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|  | Reference No.: BatStateU-FO-RES-02 | | Effectivity Date: August 22, 2023 | | Revision No.: 04 |
| **DETAILED RESEARCH PROPOSAL** | | | | | |
| 1. **Research Project Title: Development of Parent-Guided Phoneme Manipulation Materials for Early Literacy** | | | | | |
| **II. BatStateU Research Agenda: IBAR** | | | | | |
| **III. Sustainable Development Goal:** (Check all applicable SDG) | | | | | |
| SDG1: No Poverty | | | | SDG10: Reduced Inequalities | |
| SDG2: Zero Hunger | | | | SDG11: Sustainable Cities & Communities | |
| SDG3: Good Health & Well-being | | | | SDG12: Responsible Consumption & Production | |
| SDG4: Quality Education | | | | SDG13: Climate Action | |
| SDG5: Gender Equality | | | | SDG14: Life Below Water | |
| SDG6: Clean Water & Sanitation | | | | SDG15: Life on Land | |
| SDG7: Affordable and Clean Energy | | | | SDG16: Peace, Justice, & Strong Institutions | |
| SDG8: Decent Work & Economic Growth | | | | SDG17: Partnerships for the Goals | |
| SDG9: Industry, Innovation, & Infrastructure | | | |  | |
| **IV. Project Leader: Dr. Nora V. Marasigan**  **Email Address: noramarasigan@g.batstate-u.edu.ph**  **Contact Number: 09164457152**  **Project Staff: Asst. Prof. Myrelle S. De Castro**  **Email Address: myrelledecastro@g.batstate-u.edu.ph**  **Contact Number:**  **Project Staff: Teddy Piamonte**  **Email Address: teddy.piamonte@g.batstate-u.edu.ph**  **Contact Number:**    **Project Staff (s): Ms. Rageene Vera D. Duenas**  **Email Address:** [**veraduenas@gmail.com**](mailto:veraduenas@gmail.com)  **Contact Number: 09465972120** | | | | | |
| **V. Proponent Agency: Batangas State University**  **Department:**  **College: College of Teacher Education**  **Campus: JPLPC Malvar** | | | | | |
| **VI. Cooperating Agency:** (if any) | | | | | |
| **VII. Executive Brief: (Abstract)**  Early literacy is the foundation of a child’s future success in school. One of its most important components is **phonemic awareness**. This is the ability to hear, identify, and work with the individual sounds in spoken words. This skill is a key step before children can learn to read.  This study aims to develop and validate **parent-guided reading materials** that focus on phoneme manipulation skills such as blending, segmenting, and substituting sounds. The materials will be designed for use at home, making it easier for parents to actively support their child’s early reading development. Both mothers and fathers will be engaged as partners in their children’s literacy journey, in response to recent calls for more inclusive parental involvement (Mahasneh et al., 2023; Oloo et al., 2022).  The research will follow a step-by-step process: assessing needs, creating the materials, validating them with experts, implementing them with families, and evaluating the results. Parents and educators—both male and female—will be involved at every stage to ensure the materials reflect different perspectives and address common challenges in home-based reading instruction. A user-friendly manual will be included to guide parents on how to use the materials effectively.  This project is motivated by concerns over declining literacy rates among Filipino children, as reported in the 2023 Education Commission 2 (EdCom II) report. By providing structured, engaging, and accessible resources, it aims to help families strengthen their children’s reading foundations.  Expected outcomes include:   * A published research study * A validated set of reading intervention materials * Increased parental engagement, with participation tracked for both mothers and fathers * Policy recommendations for gender-responsive home reading programs   Lastly, this initiative seeks to improve young learners’ reading skills while promoting equal involvement of both parents in their education. | | | | | |
| **VIII. Rationale:** *(include available statistics related to the problem)*  Early literacy forms the foundation of a child’s success in school. One of the most important early literacy skills is **phonemic awareness**, especially *phoneme manipulation*—adding, deleting, or changing sounds in words. This skill helps children learn to decode words, spell accurately, and read fluently. Without it, they are more likely to struggle with reading comprehension as they advance in school (Wang et al., 2022; Niklas et al., 2021).  The Philippines is currently facing a serious literacy crisis. In the 2018 Programme for International Student Assessment (PISA), the country ranked lowest in reading among 79 participating nations, with an average score of 340—well below the OECD average of 487 (OECD, 2019). The 2019 Southeast Asia Primary Learning Metrics (SEA-PLM) showed that only 10% of Grade 5 pupils met the expected reading standards (SEAMEO & UNICEF, 2019). The COVID-19 pandemic worsened the situation. By 2022, UNICEF reported that fewer than 15% of Filipino 10-year-olds could read and understand a simple story, indicating a high rate of learning poverty.  In response, the Second Congressional Commission on Education (EDCOM II) has urged stakeholders to “fix the foundations” of Philippine education by strengthening early literacy programs. This includes targeted interventions in the early years to prevent later reading difficulties.  One promising strategy is **home-based reading support**, where parents play an active role in developing their children’s reading skills. Studies show that children who read and engage in literacy activities with their parents develop stronger vocabulary, better comprehension, and greater motivation to read.  Traditionally, mothers have taken the lead in home literacy activities. However, research highlights that fathers also make unique contributions to children’s motivation, language growth, and literacy achievement (Mahasneh et al., 2023; Oloo et al., 2022). Barriers such as work schedules, gender norms, and limited confidence in teaching often reduce fathers’ participation (Jones et al., 2022; Torres & Lim, 2024).  This study aims to address both the literacy gap and unequal caregiving roles by developing **gender-responsive, research-based reading materials** focused on phoneme manipulation for kindergarten learners. The materials will be designed for use by both mothers and fathers, encouraging shared responsibility in early reading instruction. The project will also explore barriers that limit parental participation, track the involvement of male and female caregivers, and assess improvements in children’s phonemic awareness skills.  By providing parents with engaging, easy-to-use tools for home reading support, this initiative seeks to strengthen children’s reading foundations, promote gender equity in caregiving, and contribute to improving national literacy outcomes. | | | | | |
| **IX. Objectives of the Project:**  **General Objective**  This study aims to develop a phoneme manipulation-focused reading material to enhance kindergarteners’ phonemic awareness, with emphasis on equitable parental involvement at home.  **Specific Objectives**   1. Assess challenges and needs of parents (mothers and fathers) in teaching phonemic awareness at home. 2. Identify gender-specific barriers and propose strategies for equal parental engagement. 3. Design and develop research-based reading material with interactive activities for kindergarten children. 4. Evaluate the effectiveness of the material in improving children’s phoneme manipulation skills. 5. Determine usability and acceptability of the material among both mothers and fathers. 6. Provide recommendations for improved, scalable, and gender-sensitive home-based reading interventions. | | | | | |
| **X. Expected Output of the Project:** (based on expanded 6Ps & 2Is of research)   1. **Publication** – At least **1 peer-reviewed journal article** on early literacy and gender-responsive parental involvement published in a Scopus-indexed or CHED-recognized journal; **1 conference presentation** in a national or international research forum. 2. **Patent** – **1 patent application** filed with the Intellectual Property Office (IPO) to protect the originality of the developed reading material. 3. **Product** –  * **1 validated, manipulable reading material** for kindergarten learners. * **1 set of recommendations** for gender-sensitive literacy interventions. * **1 digital or manual sex-disaggregated data tracking tool** for parents and learners.  1. **People Service** –  * **4 gender-sensitive capacity-building sessions** for parents (at least 2 sessions specifically for fathers, 2 for mothers, and 2 mixed). * **Target participants:** minimum of **30 parents** (15 mothers, 15 fathers) from partner communities.  1. **Place & Partnership** –  * Collaboration with at least **5 partner institutions** (schools, ECCDs, LGUs, or NGOs). * Project implementation in **1 pilot barangay** or community.  1. **Policy** –  * **1 policy brief** submitted to DepEd/ECCD Council/LGU for integration of GAD-responsive parental involvement in early literacy programs.  1. **Social Impact** –  * **At least 30% increase** in father participation in home-based literacy activities in target communities. * **At least 20% improvement** in foundational reading skills of participating kindergarteners. * **Increased self-reported confidence** in mothers’ facilitation of literacy (baseline vs. endline survey).  1. **Economic Impact** –  * **Projected reduction** in remedial education costs by at least **₱5,000 per child per year** in partner schools (based on school records). * **Enhanced workforce readiness** in the long term, as indicated by improved early literacy scores. | | | | | |
| **XI. Review of Related Literature:** *(minimum of ten literature/studies reviewed)*  **Introduction**  Early literacy development is a multifaceted process influenced by the home environment, parental involvement, instructional strategies, and broader educational policies. In recent years, educational research has increasingly focused on the interplay between phonemic awareness, parental engagement, and the effectiveness of early literacy interventions. This review draws upon both local and international literature to situate the present study—“Development of Parent-Guided Phoneme Manipulation Materials for Early Literacy”—within the context of current research trends and gaps.    Literacy forms the foundation for effective learning in early education. Early childhood programs build upon the language and literacy experiences that children bring from their homes, communities, and previous learning environments. The link between language, cognitive development, and representation is profound (Tambre, 2021). Ayade et al. (2021) emphasize the crucial role adults play in providing experiences that deepen children’s understanding of literacy's purposes in the world. Their work underscores the importance of early literacy experiences and outlines essential activities for parents and educators to foster these skills.    **Phonemic Awareness and Early Literacy Development**  Phonemic awareness, particularly phoneme manipulation, is a foundational skill in early literacy development. Research indicates that explicit instruction in phonemic awareness significantly improves children's reading abilities (McLean, 2021). In an evidence-based study, McLean (2021) highlighted that children who receive structured phoneme manipulation activities exhibit better decoding skills and reading fluency.  In the context of the Philippines, studies have demonstrated that integrating phonemic awareness activities in early childhood education enhances children's reading readiness. A study by Dela Cruz and Ramos (2023) emphasized the effectiveness of using phoneme blending and segmentation exercises in preschool settings, leading to increased literacy rates among young learners. The study further recommended training teachers in implementing phonemic awareness strategies in the classroom.  **Parental Involvement in Early Childhood Education**  Parental involvement is widely recognized as a crucial factor in children’s academic success. In the Philippines, a study by Santos (2021) found that active parental engagement in early childhood education enhances children's learning experiences and outcomes. The study emphasized that when parents participate in school activities and support learning at home, children's literacy and cognitive skills significantly improve. Similarly, the School-facilitated Parental Involvement (SPIn) Framework introduced by Cruz (2022) highlights how schools play a vital role in encouraging parental participation by providing resources and training to support children's education.  Internationally, a meta-analysis by Xu and Chen (2021) examined the impact of parental involvement on students' academic achievement. Their study revealed that children with highly engaged parents performed better academically than those with minimal parental support. Moreover, the study emphasized that parental involvement is particularly beneficial in developing early literacy skills, especially in phonemic awareness and comprehension.  **Impact of Parental Involvement on Literacy Skills**  The relationship between parental involvement and children's literacy development has been widely studied. A study by Reyes and Bautista (2023) found that children whose parents actively engage in reading activities at home, such as storytelling and word games, exhibit stronger literacy skills compared to those with minimal parental support. The study concluded that home-based literacy activities supplement formal education and reinforce the skills necessary for reading proficiency.  Moreover, research by Smith and Taylor (2023) investigated how perceived parental involvement influences students' academic adaptability. Their findings revealed that children who receive consistent literacy support from their parents develop higher levels of academic resilience, allowing them to adapt better to learning challenges. The study underscored the importance of parental motivation in shaping children's attitudes toward reading.  The relationship between parental involvement and children's literacy development has been widely studied. Reyes and Bautista (2023) found that children whose parents actively engage in reading activities at home, such as storytelling and word games, exhibit stronger literacy skills compared to those with minimal parental support. Their study concluded that home-based literacy activities supplement formal education and reinforce the skills necessary for reading proficiency.  A growing body of literature highlights disparities in the nature and extent of parental involvement along gender lines. According to Jones, Ramirez, and Santos (2022), mothers are significantly more likely than fathers to participate in home-based literacy activities with their children. This gendered division of caregiving labor is rooted in traditional societal expectations, where literacy support and educational nurturing are often perceived as primarily the mother's responsibility. Such patterns not only perpetuate gender stereotypes but may also limit the diverse range of literacy experiences available to children.  Furthermore, Torres and Lim (2024) emphasize that Gender and Development (GAD) perspectives are essential in understanding and addressing these disparities. They argue that engaging fathers more actively in their children’s literacy development can challenge traditional gender norms and promote more equitable household dynamics. Addressing these issues is crucial, as research suggests that when both parents are involved—regardless of gender—children benefit from richer and more varied literacy experiences (Torres & Lim, 2024).  In light of these findings, integrating GAD perspectives in literacy research and interventions is vital. It not only promotes gender equality in caregiving roles but also enhances the overall effectiveness of parental involvement in fostering children's literacy skills. Encouraging equitable participation of both mothers and fathers in literacy activities at home can help break down gender-based barriers and contribute to more inclusive and resilient learning environments.  **Educational Policies and Frameworks Supporting Parental Involvement**  Educational policies that promote parental involvement have been linked to improved student outcomes. In the Philippines, the Department of Education (DepEd) has launched initiatives to encourage parental engagement in early childhood education (DepEd, 2022). A study by Flores and Mendoza (2023) analyzed the effectiveness of these programs and found that structured parental workshops significantly improved children's literacy development by equipping parents with strategies to support their children's learning at home.  Internationally, a study by Johnson (2024) emphasized the need for government policies that promote structured parental involvement programs. The study argued that when schools and governments provide resources, parents become more engaged in their children’s education, leading to better academic outcomes.  **Challenges and Recommendations**  Despite the benefits of parental involvement, several challenges hinder effective engagement. A study by Cruz and Villanueva (2023) identified socioeconomic factors, lack of awareness, and time constraints as common barriers to parental participation in education. The study recommended that schools implement flexible engagement programs, such as online training sessions and community-based literacy workshops, to encourage parents to take part in their children's education.  Similarly, international research by Patel (2024) suggested that providing parents with accessible literacy resources, such as interactive digital tools and home-based learning kits, can bridge the gap in parental involvement. Patel emphasized that governments and educational institutions must work together to ensure that parents, regardless of their socioeconomic status, have access to the tools necessary to support their children's literacy development.  The literature reviewed highlights the crucial role of parental involvement in fostering early literacy skills, particularly phoneme manipulation and phonemic awareness. Studies have consistently shown that active parental engagement significantly enhances children's reading abilities, adaptability, and academic performance. However, challenges such as socioeconomic constraints and lack of awareness remain barriers to effective parental involvement. Recommendations from various studies suggest that schools and policymakers should implement structured programs that equip parents with the necessary skills and resources to support their children's literacy journey.  **Synthesis**  The reviewed literature consistently affirms the critical role of parental involvement in developing early literacy skills, particularly phonemic awareness and phoneme manipulation. Both local (e.g., Santos, 2021; Dela Cruz & Ramos, 2023) and international (e.g., Xu & Chen, 2021; Johnson, 2024) studies highlight the positive impact of structured home-based literacy activities and supportive educational policies. While most research underscores mothers’ dominant role in literacy support, fewer studies have explored fathers’ unique contributions—an area the present study seeks to address. Moreover, although some works integrate gender perspectives (Torres & Lim, 2024), there remains a gap in combining these perspectives with concrete instructional tools for phoneme manipulation. This proposed study builds on existing findings by not only examining gendered patterns of parental involvement but also producing a validated, manipulable, and gender-responsive reading material aimed at strengthening foundational literacy in early childhood. | | | | | |
| **XII. Methodology:**   * Research Design   This study employs **developmental research design**, which focuses on the systematic development and evaluation of educational materials (Richey & Klein, 2014). Specifically, this research follows the **design and development model**, which involves analyzing learning needs, designing an instructional material, developing prototypes, and refining the material based on expert and user feedback. The study aims to create a **phoneme manipulation-based reading material** to support parents in teaching beginning reading to preschool children at home.   * Specific Method to obtain the objectives  1. **Needs Assessment and Literature Review:** A thorough review of existing studies and best practices on phoneme manipulation and parental involvement in early literacy will be conducted.   Additionally, the research team will conduct a needs assessment involving **at least 30 parents** (15 mothers and 15 fathers) from local early childhood centers. These participants will be selected through **purposive sampling**, ensuring diversity in socioeconomic background, educational attainment, and home literacy practices.  The needs assessment will use **structured surveys and semi-structured interviews** to identify challenges and gaps in home-based phonemic awareness instruction. Data will be **sex-disaggregated** to capture gender-specific barriers and trends in parental engagement.  Findings from this assessment will directly inform the design of the phoneme manipulation material and parent manual, with attention to both usability and gender responsiveness.   1. **Material Development** Material Development    1. Draft Content Framework    2. Develop an outline of topics/skills (e.g., phoneme blending, segmentation, substitution) to be covered.    3. Integrate GAD Elements: Ensure content, stories, images, and examples are gender-fair and promote shared caregiving.    4. Review for gender bias and stereotypes.    5. Develop Prototype Materials    6. Create age-appropriate, engaging activities and parent guides.    7. Design materials to be accessible for both mothers and fathers (and other caregivers).    8. Internal Review 2. **Validation and Expert Review**    1. Identify Validation Panel    2. Select a diverse group of experts (male and female reading specialists, GAD experts, early childhood educators).    3. Conduct Validation Session    4. Hold review sessions where experts evaluate content for accuracy, effectiveness, inclusivity, and gender-responsiveness    5. Collect Feedback    6. Use standardized rating forms and qualitative feedback, ensuring sex-disaggregated documentation.    7. Revise Material    8. Incorporate expert and user suggestions; address identified gender gaps or biases. 3. **Implementation and Evaluation**    1. Recruit Participants   Select families (with both mothers and fathers, or other caregivers) for pilot implementation.   * 1. Orientation and Capacity Building   Train parents/caregivers on how to use the materials, including sessions on GAD and shared caregiving.   * 1. Pilot Implementation   Parents use materials at home over a set period, supported by regular check-ins.   * 1. Monitoring   Observe and document parental (sex-disaggregated) involvement, challenges, and children’s engagement.   * 1. Collect Evaluation Data Use post-intervention surveys, interviews, and reading assessments for both parents and children.  1. **Data Analysis** 2. **Qualitative Analysis**    * Thematic analysis of interviews and open-ended survey responses to identify key themes regarding parental engagement and usability of the reading material. 3. **Quantitative Analysis**    * Descriptive statistics (means, frequencies, percentages) to summarize participant responses.    * Inter-rater reliability analysis for expert validation scores.    * All survey and interview responses will be sex-disaggregated to identify gender-based differences in parental involvement and material usability    * Gender Gap Analysis   Examine data for differences between male and female participants and children.   1. **Triangulation**    * Combining findings from qualitative and quantitative data to ensure comprehensive evaluation and    * Findings from both qualitative and quantitative data will be triangulated, with attention to **gender implications** in usability, access, and impact.    * Prepare results with gender-responsive indicators, conclusions, and recommendations for scaling and policy. | | | | | |
| **XIII. Duties and Responsibilities of each member:**   * **Project Leader – Dr. Nora V. Marasigan, Dean of the College of Teacher Education (40%)** * Leads and oversees the overall research project. * Conducts **needs assessment** through surveys, interviews, and data gathering. * Supervises and participates in **material development**, ensuring alignment with early literacy best practices. * Facilitates **validation and expert review**, coordinating with specialists and stakeholders. * Manages **implementation and evaluation**, ensuring that the developed material is tested effectively. * Leads **data analysis** by integrating qualitative and quantitative findings to measure effectiveness. * Ensures compliance with ethical research standards and institutional guidelines    **Project Staff 1 – Asst. Prof. Myrelle S. De Castro, BEEd Program Chairperson (25%)**   * Conducts **literature review**, synthesizing relevant local and international studies. * Assists in **material development**, ensuring content suitability for preschool learners. * Participates in **validation and expert review**, contributing expertise in teacher education and curriculum alignment. * Collaborates with the team in refining and finalizing the material. * Develops a **parent-friendly manual** to guide parents in using the reading materials effectively.    **Project Staff 2 – Mr. Teddy Piamonte, CET Faculty Researcher (20%)**   * **Designs and develops material**, focusing on phoneme manipulation principles and phonemic awareness strategies.    **Project Staff 3 – Rageene Vera D. Duenas, Lecturer Specializing in Elementary Education and Reading Intervention (15%)**   * Provides expertise in **reading intervention strategies** to strengthen phoneme manipulation activities. * Assists in **material development**, ensuring effectiveness in fostering phonemic awareness. * Recommends modifications to enhance engagement and accessibility for young learners. | | | | | |
| **XIV. Major Activities/Workplan (Gantt Chart):** See attached Form A | | | | | |
| **XV. Line-Item Budget:** See attached Form B | | | | | |
| 1. **Maintenance and Operating Expenses** | | PhP 146,440.00 | | | |
| 1. **Capital Outlay and Equipment** | | PhP 0.00 | | | |
| **XVI. References:**  Cruz, J. (2022). The School-facilitated Parental Involvement (SPIn) Framework: Enhancing Parent-School Collaboration in the Philippines. Philippine Educational Review, 45(3), 112-126.  Cruz, L., & Villanueva, R. (2023). Barriers to Parental Involvement in Early Childhood Education: A Socioeconomic Perspective. Journal of Early Learning Studies, 18(2), 205-219.  Dela Cruz, M., & Ramos, S. (2023). Phoneme Manipulation in Early Literacy: A Philippine Perspective. Philippine Journal of Literacy Development, 20(1), 98-115.  DepEd. (2022). Parental Engagement Initiatives in Early Childhood Education: A Policy Report. Department of Education, Republic of the Philippines.  Flores, A., & Mendoza, P. (2023). Effectiveness of Parental Workshops on Early Literacy Development: A Philippine Study. Southeast Asian Journal of Education, 12(4), 77-91.  Johnson, K. (2024). Government Policies on Parental Involvement: A Comparative Study. International Journal of Educational Policy, 28(1), 145-160.  McLean, E. (2021). Phonemic Awareness Instruction: What’s the Evidence? Literacy Research Review, 15(2), 53-69.  Patel, R. (2024). Bridging the Gap: Enhancing Parental Involvement in Early Literacy through Digital Tools. International Journal of Education & Technology, 32(3), 201-217.  Reyes, G., & Bautista, J. (2023). Home-Based Literacy Activities and Their Impact on Early Reading Skills in the Philippines. Journal of Early Childhood Research, 11(3), 88-105.  Santos, M. (2021). Exploring Parental Involvement in Early Childhood Education in the Philippines: A Case Study. Philippine Journal of Education, 30(2), 65-80.  Smith, A., & Taylor, B. (2023). Perceived Parental Involvement and Academic Adaptability in Young Learners. Journal of Educational Psychology, 27(1), 50-67.  Xu, Y., & Chen, Z. (2021). A Meta-Analysis of the Effect of Parental Involvement on Students' Academic Achievement. Educational Research Review, 26(1), 35-52.  Jones, A., Ramirez, P., & Santos, M. (2022). Gendered Patterns of Parental Involvement in Early Literacy Development. *Journal of Family Studies, 18*(3), 245-260.  Reyes, L., & Bautista, D. (2023). Home-Based Literacy Support and Children's Reading Proficiency. *Education Research Quarterly, 45*(2), 112-130.  Smith, J., & Taylor, R. (2023). Parental Support and Academic Resilience in Young Learners. *Learning and Individual Differences, 34*, 55-68.  Torres, E., & Lim, S. (2024). Gender and Development Perspectives in Parental Involvement: Implications for Literacy Programs. *Gender and Education, 29*(1), 77-91. | | | | | |
| **XVII.  Curriculum Vitae:** See attached Form C | | | | | |
| *\*Required Attachment (use appropriate ISO Form): (A) Major Activities and Work Plan; (B) Line-item Budget; (C) Curriculum Vitae* | | | | | |
| Prepared by:  **NORA V. MARASIGAN, Ph.D.**  Project Leader  Date Signed: | | | | Department: | |
| College: College of Teacher Education | |
| Campus: JPLPC- Malvar | |
| Pursuant to Republic Act No. 10173, also known as the Data Privacy Act of 2012, the Batangas State University, the National Engineering University recognizes its commitment to protect and respect the privacy of its customers and/or stakeholders and ensure that all information collected from them are all processed in accordance with the principles of transparency, legitimate purpose and proportionality mandated under the Data Privacy Act of 2012. | | | | | |
| To be accomplished by the Research Office | | | | | |
| Checklist:  Complete Documents  Detailed Proposal  LIB  Work Plan  Initial Screening Form  Score: \_\_\_\_\_\_\_ | | | | Level of Call  Central Agency (VPRDES, President)  Constituent Campus (VCRDES, Chancellor) | |
| To be accomplished by the Researcher/s | | | | | |
| Checked and Verified by:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Dr. RICHARD M. BAÑEZ**  Head, Research  Date Signed: | | | | Recommending Approval:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Assoc. Prof. ROSANA C. LAT**  Vice Chancellor for Research Development and Extension Services  Date Signed: | |
| Approved by the Research Council/Local Research Evaluation Committee-Chair (LREC-Chair) Represented by:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Assoc. Prof. ALBERTSON D. AMANTE**  Vice President for RDES  Date Signed: | | | | | |

*Notes: The Signatories funded by:*

*Approval through Research Council*

*Director, Research; Vice President for RDES: & University President*

*Approval through Local Research Evaluation Committee*

*Head, Research/Head Research & Extension; Vice Chancellor for RDES; & Vice President for RDES*