing the mandate prescribed by the Commission on Higher Education in selecting and hiring procedures of faculty members in the college. Moreover, graduate program of the university has been very effective in motivating its faculty members to finish their master's or their PhD programs.

Table 5 exhibits the frequency and percentage distribution of the respondents according to their length of service.

It can be noted that 35 or 40% has been teaching in the university for 21 years and above while 24 or 27.6% had been in the university for 6-10 years. Third in rank were the teachers teaching in the university for five years and below with a frequency of 17 or 19.5% followed by 6 or 6.9% who have been rendering service in the university for 16 to 20 years. However, only 5 or 5.7% had been teaching for 11-15 years. This indicates that there is a diverse

Table 5
Frequency and Percentage Distribution of the Respondents According to their Length of Service

Length of Service	Frequency	Percent	Rank
5 Years and Below	17	19.5	3
6-10 Years	24	27.6	2
11-15 Years	5	5.7	5
16-20 Years	6	6.9	4
21 Years and above	35	40.2	1
Total	87	100.0	

group of faculty members teaching in the university and majority of which had been serving the university for longer years. This only shows that though there were retirees, new faculty members had already been hired to suffice the needed teaching force of the university.

Table 6 reflects the frequency and percentage distribution of the respondents according to their field of specialization.

Table 6
Frequency and Percentage Distribution of the Respondents
According to their Field of Specialization

Field of Specialization	Frequency	Percent	Rank
Engineering	16	18.4	4
Sciences	22	25.3	1
Social Sciences	17	19.5	3
Education	32	36.8	2
Total	87	100.0	

Tabular data reveals that majority of the respondents are specialized in Sciences of 22 or 25.3%. This is followed by 32 or 36.8% who were specialized in education. Third in rank were faculty members who are specialized in Social Sciences with a frequency of 17 or 19.5% and lastly are the faculty respondents who were specialized in Engineering with a data of 16 or 18.4%. This shows that there is a need to prioritize the conduct of research capability trainings which are more focused on Science and Education in order to increase the level of their research competence in their respective fields.

2. Research-Related Problems and Research Needs of the Respondents

Reflected in table 9 are the means obtained on the research-related problems of the faculty members.

As reflected, majority of the research related problems that had been experienced by the respondents were interpreted to be "very serious". The highest mean of 4.04 and 4.05 that had been recorded falls on the "financial constraints" and "time management" respectively.

According to Clemena & Acosta (2007), enhancing and supporting research productivity necessitates allotment of funds. Apart from funding research projects, supporting paper presentations in international conferences would demonstrate to the faculty that what they have produced is valuable. Appropriate linkages with external funding agencies should be pursued more actively. Because only a few institutions in the country have access to sufficient funding for research, the CHED should plan strategic ways of offering financial assistance or grants for individual and institutional research projects.

It is a common knowledge that the faculty in the higher education institutions has traditionally been trifocal, consisting of teaching, research and community service/extension. University faculty members are required to become teachers, researchers, and service-oriented professionals. This

Table 7
Means Obtained on the Research Related Problems of the Respondents

RESEARCH-RELATED PROBLEMS	WEIGHTED MEAN	VERBAL INTERPRETATION
1. Coming up with a good research problem	3.69	Very Serious
2. Identifying appropriate research methods	3.67	Very Serious
3. Determining research guidelines and procedure	3.58	Very Serious
4. Data gathering procedure	3.71	Very Serious
5. Determining variables	3.46	Very Serious
6. Formulating statement of the problem	3.50	Very Serious
7. Formulating hypotheses	3.35	Moderately Serious
8. Statistical hypothesis testing	3.74	Very Serious
9. Designing research paradigm	3.66	Very Serious
10. Getting grounded theoretical framework	3.63	Very Serious
11. Identifying the beneficiaries of the study	3.32	Moderately Serious
12. Taking scope and limitation of the study	3.31	Moderately Serious
13. Developing a researcher-made questionnaire	3.65	Very Serious
14. Validation of questionnaire to experts and specialists	3.67	Very Serious
15. Determining appropriate research design	3.65	Very Serious
16. Getting respondents and the sampling techniques	3.63	Very Serious
17. Distributing and retrieving questionnaires	3.76	Very Serious
18. Appropriate statistical treatment and computations	3.86	Very Serious
19. Operational definition of terms	3.12	Moderately Serious
20. Structuring a good title	3.54	Very Serious
21. Getting related literature to support the study both local and foreign	3.71	Very Serious
22. Getting related studies and their relevance to the present study	3.75	Very Serious
23. Organizing and outlining the related literature according to significance	3.60	Very Serious
24. Proper citation format	3.58	Very Serious
25. Appropriate way of presenting the data	3.52	Very Serious
26. Analyzing and comparing the data with those in reviewed literature	3.60	Very Serious
27. Taking the summary of findings	3.44	Very Serious
28. Formulating conclusions	3.46	Very Serious
29. Deriving recommendations	3.33	Moderately Serious
30. Making Bibliography	3.13	Moderately Serious
31. Formatting conclusions	3.36	Moderately Serious
32. Editing of the manuscript	3.60	Very Serious
33. Time Management	4.04	Very Serious
34. Financial Constraints	4.05	Very Serious
35. Interest in Research	3.63	Very Serious

traditional trinity is expected to operate in relation to the specific goals and mission of the college or university. The strategic directions of the institutions influence the level of concentration on each task to be given by faculty members. Moreover, each institution develops criteria to assess the extent to which a faculty member is an efficient teacher, productive researcher, and active university citizen. The challenge is in maintaining the trinity in sustaining one's academic career. It is undeniable that faculty discretion is exercised within the three functions, but the questions of compliance and productivity become the heart and soul in understanding the academic profession. Literature largely focuses on the teaching and research nexus in exploring faculty functions, productivity, and university academic culture (e.g. Fairweather, 1999; Tierney, 1999; Layzell, 1999; Shanklin, 2001). Thus, time management had been said to be part of the problems being encountered by the respondents in conducting researches.

Other problems that had been cited by the respondents to be "very serious" includes research problem formulation, the conduct of literature reviews, proper methods and the use appropriate statistical treatments in testing the hypothesis of the problems as well as the presentation, analyzing and interpreting the data that had been gathered.

In the study made by Taskeen, et. al. (2014), it has been revealed that due to lack of sufficient knowledge regarding selection of problem, researcher wastes a great deal of time in choosing futile and worthless research topics. Generally, research starts by selecting a new research question. Problem should be original and researchable and must carry significance but it causes impenetrability as it's not something easy to find out the problem which appears new as well as significant to the population. To select a new topic is difficult as researchers are unaware of how to select a topic and on the basis of what criteria they should choose it. The process of selection starts from selecting an area of interest-within that particular area a problem is selected and narrowed down.

In terms of coming up with literature review, the University of Queensland California (2016) stressed that since research is supposed to make an "original" contribution to human knowledge, one of the things a researcher must need is to do as a writer is to demonstrate that you are not simply repeating what has already been done before (or if you are, that there is a reason to have some doubt about the previous findings, perhaps as a result of some methodological weakness, thus necessitating the need for a confirmatory study with an improved methodology, or that the previous results are likely to need updating). Thus, as you review the existing literature, you need to identify any limitations, deficiencies, or gaps in existing knowledge or practice that need to be addressed. (<http://www.uq.edu.au/student-services/learning/lit-reviews-common-problems>)

The succeeding table 8 portrays the means obtained on the research needs of the respondents.

As seen on the table, all respondents rated their research needs in conducting research across all areas of research process to be "very much needed". Among the different areas in preparation of research, "presentation, analysis and interpretation of data" has the highest mean of 4.33. This show that in the preparation of research training, there should be a great emphasis on this part since it allows the respondents on how to justify the results in a

Table 8
Means Obtained on the Research Needs of the Respondents

RESEARCH NEEDS	WEIGHTED MEAN	VERBAL INTERPRETATION
A. Background on Research		
1.Scope and purposes	4.19	Very Much Needed
2. Kinds and classifications	3.89	Very Much Needed
3. Characteristics of a good research	4.10	Very Much Needed
4. Steps in scientific method	4.06	Very Much Needed
5. Appropriate and correct title	4.07	Very Much Needed
6. Validity and reliability issues and concerns	4.23	Very Much Needed
GENERAL WEIGHTED MEAN	4.09	Very Much Needed
B. Research Problem		
1. Formulating hypotheses	4.06	Very Much Needed
2. Skill in hypotheses testing	4.06	Very Much Needed
3. Formulating of statement of the problem	4.13	Very Much Needed
4. Determining variables and their types	4.07	Very Much Needed
5. Theoretical and conceptual frameworks	4.07	Very Much Needed
6. Identifying significance of the study	4.00	Very Much Needed
7. Scope and limitation of the study	3.98	Very Much Needed
8. Definitions of terms	3.74	Very Much Needed
GENERAL WEIGHTED MEAN	4.01	Very Much Needed
C. Review of Related Literature and Studies		
1. Foreign and Local Literature	3.94	Very Much Needed
2. Foreign and Local Studies	4.10	Very Much Needed
3. Relevance of related literature and studies	4.02	Very Much Needed
4. Outline and format of concept organization	3.95	Very Much Needed
5. Proper citation of sources	4.01	Very Much Needed
GENERAL WEIGHTED MEAN	4.00	Very Much Needed
D. Research Methodology		
1. Types of research methods and designs	4.15	Very Much Needed
2. Knowledge on data gathering instruments	4.12	Very Much Needed
3. Identifying respondents	4.02	Very Much Needed
4. Sampling procedures and techniques	4.04	Very Much Needed
5. Types of survey and its process	4.01	Very Much Needed
6. Preparation of questionnaires	4.13	Very Much Needed
7. Validation of instruments	4.21	Very Much Needed
8. Appropriate statistical treatment	4.36	Very Much Needed
GENERAL WEIGHTED MEAN	4.13	Very Much Needed
E. Presentation, Analysis and Interpretation of Data		
1. Ways of presenting the data	4.20	Very Much Needed
2. Analysis of data	4.30	Very Much Needed
3. Interpretation of data and comparison of findings	4.33	Very Much Needed
GENERAL WEIGHTED MEAN	4.28	Very Much Needed

F. OTHERS		
1. Summary, conclusion and recommendations	4.17	Very Much Needed
2. Bibliography	3.86	Very Much Needed
3. Appendices	3.68	Very Much Needed
4. Format and guidelines	4.02	Very Much Needed
5. Financial assistance and research grants	4.46	Very Much Needed
6. Incentives and motivation	4.35	Very Much Needed
GENERAL WEIGHTED MEAN	4.09	Very Much Needed

manner that it could intertwined with the existing results of the study and other articles that justifies the result of the present study. Needs about the research methodology obtained the second highest mean of 4.13 as rated by the respondents. With the interviews conducted from respondents, they had difficulties or fear in the use of appropriate statistical treatment for their data due to lack of knowledge and that they seek for experts in order to come up with the right results.

According to Calma (2016) it has been the national policy of the CHED to enhance research in the Philippines. To do this, examining and developing research training is critical. Research training is at the core of enhancing and promoting research within HEIs. There are even more reasons to develop research training in the Philippines given the strategic directions that HEIs currently take. First, amongst HEIs, one of their aims has been to attract international students due to insufficient funding on public universities as well as to move away from over-dependence on tuition fees from local students for private universities. Second, universities increasingly find it important to integrate research into their postgraduate education curricula and moving towards becoming 'research universities'. Finally, HEIs push for local accreditation and international quality standards benchmarking to mark their place in Asia-Pacific. Thus, it is a critical part of this transformation and positioning to examine research training structures, policies, and practices.

3. Magnitude of the Gap of Respondents' Research Problems and Needs

Table 9

Magnitude of the Gap of Respondents' Research Related Problems

RESEARCH-RELATED PROBLEMS	WEIGHTED MEAN	Standard Deviation
1. Coming up with a good research problem	3.69	.98
2. Identifying appropriate research methods	3.67	.92
3. Determining research guidelines and procedure	3.58	1.00
4. Data gathering procedure	3.71	1.00
5. Determining variables	3.46	.95
6. Formulating statement of the problem	3.50	1.10
7. Formulating hypotheses	3.35	1.09
8. Statistical hypothesis testing	3.74	1.00
9. Designing research paradigm	3.66	.98
10. Getting grounded theoretical framework	3.63	.94

11. Identifying the beneficiaries of the study	3.32	1.12
12. Taking scope and limitation of the study	3.31	1.23
13. Developing a researcher-made questionnaire	3.65	1.08
14. Validation of questionnaire to experts and specialists	3.67	1.09
15. Determining appropriate research design	3.65	1.08
16. Getting respondents and the sampling techniques	3.63	1.00
17. Distributing and retrieving questionnaires	3.76	.91
18. Appropriate statistical treatment and computations	3.86	1.00
19. Operational definition of terms	3.12	1.19
20. Structuring a good title	3.54	1.20
21. Getting related literature to support the study both local and foreign	3.71	1.00
22. Getting related studies and their relevance to the present study	3.75	.89
23. Organizing and outlining the related literature according to significance	3.60	1.09
24. Proper citation format	3.58	1.19
25. Appropriate way of presenting the data	3.52	1.10
26. Analyzing and comparing the data with those in reviewed literature	3.60	1.15
27. Taking the summary of findings	3.44	1.17
28. Formulating conclusions	3.46	1.20
29. Deriving recommendations	3.33	1.19
30. Making Bibliography	3.13	1.34
31. Formatting conclusions	3.36	1.22
32. Editing of the manuscript	3.60	1.14
33. Time Management	4.04	.90
34. Financial Constraints	4.05	.98
35. Interest in Research	3.63	1.19
Total	3.58	1.07

Based on the above table, the computed standard deviations obtained from the indicators on research-related problems range from .089-1.34 and the average standard deviation is 1.07. This shows that the variability of the responses of the respondents is very slight. As reflected in the weighted mean tables, respondents have considered majority of their –related problems very serious like; coming with good research problem, identifying appropriate research methods, getting grounded theoretical framework, gathering relevant studies, time management and financial constraints.

On the two items, the university has started implementing already the policy on research incentive like the reduction of the number of regular load who are conducting research and the payment after complying the requirements for the manuscript. In spite of these, these are still considered serious problems since number of part time loads for teachers are sometimes uncontrollable. For the financial constraints, there is no amount allotted to be given in advance as a working budget in the process of doing the study.

Table 10
Magnitude of Gap of the Respondents' Research Needs

RESEARCH NEEDS	WEIGHTED MEAN	Standard Deviation
A. Background on Research		
1.Scope and purposes	4.19	0.81
2. Kinds and classifications	3.89	0.82
3. Characteristics of a good research	4.10	0.82
4. Steps in scientific method	4.06	0.84
5. Appropriate and correct title	4.07	0.59
6. Validity and reliability issues and concerns	4.23	0.87
GENERAL WEIGHTED MEAN	4.09	.84
B. Research Problem		
1. Formulating hypotheses	4.06	0.88
2. Skill in hypotheses testing	4.06	0.86
3. Formulating of statement of the problem	4.13	0.90
4. Determining variables and their types	4.07	0.86
5. Theoretical and conceptual frameworks	4.07	0.94
6. Identifying significance of the study	4.00	0.96
7. Scope and limitation of the study	3.98	1.04
8. Definitions of terms	3.74	1.07
GENERAL WEIGHTED MEAN	4.01	0.94
C. Review of Related Literature and Studies		
1. Foreign and Local Literature	3.94	0.80
2. Foreign and Local Studies	4.10	0.79
3. Relevance of related literature and studies	4.02	0.82
4. Outline and format of concept organization	3.95	0.77
5. Proper citation of sources	4.01	0.95
GENERAL WEIGHTED MEAN	4.00	0.83
D. Research Methodology		
1. Types of research methods and designs	4.15	0.77
2. Knowledge on data gathering instruments	4.12	0.83
3. Identifying respondents	4.02	0.90
4. Sampling procedures and techniques	4.04	0.92
5. Types of survey and its process	4.01	0.86
6. Preparation of questionnaires	4.13	0.82
7. Validation of instruments	4.21	0.78
8. Appropriate statistical treatment	4.36	0.79
GENERAL WEIGHTED MEAN	4.13	0.83
E. Presentation, Analysis and Interpretation of Data		
1. Ways of presenting the data	4.20	0.83
2. Analysis of data	4.30	0.83
3. Interpretation of data and comparison of findings	4.33	0.78
GENERAL WEIGHTED MEAN	4.28	0.81

F. OTHERS		
1. Summary, conclusion and recommendations	4.17	0.86
2. Bibliography	3.86	1.01
3. Appendices	3.68	1.09
4. Format and guidelines	4.02	0.88
5. Financial assistance and research grants	4.46	0.72
6. Incentives and motivation	4.35	0.80
GENERAL WEIGHTED MEAN	4.09	0.89

The table shows the variability of the responses of respondents pertaining to their training needs in research. Based on the standard deviation computations; Background on Research has an average standard deviation of 0.84, Research Problem got 0.94, Review of Related Literature and Studies obtained 0.83, Research Methodology got 0.83 also, Presentation, Analysis and Interpretation of Data yielded 0.81 while others have gained 0.89.

The average standard deviation of all the variables on the Research Training Needs is 0.85 which means the variability is very slight.

Reflecting on the weighted mean table number 8, the responses of the respondents considered all the indicators of the Research Training Needs as very much needed.

This would prompt the administration to conduct trainings on the identified research needs of the faculty members which will eventually strengthen the research culture in the university. Needless to mention, research is very important area to be considered for AACUP and SUC Leveling accreditations wherein RTU being one of the state universities has to comply also.

4. Differences of the Research Problems and Needs of the Respondents with their Selected Demographic Profile.

Table 9 shows the relationship between the research needs and problems of the respondents as regards gender.

Table 11
U Values Obtained between the Research Needs and Problems of the Respondents with their Gender

ITEMS	U-values	DECISION
Research Related Problems	.873	Not Significant
Research Needs on the Background of Research	.511	Not Significant
Research Needs on the Research Problem	.219	Not Significant
Research Needs on the Review of related Literature	.078	Not Significant
Research Needs on the Research Methodology	.468	Not Significant
Research Needs in the Presentation and Analysis of Data	.850	Not Significant
Research Needs on the Other Areas of Research Process	.259	Not Significant
Overall Total of U Values on the Research Needs	.253	Not Significant

Level of Significance = .05

As depicted from the table, there is no significant difference between the research problems and the research needs of the respondents when group according to their gender as reflected by U values of .873 and .253 respectively, which are both greater than tabular value - 1.96 at level of significance of .05, thus accepting the null hypothesis. Results show that regardless of gender, research problems and research needs are common to all respondents.

The next table presents the H values obtained between the research problems and needs and when grouped according to their ages.

Result shows that the research problems of the respondents have no significant difference with their age with H value of .092 higher than the alpha

Table 12
H- Values Obtained between the Research Needs and Problems of the Respondents with their Age

ITEMS	H-values	DECISION
Research Related Problems	.092	Not Significant
Research Needs on the Background of Research	.000	Significant
Research Needs on the Research Problem	.018	Significant
Research Needs on the Review of related Literature	.008	Significant
Research Needs on the Research Methodology	.003	Significant
Research Needs in the Presentation and Analysis of Data	.004	Significant
Research Needs on the Other Areas of Research Process	.017	Significant
Overall Total of U Values on the Research Needs	.002	Significant

Level of Significance = .05

at .05. Thus, the null hypothesis that there is no significant difference between the ages of the respondents with the research problems that they encounter is hereby accepted. However, the research needs of the respondents across all areas of research process were found to be significant with an overall H value of .002 at .05 level of significance, thus rejecting the null hypothesis that there is no difference between the research needs and the age of the respondents. This only mean that age must be put forth as top priority in giving research trainings.

According to Calma (2014), one of the many issues surrounding research amongst HEIs is the need for research training amongst supervisors (Brew & Peseta, 2004; Cryer & Mertens, 2003; Grant & Graham, 1999). Before supervisors become effective trainers, they also require the appropriate skills and competences to train others. This makes the notion of 'training the trainers' an important one. Academic staff can participate in a number of research training activities that can enhance their technical ('hard skills') and interpersonal skills ('soft skills'). The challenge for HEIs is to provide these opportunities in a manner that best optimizes the skillful combination of these skills.

Table 13
H- Values Obtained between the Research Needs and Problems of the Respondents with their Educational Qualifications

ITEMS	H-values	DECISION
Research Related Problems	.195	Not Significant
Research Needs on the Background of Research	.029	Significant
Research Needs on the Research Problem	.096	Not Significant
Research Needs on the Review of related Literature	.024	Significant
Research Needs on the Research Methodology	.012	Significant
Research Needs in the Presentation and Analysis of Data	.149	Not Significant
Research Needs on the Other Areas of Research Process	.225	Not Significant
Overall Total of H Values on the Research Needs	.038	Significant

Level of Significance = .05

As depicted from the table, research problems have no significant difference with the educational qualifications of the respondents with H-values at .05 level of significance. Thus, the null hypothesis has been accepted. This only means that regardless of educational qualifications, problems in conducting research is manifested or experience by all respondents. In terms of the research needs, it was found out that there are significant differences in the research needs on the research background, review of related literature and research methodology with H-values of .029, .024 and .012 at .05 level of significance. This may be due to the fact that some respondents are knowledgeable in these different aspects of the research processes. Thus, the null hypothesis is rejected and that there is significant difference between the research needs and the educational qualifications of the respondents.

Table 14
H- Values Obtained between the Research Needs and Problems of the Respondents with their Specialization

ITEMS	H-values	DECISION
Research Related Problems	.156	Not Significant
Research Needs on the Background of Research	.285	Not Significant
Research Needs on the Research Problem	.267	Not Significant
Research Needs on the Review of related Literature	.717	Not Significant
Research Needs on the Research Methodology	.296	Not Significant
Research Needs in the Presentation and Analysis of Data	.308	Not Significant
Research Needs on the Other Areas of Research Process	.255	Not Significant
Overall Total of H Values on the Research Needs	.429	Not Significant

Level of Significance = .05

As shown in the table, there is no significant difference in the research problems and research needs in their specialization with H values of .156 and .255 respectively which is higher than the p value at .05 level of significance. Thus the null hypothesis is accepted. This means that regardless of specialization, the faculty members of the university have been encountering the same problems and that their research needs to be addressed were also similar.

5. Intervention Plan in Addressing the Research Related Problems and Research Needs of the Faculty Members of the University

RESEARCH CAPABILITY BUILDING PROGRAM

A. Rationale of the Program

This research capability building program involves individual and organizational learning which should be demand driven. If successful, it contributes to the aim of the university in developing a research culture university and coming up with a research oriented faculty members leading to positive research productivity. This research capacity building is organized to enhance the abilities of individuals, organizations and systems to undertake and disseminate high quality research efficiently and effectively.

B. Objectives of the Program

This research capability training is developed in order to meet the following objectives:

1. Assist faculty members in their effort to learn and conduct research.
2. Produce high impact/quality researches in the university which could be used by the school and the society as a whole;
3. Mentor faculty members and researchers to become competent researchers/research mentors.

C. Program Administration and Supervision

To ensure the success of the intervention plan, it shall be administered and supervised by the Office of the Vice President for Programs, Research and Extension Services through its Research and Development Center in cooperation with the Deans of the Colleges. Thus, monitoring of the program shall be a joint responsibility of the above mentioned offices.

D. Program Participants

All faculty members who had been identified and participated in the study shall be prioritized in the conduct of the research capability training program. However, it is within the prerogative of the deans to include some other faculty member whom they think qualified and willing to join the group in order to enhance further their research capabilities.

E. Program Implementation

Shown below are the details relating to the implementation of the aforementioned intervention plan for the faculty members to address their research problems and needs in conducting research.

TOPICS	OBJECTIVES	DESCRIPTION OF THE ACTIVITY	RESOURCES NEEDED	TIME FRAME	BUDGETARY REQUIREMENTS
Introduction to Research, Process and Ethics	Familiarize the basic elements and cycle of research and the importance of ethics before the conduct of research.	An introductory course that orients the participants on the process of research.	Speaker / Trainer Training Materials Honoraria Food and Refreshments	4 – 5 hours	20,000
Writing a Research Proposal	Understand the process of writing a research proposal and apply the necessary details in writing a proposal.	What is a research proposal and what does it entail? This Workshop outlines the rationale for writing a proposal and details the necessary steps to writing a well-argued proposal from a multi-disciplinary perspective.	Speaker / Trainer Training Materials Honoraria Food and Refreshments	8 hours	30,000
Conducting Quantitative Researches in Education	Apply the appropriate methods in the quantitative approach in research	This session is centered on the rudiments of conducting researches such as survey, correlational, and experimental studies appropriate in the field of education	Speaker / Trainer Training Materials Honoraria Food and Refreshments	3 Days	30,000
Conducting Qualitative Researches	Apply the appropriate methods in the qualitative	Emerging qualitative approaches in research as	Speaker / Trainer Training	2 days	30,000

in Education	approach in research	appropriate in education will be briefly discussed in this session (e.g. grounded theory, life-story method and ethnography).	Materials Honoraria Food and Refreshments		
Sampling Methods for Quantitative and Qualitative Researches	Gain deeper understanding on sampling methods for different approaches in research	The focus of this session is on the selection of participants in quantitative and qualitative researches. The significant difference in doing sampling between the quantitative researches and the qualitative researches will be highlighted to develop the participants' confidence in selecting the most appropriate number of research participants.	Speaker / Trainer Training Materials Honoraria Food and Refreshments	2 days	30,000
Data Collection Instruments for both Quantitative and Qualitative Researches	Apply the different data collection instruments for the different approaches in research.	In this session, the development and validation of various data collection instruments like the questionnaire, rating scales, interview guide, etc., will be discussed.	Speaker / Trainer Training Materials Honoraria Food and Refreshments	2 days	30,000

Data Collection Procedures for Qualitative Researches	Be acquainted with the procedure in data collection for qualitative research	How to conduct focus group discussion, in-depth interview and other modes of data collection for qualitative researches will be discussed in this session.	Speaker / Trainer Training Materials Honoraria Food and Refreshments	2 days	30,000
Analyzing Quantitative Data Using SPSS	Understand the use of the available statistical software for data analysis and interpretation	Basic descriptive and inferential statistics are covered. This module is designed for faculty, staff and researchers interested in using statistical software for basic statistical analysis.	Speaker / Trainer Training Materials Honoraria Food and Refreshments	2 Days	30,000
Writing the Research Article for Publication	Equip the participants with the practical tips on writing research paper in publishable form.	This session provides practical tips on writing research paper in Publishable format from the introduction to the conclusion.	Speaker / Trainer Training Materials Honoraria Food and Refreshments	4-5 hours	30,000

SUMMARY OF FINDINGS

1. The respondents according to their profile: majority of the respondents belong to the age bracket from 30-39 which has 27.6 % while the lowest is 60 and above which has only 15%. On gender, females outnumbered males which have 60.9 % while males have 39.1 %. Pertaining to educational qualifications, majority of the respondents finished their masteral degree program which has 58.6 % and still 6.9 % who did not enroll yet in the graduate school. Also, majority of the respondents have stayed already in RTU for 21

years and above which obtained a percentage of 40.2 while 5.7 % only for those who are in their 11 to 15 years in service.

Lastly, respondents according to their field of specialization, education got the highest percentage which is 36.8 % while engineering as the lowest has only 18.4 %.

2. On weighted mean tables for Research Related Problems of the Respondents, majority of the problems identified considered as very serious except on the following; formulating hypothesis, identifying the beneficiaries of the study, scope and delimitation of the study, operational definition of terms, deriving recommendations, making bibliography and formatting conclusions which are considered as moderately serious.

On the Research Needs of the respondents which are; Background of Research Problem, Review of Related Literature and Studies, Research Methodology, Presentation, Analysis and Interpretation of Data yielded a general weighted mean which is 4.09 which is verbally interpreted as very much needed.

3. On testing the magnitude of the gap of respondents in their research problems and needs, first on research problems the computed standard deviations range from .89 to 1.34 in all the items which indicates a very slight variability/gap.

Under the category of research needs which are; Background on Research, Research Problem, Review of Related Literature and Studies, Research Methodology, Presentation, Analysis and Interpretation of Data, these obtained an average standard deviation which is .89 which indicates a very slight variability among the respondents' responses in terms of their research needs.

4. On the differences between Research Problems and Needs with the gender of the respondents; the U values obtained is 2.53 which is greater than alpha .05, hence the null hypothesis tested is accepted. On the differences between Research Needs and Problems of the respondents with their age, the obtained total computed U value is .002 which is lower than .05 alpha which means that the null hypothesis tested is rejected.

On the differences between Research Needs and Problems of the respondents with their educational qualifications, the total computed H value is .038 which is lower than .05 alpha and so the tested null hypothesis is rejected.

Lastly, on the differences between Research Needs and Problems of the respondents with their area of specialization, the overall total of H value is .429 which is greater than the set .05 alpha. This means that the null hypothesis tested is accepted.

CONCLUSIONS

Based from the discussion of findings made from this study, the following conclusions were drawn:

1. Teacher age mix has been maintained in the university in which there is an equal distribution. Likewise, teachers in the university are dominated by females. Most

teachers in the university have given high regards when it comes to pursuing graduate school program while there is even distribution in the fields of specialization.

2. The faculty members in the university are experiencing a very serious problem in conducting as research. There is a need to conduct research training for the teachers particularly in the different aspects of research.
3. The magnitude of the variability of the respondents in terms of their research problems and needs is very slight and so they have commonalities with their research problems and needs.
4. There are no significant differences between the research problems and needs of the faculty members with their gender and their area of specializations while significant differences have found in the research problems and needs with respect to their ages and educational qualifications.

RECOMMENDATIONS

1. Research Capability Trainings should and must be conducted especially in the important aspects of conducting the research;
2. Trainings on developing and using variety of appropriate techniques in methods of research are very much encouraged.
3. Strengthen the collaborations between and among the faculty members in order to encourage other faculty members to come up with a wider scope of research undertakings.
4. The instrument of the study shall be further improved by adding additional indicators/variables appropriate for business and engineering researches.
5. Further study should be conducted specially on developing other frameworks in conducting research.

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