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| **Operating Unit:** | NLUC | MLUC | SLUC |  | **College/Institute/Division:** |
|  | OUS | SRDI | NARTDI |  | College of Information Systems |

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| **Research ID:** |  |  | **Version No.:** |  |
|  | *RIPECode-YYYY-UnitCode-CollegeInstituteDivisionCode-Program#-Project#-Study#*  *(to be filled out by the Research Facilitator)* |  |  |  |

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| 1. **RESEARCH PROFILE** | | | | | |
|  | Program Title: | *(Indicate N/A if not applicable)* | | Program Leader: | *(Indicate N/A if not applicable)* |
|  | Project Title: | BrainBoost: Your Education Learning Companion for Young Learners | | Project Leader: | Excel V. Cabrera |
|  | Study Title: | Study 1: BrainBoost: Development of a Mobile Application for Cognitive Skill Improvement | | Study Leader: | Jessie B. Vallecera |
|  |  |  | | Study Member/s: | Herve E. Orpilla |
|  | Cooperating Agency/Address: | | DMMMSU-NLUC  Saint Gabriel Academy, San Gabriel La Union | | |

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| 1. **SUSTAINABLE DEVELOPMENT GOALS:** | | | |
|  | 1-No poverty | 7-Affordable and clean energy | 13-Climate action |
|  | 2-Zero hunger | 8-Decent work and economic growth | 14-Life below water |
|  | 3-Good health and well-being | 9-Industry, innovation and infrastructure | 15-Life on land |
|  | 4-Quality education | 10-Reduced inequalities | 16-Peace, justice, and strong |
|  | 5-Gender equality | 11-Sustainable cities and communities | institutions |
|  | 6-Clean water and sanitation | 12-Responsible consumption and production | 17-Partnerships for the goals |

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| 1. **PRIORITY R&D AGENDA (based on HNRDA 2022-2028)** | | |
|  | **Area:** | **Sector:** |
|  | 1-Basic Research |  |
|  | 2-Health |  |
|  | 3-Agriculture, Aquatic and Natural Resources |  |
|  | 4-Industry, Energy and Emerging Technology | Information, Communication Technology |
|  | 5-Disaster Risk Reduction and Climate Change |  |
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| 1. **FOCUS RDI AGENDA (based on DMMMSU RDI Agenda 2025-2030)** | | |
|  | 1-Agriculture, Aquatic, and Natural Resources | 6-Information and Communications Technology |
|  | 2-Education | 7-Industrial Technology, Agricultural, and Biosystems Engineering |
|  | 3-Socio-Economics | 8-Basic/Applied Natural and Biological Studies |
|  | 4-. | 9-Gender and Development Studies |
|  | 5-Health, Food and Nutrition | 10-Mathematics and Statistics |

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| 1. **RATIONALE** *(maximum of 500 words)* | |
|  | In this generation, technology has become an integral part of a learner’s daily life. Through these technology growth, academic resources has become more accessible and readily available for learners. Mobile learning has transformed educational approach, from a teacher-centered style to a more flexible, accessible, portable and collaborative approach that fosters student engagement, and self-directed learning. The integration of technology in education has changed the concept of reinforcement, moving beyond just merely getting stars or good grades but emphasis highly in a personalized and engaging process. Nowadays, technology has become an effective amplifier to reinforce learning and has been growing steadily to assist learners in their learning process(Mainar & Karthiga, 2021; Yuan et al., 2025a). Around the globe, different countries are actively integrating mobile technology into their educational systems to help their learners learn more. The adoption ranges from large-scale government initiatives to smaller, localized project (Abedi, 2024; Akour & Alenezi, 2022; Asare & Atteh, 2022; Chen, 2023; In, 2024; Jamah et al., 2022). In China, the adaptation of mobile learning applications is used to enhance the academic performance of the learners. They used different available mobile learning applications in the country as a platform to access academic resources, practice skills and exam preparation. The study concluded that these apps positively influenced academic performance, especially with peer/teacher support. However, it was found out the current applications used do not fully meet the diverse learner needs, thus new development is needed. (Yuan et al., 2025b). |

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| 1. **REVIEW OF LITERATURE/PRIOR ART SEARCH** *(at least 10 references preferably within the last 10 years)* | |
|  | Below are the different literatures analyzed by the researchers to strengthen the foundation of the conduct and concept of this study:  **Mobile Technology** |
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| 1. **FRAMEWORK** *(Optional, but must be included in the Terminal Report)* | |
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| 1. **OBJECTIVES AND ACTIVITIES** | | | | | | | | | | | |
|  | **General objective:** |  | | | | | | | | | |
|  | **Specific objectives** *(at least 2;*  *add rows for additional specific objectives)* | | **Target Activities** | **Year 1** | | | | **Year 2** | | | |
|  | **Q1** | **Q2** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** |
|  | 1. Develop the BrainBoost Mobile Application | |  |  |  |  |  |  |  |  |  |
|  | 1. Determine the readiness of the teachers, staff and pupils in the implementation of the developed BrainBoost Learning Management System | |  |  |  |  |  |  |  |  |  |
|  | 1. Determine the performance of the BrainBoost Mobile Application | |  |  |  |  |  |  |  |  |  |
|  | 1. Determine the user acceptability of the BrainBoost Mobile Application | |  |  |  |  |  |  |  |  |  |

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| 1. **METHODOLOGY** | |
|  | **Research Design**  **Materials and Procedures** *(For experimental research) /* **Sources of Data** *(For non-experimental research)*  **Data to be Gathered** *(For experimental research)* **/ Instrumentation and Data Collection** *(For non-experimental research)*  **Data Analysis**  **Ethical Considerations** |

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| 1. **EXPECTED OUTPUTS** | | | |
|  |  | **Details** *(quantify if possible)* | **Target Beneficiaries** |
| **Publications** |  |  |
| **Patents/IPs** |  |  |
| **Products** |  |  |
| **People Services** |  |  |
| **Places and Partnerships** |  |  |
| **Policy** |  |  |
|  | *Note: In addition to the required intellectual property and publication per study, include at least one of the listed expected outputs, whichever is/are applicable.* | | |

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| 1. **RESEARCH OUTPUT UTILIZATION PLAN** | | | | | |
| For Instruction | | For Extension | For Deployment | For Commercialization |  |
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| 1. **GENDER AND DEVELOPMENT (GAD) SCORE:** |  |

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| 1. **LIMITATIONS OF THE STUDY** | |
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| 1. **LITERATURE CITED** *(at least 10 references)* | |
|  | Abedi, E. A. (2024). Tensions between technology integration practices of teachers and ICT in education policy expectations: implications for change in teacher knowledge, beliefs and teaching practices. *Journal of Computers in Education*, *11*(4), 1215–1234. https://doi.org/10.1007/s40692-023-00296-6  Akour, M., & Alenezi, M. (2022). Higher Education Future in the Era of Digital Transformation. *Education Sciences*, *12*(11). https://doi.org/10.3390/educsci12110784  Asare, J. T., & Atteh, E. (2022). The Impact of Using GeoGebra Software in Teaching and Learning Transformation (Rigid Motion) on Senior High School Students’ Achievement. *Asian Journal of Education and Social Studies*, 36–46. https://doi.org/10.9734/ajess/2022/v33i130784  Chen, Y. (2023). Using a Game-Based Translation Learning App and Google Apps to Enhance Translation Skills: Amplification and Omission. *International Journal of Human-Computer Interaction*, *39*(20), 3894–3908. https://doi.org/10.1080/10447318.2022.2108591  In, H. (2024). TEACHER CREATIVITY IN UTILIZING TECHNOLOGY AS A LEARNING MEDIA IN ELEMENTARY SCHOOLS. *Desember*, *16*(2), 186–194. http://journal.uinmataram.ac.id/index.php/  Jamah, A., Alnagrat, A., Ismail, R. C., Syed, Z., & Syed, I. (2022). The Opportunities and challenges in virtual reality for virtual laboratories. In *Innovative Teaching and Learning Journal* (Vol. 6, Issue 2). December.  Mainar, M. V, & Karthiga, S. V. (2021). Amplification of Language Learning Intelligence through Technology: An Overview. In *Turkish Journal of Computer and Mathematics Education* (Vol. 12, Issue 11).  Yuan, R., Ab Jalil, H., & Omar, M. K. (2025a). Adopting strategies of mobile technology for assisted learning performance in higher education in China. *Computers and Education Open*, *8*. https://doi.org/10.1016/j.caeo.2025.100263  Yuan, R., Ab Jalil, H., & Omar, M. K. (2025b). Adopting strategies of mobile technology for assisted learning performance in higher education in China. *Computers and Education Open*, *8*. https://doi.org/10.1016/j.caeo.2025.100263 |

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| 1. **PERSONNEL REQUIREMENT** | | | | |
|  | **Name/Role** | **Task Distribution/**  **Authorship (%)** | **Workload Unit** | **Responsibilities** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  | **100%** |  |  |
|  | *Note: For studies with two researchers, 60% shall go to the study leader and 40% to the study member. For studies with three or more researchers, 40% shall go to the study leader and 60% shall be distributed among the other study members. Corresponding workload unit (weighted according to task distribution/authorship percentage) for each researcher is to be filled by the Operating Unit Research Office.* | | | |

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| 1. **FUND SOURCE:** | Institutional Fund / DMMMSU | Personal Funds / Patriotic |

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| 1. **LINE-ITEM BUDGET** | | | | | | | | |
|  | **ITEMS** | | **Year 1** | | **Year 2** | | **TOTAL** | |
|  | **MAINTENANCE AND OTHER OPERATING EXPENSES** | |  |  |  |  |  |  |
|  | Local Travelling Expenses | |  |  |  |  |  |  |
|  | Transportation and Delivery Expenses | |  |  |  |  |  |  |
|  | Supplies and Materials Expenses | |  |  |  |  |  |  |
|  |  | Office Supplies Expenses |  |  |  |  |  |  |
|  |  | *(Please itemize)* |  |  |  |  |  |  |
|  |  | Gasoline, Oil, and Lubricant Expenses |  |  |  |  |  |  |
|  |  | Agricultural Supplies Expenses |  |  |  |  |  |  |
|  |  | *(Please itemize)* |  |  |  |  |  |  |
|  |  | Laboratory and Chemical Supplies |  |  |  |  |  |  |
|  |  | *(Please itemize)* |  |  |  |  |  |  |
|  |  | *(Add rows as necessary)* |  |  |  |  |  |  |
|  | Printing and Binding Expenses | |  |  |  |  |  |  |
|  | Representation Expenses *(e.g. food for meetings, etc.)* | |  |  |  |  |  |  |
|  | Professional Services | |  |  |  |  |  |  |
|  |  | Legal Services, Auditing Services, Consultancy Services, |  |  |  |  |  |  |
|  |  | Laboratory Analysis |  |  |  |  |  |  |
|  |  | Other Professional Services etc. |  |  |  |  |  |  |
|  | Other General Services | |  |  |  |  |  |  |
|  | Other Maintenance and Operating Expenses *(Please itemize)* | |  |  |  |  |  |  |
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|  | **GRAND TOTAL** | | **₱** |  | **₱** |  | **₱** |  |
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| **Submitted by:** | | | | | |
| **JESSIE B. VALLECERA** |  | **KRIZIA ANN E. RAMIREZ** |  | Not Applicable |
| Study Leader  *(Signature over printed name)* |  | Project Leader  *(if applicable)*  *(Signature over printed name)* |  | Program Leader  *(if applicable)*  *(Signature over printed name)* |