

Original Article

Level of Engagement in the READY Program as a Predictor of Performance in the Licensure Examination for Professional Teachers: A Mathematical Modeling Approach

John Robby O. Robinos^{1,2} , Mhel Rose A. Sadiwa³ 

Author Information:

¹College of Arts, Sciences and Education,
University of Perpetual Help System
DALTA – Molino Campus, Bacoor City,
Cavite, Philippines

²Graduate School of Education Department,
University of Perpetual Help System
DALTA – Las Piñas Campus, Las Piñas City,
Metro Manila, Philippines

³Senior High School Department, University
of Perpetual Help System DALTA – Molino
Campus, Bacoor City, Cavite, Philippines

Corresponding Author:

John Robby O. Robinos
john.robinos@perpetualdelta.edu.ph

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Abstract. This study examined whether the level of engagement in the READY Program predicts the performance of graduates in the Licensure Examination for Professional Teachers (LEPT). Despite the implementation of institutional review interventions, limited studies have investigated learner engagement as a predictor of licensure examination performance using predictive modeling approaches. Employing a descriptive-correlational quantitative research design and total population sampling, the study involved 43 graduates (12 BEED and 31 BSED) from a private deregulated university in Bacoor City who participated in the READY Program and took the LEPT from March 2023 to March 2026. Data were obtained from official LEPT records of the Professional Regulation Commission (PRC) and the validated researcher-developed Level of Engagement in the READY Program Questionnaire (LERPQ), which demonstrated an overall Cronbach's alpha coefficient of 0.88. Descriptive statistics, Pearson Product-Moment Correlation, simple linear regression, and multiple linear regression were employed for data analysis. Findings revealed that participants generally exhibited high engagement in the READY Program, particularly among LEPT passers, who achieved an overall institutional passing rate of 79.1%. Significant high positive relationships were likewise observed between all engagement dimensions and LEPT performance ($r = 0.833$ to 0.881 , $p < .001$). Simple linear regression confirmed that overall engagement significantly predicted LEPT performance, yielding the predictive model $\hat{y} = 7.25x + 53.90$. Multiple regression analysis further revealed that attendance ($B = 4.26$, $p = .029$) and completion of review activities ($B = 5.85$, $p = .003$) were the strongest significant predictors, collectively explaining 80.9% of the variance in LEPT performance ($R^2 = .809$). The findings underscore the value of structured, evidence-based review programs and provide empirical support for strengthening attendance monitoring, completion of review activities, and targeted institutional interventions to enhance graduates' examination readiness and licensure performance.

Keywords: Engagement; LEPT performance; Mathematical modeling; Predictive relationship; READY program.

The Licensure Examination for Professional Teachers (LEPT) is widely recognized as a significant indicator of graduate preparedness, institutional effectiveness, and the overall quality of Teacher Education Institutions (Robinos et al., 2023; Garcia & Rivera, 2025). In the Philippines, LEPT performance serves not only as a measure of professional competence but also as a basis for accreditation, institutional recognition, and the granting of Centers of Development (COD) and Centers of Excellence (COE) status by the Commission on Higher Education (CHED) and accrediting agencies (Amanonce & Maramag, 2020; Macalinao et al., 2024; Robinos et al., 2024a). Consequently, the performance of graduates in the licensure examination reflects the extent to which institutions are able to prepare future educators for the demands of the teaching profession. Despite its importance, the College of Arts, Sciences, and Education (CASED) experienced low to zero passing rates in selected Licensure Examination for Professional Teachers (LEPT) administrations (The Summit Express 2018 and 2022), particularly in March 2018 (30% for BEED and 28.57% for BSED), September 2018 (28% for BEED and 47.62% for BSED), and January 2022 (0% passing rate for both BEED and BSED). These results raised concerns about graduates' preparedness for the licensure examination and highlighted the need for stronger institutional support mechanisms.

Further examination of the problem revealed that many graduates possessed the academic capability to pass the Licensure Examination for Professional Teachers (LEPT) but encountered difficulties in sustaining their preparation after graduation. Limited access to structured review programs, financial constraints, employment responsibilities, and heightened levels of examination anxiety emerged as significant barriers to licensure success (Zheng et al., 2023; Desai, 2024; Robinos et al., 2025a). Existing literature also suggests that success in licensure examinations is influenced not only by academic knowledge but also by learners' engagement, self-regulation, motivation, confidence, and psychological readiness (Sumicad et al., 2023; Metz, 2024). These findings emphasize that meaningful engagement in review and preparation programs may play a critical role in improving examination outcomes. More recent studies conducted in online, blended, and university learning environments likewise report that learners who demonstrate higher levels of engagement tend to achieve better academic performance, including higher grades and examination scores (Jiang & Peng, 2023; Parjan et al., 2024). Furthermore, Rizwan et al. (2025) and Robinos et al. (2025b) found that behavioral patterns, learning activities, and learner engagement are significant predictors of performance-related outcomes, including academic achievement, retention, and dropout rates. Hence, higher education institutions are increasingly challenged to develop intervention programs that are accessible, holistic, and responsive to the academic and psychosocial needs of graduates preparing for professional licensure examinations.

In response to these challenges, CASED implemented Project READY (Review Education Assistance that Delivers Yield) in 2022 as a free, home-based Community Extension Service (CES) initiative intended to support graduates preparing for the LEPT. The program was designed to reduce financial and logistical barriers while providing structured review sessions, mentoring, academic coaching, and psychosocial support. A notable strength of the program lies in its collaborative implementation involving the Senior High School Department, whose faculty members facilitated review sessions in General Education Courses such as Mathematics, Science, Filipino, and Social Studies. Through their expertise in foundational disciplines, the faculty members contributed significantly to strengthening the academic preparedness of the participants. More importantly, Project READY was anchored on the belief that active engagement in review initiatives enhances not only knowledge acquisition but also confidence, discipline, motivation, and examination readiness.

Since its implementation, Project READY has shown promising outcomes, particularly in the gradual improvement of institutional LEPT performance. However, while the increase in passing rates suggests the potential effectiveness of the intervention, there remains limited empirical evidence explaining whether and to what extent participants' level of engagement in the READY Program contributes to successful LEPT performance. Most existing evaluations of review interventions focus primarily on descriptive passing rates and institutional performance, with limited attention given to predictive modeling and the role of participant engagement as a determining factor in examination success. Thus, there is a need to examine whether engagement in the READY Program can significantly predict LEPT performance and whether a mathematical model may be formulated to estimate the likelihood of passing based on participants' level of engagement.

In light of these considerations, this study aims to determine the extent to which the level of engagement in the READY Program predicts performance in the Licensure Examination for Professional Teachers (LEPT) through a mathematical modeling approach. Specifically, it seeks to: (1) describe the level of engagement of participants in

the READY Program in terms of attendance, participation, completion of review activities, and involvement in mentoring and support sessions; (2) determine the LEPT performance of participants in terms of general average, professional education, general education, and specialization ratings, as well as overall passing performance; (3) examine the relationship between participants' level of engagement in the READY Program and their LEPT performance; (4) identify whether level of engagement significantly predicts LEPT performance; and (5) formulate a mathematical model that may be used to predict LEPT performance based on participants' level of engagement in the READY Program.

The findings of this study are expected to provide empirical evidence on the role of learner engagement in influencing LEPT performance and the effectiveness of institutional review interventions. Moreover, the results may serve as a basis for teacher education institutions, academic administrators, and program implementers in designing data-driven, sustainable, and evidence-based LEPT review programs and support mechanisms that enhance graduates' readiness, improve licensure examination outcomes, and contribute to the continuous quality improvement of teacher education programs.

Methodology

Research Design

This study utilized a descriptive-correlational quantitative research design to determine whether the level of engagement in the READY Program predicts the performance of graduates in the Licensure Examination for Professional Teachers (LEPT). The design is appropriate because it allows the researcher to describe participants' level of engagement and examine the relationship between engagement variables and LEPT performance through statistical and mathematical modeling approaches. Moreover, the design enables the identification of predictive relationships without manipulating the variables under investigation.

Research Locale

The study was conducted in a private deregulated university in Bacoor under the College of Arts, Sciences, and Education (CASED), which offers teacher education programs such as the Bachelor of Elementary Education (BEED) and Bachelor of Secondary Education (BSED). The research setting is deemed appropriate due to its strong quality assurance environment. The education programs hold Level III accreditation from the Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA). Furthermore, the university is certified under ISO 9001:2015 and ISO 21001:2018 and is a recipient of the Level II Philippine Quality Award (PQA). These distinctions reflect an institutional culture that emphasizes continuous improvement, evidence-based practices, and systematic evaluation of academic and extension programs.

Participants and Sampling Technique

The target population of the study consisted of 43 graduates from the Bachelor of Elementary Education (BEED, $n = 12$) and Bachelor of Secondary Education (BSED, $n = 31$) programs who graduated in 2022 ($n = 13$), 2023 ($n = 8$), 2024 ($n = 8$), and 2025 ($n = 14$). All of these graduates participated in Project READY and subsequently took the Licensure Examination for Professional Teachers (LEPT) between March 2023 and March 2026. These 43 graduates represented the entire population of eligible participants who satisfied the inclusion criteria. Accordingly, the study employed total population sampling, wherein all eligible graduates who registered for, attended the Project READY orientation, completed the institutional review program, and took the LEPT during the study period were included in the investigation. The relatively small population reflects the limited enrollment in the Teacher Education programs of the research locale during the covered academic years.

Research Instrument

Data on institutional LEPT performance, including passing rates in the Professional Education, General Education, and Specialization components, as well as graduates' general average ratings, were obtained from the official records of the Professional Regulation Commission (PRC) provided to the institution.

To determine the level of engagement in Project READY, the researchers developed the Level of Engagement in the READY Program Questionnaire (LERPQ). The instrument was grounded in the conceptual framework of student engagement and aligned with the objectives and implementation components of Project READY. It consisted of 20 items distributed across four dimensions: attendance (5 items), participation (5 items), completion of review activities (5 items), and mentoring and support sessions (5 items). Each item was rated using a 4-point

Likert scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). The items were designed to measure the extent to which participants engaged in the major activities and support mechanisms provided through Project READY.

Prior to its administration, the questionnaire underwent face and content validation using the Research and Development Center (RDC) Validation Instrument. Three experts—the RDC Head and the Program Chairpersons of the BEED and BSED programs—evaluated the instrument in terms of its consistency in measuring the study variables, alignment with the constructs under investigation, clarity of the items, capability to generate unbiased and useful data, and overall suitability for the study. The experts also provided comments and recommendations, which were incorporated into the final version of the questionnaire before pilot testing. The revised instrument was pilot-tested among 30 third- and fourth-year Teacher Education students who participated in the 2026 implementation of Project READY. The LERPQ demonstrated satisfactory to excellent internal consistency, with Cronbach's alpha coefficients of 0.92 for attendance, 0.83 for participation, 0.89 for completion of review activities, and 0.89 for mentoring and support sessions. The overall instrument yielded a Cronbach's alpha coefficient of 0.88, indicating high internal consistency and confirming that the questionnaire is a reliable measure of graduates' engagement in Project READY.

Data Gathering Procedure

Following the approval of the colloquium, endorsement by the RDC, validation and reliability testing of the LERPQ, and approval from the Campus Director, the data collection process commenced. The questionnaire was converted into a Google Form to facilitate online administration. Participants were recruited through the official group chat of the Young Educators Achievers Council (YEAC), the recognized student organization of the Teacher Education programs under the CASED. An invitation containing the purpose of the study, eligibility requirements, and the Google Forms link was sent to all graduates who participated in Project READY and subsequently took the LEPT from March 2023 to March 2026. The study employed total population sampling; hence, all 43 eligible graduates were invited to participate in the study. All invited graduates completed the questionnaire, resulting in a 100% response rate. An electronic informed consent form was provided at the beginning of the questionnaire. The consent form explained the purpose of the study, the voluntary nature of participation, the confidentiality of responses, and the participants' right to withdraw from the study at any time. It also informed the participants that their official LEPT performance records, obtained from institutional records, would be utilized solely for research purposes and treated with strict confidentiality. Only participants who voluntarily provided their consent were allowed to proceed with the survey. Data collection began in November 2025 and concluded seven days after the official release of the March 2026 LEPT results. Responses submitted through Google Forms were automatically recorded and securely stored for data processing and statistical analysis.

Data Analysis Procedure

Prior to conducting the inferential analyses, the assumptions underlying Pearson Product-Moment Correlation and simple linear and multiple regression were examined. Normality was initially assessed using the Shapiro-Wilk test and further evaluated through visual inspection of histograms and Q-Q plots. Linearity and homoscedasticity were examined using scatterplots and residual plots. Although the Overall Engagement variable did not satisfy the Shapiro-Wilk test, visual inspection of the diagnostic plots indicated no substantial violations of the assumptions. Therefore, Pearson Product-Moment Correlation and simple linear regression were considered appropriate for the analysis.

Ethical Considerations

The study adhered to established ethical standards for research involving human participants to ensure the protection of participants' rights and welfare. Prior to data collection, the research instrument underwent validation, and the study proposal was submitted for review and approval by the University Research Ethics Review Board to ensure compliance with institutional and national ethical guidelines. Informed consent was obtained from all participants, who were provided with a clear explanation of the study's purpose, procedures, potential risks and benefits, and their roles. Participants were assured of their right to withdraw at any time without penalty. The study strictly complied with the provisions of the Data Privacy Act of 2012 (RA 10173), ensuring confidentiality and secure handling of all data. Quantitative data from institutional records were reported in aggregate form, while all responses were anonymized to protect participants' identities. These

measures ensured that participants' dignity, privacy, and autonomy were upheld while maintaining the integrity and credibility of the research.

Results and Discussion

Level of Engagement

Table 1. *Level of Engagement of Participants in the READY Program*

Indicators		Mean	Interpretation	Overall Mean	Interpretation
Attendance	Passed	3.78	High Engagement	3.44	High Engagement
	Failed	2.13	Low Engagement		
Participation	Passed	3.84	High Engagement	3.41	High Engagement
	Failed	1.82	Low Engagement		
Completion of Review Activities	Passed	3.42	High Engagement	3.04	Moderate Engagement
	Failed	1.60	Very Low Engagement		
Involvement in Mentoring and Support Sessions	Passed	3.81	High Engagement	3.36	High Engagement
	Failed	1.69	Very Low Engagement		
Overall	Passed	3.71	High Engagement	3.31	High Engagement
	Failed	1.81	Low Engagement		

Interpretation Scale: 1.00-1.75 = Very Low Engagement; 1.76-2.50 = Low Engagement; 2.51-3.25 = Moderate Engagement; and 3.26-4.00 = High Engagement.
Number of LEPT takers = 43; Failed = 9 and Passed = 34 – based on the general average

Table 1 reveals that participants who passed the Licensure Examination for Professional Teachers (LEPT) consistently demonstrated higher levels of engagement across all indicators than those who failed. Overall, passers obtained a mean score of 3.71, interpreted as High Engagement, while non-passers registered a mean score of 1.81, interpreted as Low Engagement. The overall mean score of 3.31 further indicates that the participants generally manifested High Engagement in the READY Program. This trend suggests that Project READY successfully fostered active learner engagement through its structured review sessions, learning activities, and mentoring support, thereby enhancing participants' preparedness for the LEPT.

In terms of attendance, participants who passed the LEPT obtained a mean score of 3.78, interpreted as High Engagement, whereas those who failed recorded a mean score of 2.13, interpreted as Low Engagement. This finding indicates that regular attendance in review sessions may have contributed to greater examination preparedness and stronger mastery of the required competencies. Consistent attendance enables participants to receive continuous reinforcement of concepts, thereby strengthening learning retention and familiarity with the examination content. According to Martínez-Serna et al. (2024), regular class attendance is associated with better academic performance, as students who attend more sessions generally earn higher grades, achieve better examination scores, and are more likely to complete academic requirements successfully.

Similarly, participation obtained the highest mean score among passers ($M = 3.84$), interpreted as High Engagement, while non-passers obtained a mean score of 1.82, interpreted as Low Engagement. This finding suggests that active involvement in discussions, collaborative learning activities, and review sessions may have enhanced participants' understanding and retention of concepts necessary for the LEPT. Active participation reflects cognitive engagement and intrinsic motivation, both of which are essential components of meaningful learning experiences. Previous studies likewise indicate that learners who actively participate in instructional activities tend to demonstrate higher academic performance and deeper conceptual understanding than those who are less engaged (Fredricks, 2023; Johar et al., 2023).

For the completion of review activities, passers recorded a mean score of 3.42, interpreted as High Engagement, while non-passers obtained a mean score of 1.60, interpreted as Very Low Engagement. The overall mean score of 3.06 indicates Moderate Engagement. This trend implies that completing practice exercises, mock examinations, and other review requirements may have strengthened participants' readiness for the licensure examination. These activities allow learners to assess their strengths and weaknesses, apply acquired knowledge, and become familiar with the examination format and questioning techniques. Previous studies by Lee et al. (2020) and Schildkamp et al. (2020) similarly reported that review activities function as formative assessments by providing learners with feedback that enables them to evaluate their current understanding and regulate subsequent learning.

Meanwhile, involvement in mentoring and support sessions obtained a mean score of 3.81 among passers, interpreted as High Engagement, whereas non-passers registered a mean score of 1.69, interpreted as Very Low Engagement. The overall mean score of 3.31 likewise indicates High Engagement. This finding suggests that mentoring and psychosocial support positively influenced participants' confidence, motivation, and emotional preparedness throughout the review process. Mentoring initiatives provide both academic guidance and emotional encouragement, which are essential in helping examinees cope with the demands and pressures of high-stakes examinations such as the LEPT. Putri (2024) and Robinos et al. (2024b) likewise emphasized that psychosocial support and mentoring contribute to improved learner self-efficacy, resilience, and persistence in academic preparation.

Overall, the findings demonstrate a consistent pattern in which participants who passed the LEPT exhibited higher levels of engagement across all dimensions of the READY Program than those who failed. The results suggest that engagement in review programs extends beyond regular attendance and encompasses active participation, completion of learning activities, and meaningful involvement in mentoring and support systems. Collectively, these findings reinforce the importance of comprehensive learner engagement in strengthening examination preparedness and improving licensure examination performance.

LEPT Performance

Table 2. *Licensure Examination for Professional Teachers Performance*

Content	Highest Grade	Lowest Grade	Average	Passed LEPT		Failed LEPT	
				f	%	f	%
General Education	91	62	79.74	35	81.4	8	18.6
Professional Education	91	57	79.53	37	86	6	14
Specialization Ratings	90	54	74.81	18	58.1	13	41.9
Note: (Applicable to BSED only)							
General Average	89	57	77.94	34	79.1	9	20.9

Legend: f – frequency and % – percentages. For Gen. Ed and Prof. Ed; N = 43; meanwhile for Specialization N = 31

The findings presented in Table 2 reveal that the participants generally demonstrated satisfactory performance across the different components of the Licensure Examination for Professional Teachers (LEPT), particularly in General Education and Professional Education. Overall, the participants obtained a general average rating of 77.94, with 34 out of 43 examinees (79.1%) passing the examination, while 9 (20.9%) failed. These findings indicate that the majority of the READY Program participants met the required passing standard in the licensure examination, suggesting a relatively high level of examination preparedness. The observed pattern further implies that the structured review sessions, academic interventions, and support mechanisms implemented through the READY Program may have contributed to enhancing participants' readiness for the LEPT.

In terms of General Education, the participants obtained an average rating of 79.74, with scores ranging from 62 to 91. Of the 43 examinees, 35 (81.4%) passed, while 8 (18.6%) failed. Studies by Olvido et al. (2024) and Dionio et al. (2025) similarly reported that relatively high performance in the General Education component of the LEPT reflects adequate competence in foundational disciplines, including Mathematics, Science, Language, and Social Studies, as these domains constitute core indicators of teacher readiness. These results suggest that the review sessions and academic support provided through the READY Program effectively strengthened the participants' foundational knowledge and comprehension skills, enabling them to perform well in this component of the examination.

Likewise, Professional Education recorded an average rating of 79.53, with scores ranging from 57 to 91. Among the participants, 37 (86.0%) passed, while only 6 (14.0%) failed, making it the examination component with the highest passing percentage. The findings indicate that the participants demonstrated satisfactory competence in pedagogical theories, instructional strategies, classroom management, and assessment practices. Previous studies have likewise emphasized that professional education integrates pedagogical theory with classroom practice while fostering professional values, identity formation, and reflective teaching competencies (Park et al., 2024; Stynska et al., 2024). The high passing rate in this component suggests that the READY Program successfully reinforced participants' pedagogical competencies and strengthened their professional preparedness for the licensure examination.

On the other hand, the Specialization component obtained the lowest average rating of 74.81, with scores ranging from 54 to 90. Among the 31 Bachelor of Secondary Education (BSED) graduates who took the specialization examination, 18 (58.1%) passed, while 13 (41.9%) failed. Compared with the General Education and Professional Education components, the Specialization component registered the lowest passing rate. This pattern indicates that participants encountered greater difficulty in their respective fields of specialization, possibly because of the depth, complexity, and advanced content knowledge required in these subject areas. The lower passing rate may also reflect variations in participants' mastery of specialized content and differences in academic preparation across disciplines. Consistent with these findings, Desai (2024) reported that specialization subjects are among the most challenging components of teacher licensure examinations because they require advanced subject-specific knowledge and the ability to apply such knowledge in professional contexts.

Overall, the findings demonstrate that participants performed better in the General Education and Professional Education components than in the Specialization component of the LEPT. The relatively high overall passing rate of 79.1% provides evidence that the READY Program effectively supported participants' academic preparation and examination readiness. However, the comparatively lower performance in the Specialization component highlights an area for continuous improvement. From an action research perspective, these findings suggest the need to further enhance the READY Program by incorporating more targeted, discipline-specific review sessions, enrichment activities, and specialized mentoring to strengthen graduates' mastery of content-specific competencies and improve future LEPT performance.

Relationship, Linear Regression for Predictive Relationship and Mathematical Model

The Shapiro-Wilk test indicated that LEPT Performance was approximately normally distributed ($W = 0.951, p = .066$), whereas Overall Engagement deviated from normality ($W = 0.720, p < .001$). However, visual inspection of the histograms, Q-Q plots, and residual plots revealed no substantial departures from the assumptions of normality, linearity, and homoscedasticity. Consequently, Pearson Product-Moment Correlation and simple linear regression were performed.

Table 3. Pearson “r” Coefficient Correlation Between the Level of Engagement in the READY Program and LEPT Performance

Engagement and...	r value	p-value	Interpretation
Attendance	0.853	<.001	Significant and High Positive Relationship Exists
Participation	0.844	<.001	Significant and High Positive Relationship Exists
Completion of Review Activities	0.881	<.001	Significant and High Positive Relationship Exists
Involvement in Mentoring and Support sessions	0.833	<.001	Significant and High Positive Relationship Exists
Overall Level of Engagement	0.881	<.001	Significant and High Positive Relationship Exists

Note: The result is significant at $p < .05$, $N = 43$, $df = 41$

The findings presented in Table 3 reveal that all dimensions of engagement demonstrated significant and high positive relationships with LEPT performance, as evidenced by Pearson correlation coefficients ranging from 0.833 to 0.881, all with p -values $< .001$. These results indicate that participants with higher levels of engagement in the READY Program generally achieved better performance in the LEPT. The consistently high correlation coefficients further suggest that active engagement in structured review activities, academic tasks, and mentoring initiatives was strongly associated with examination preparedness and successful licensure outcomes. These findings are consistent with previous studies demonstrating that comprehensive review preparation strengthens content mastery, critical thinking, and professional competencies necessary for success in teacher licensure examinations (Amanonce & Maramag, 2020). Likewise, Macalinao et al. (2024) emphasized that sustained engagement in professional education review activities enhances examinees' readiness for professional teaching practice. Collectively, these findings reinforce existing evidence that structured review programs, learner engagement, and institutional support mechanisms contribute significantly to licensure examination performance and graduate readiness for the teaching profession (Zheng et al., 2023; Rubio et al., 2025).

In terms of attendance, the Pearson correlation coefficient of $r = 0.853$ ($p < .001$) indicates a significant and high positive relationship with LEPT performance. This implies that participants who consistently attended the READY Program review sessions tended to obtain higher licensure examination ratings. Regular attendance likely provided continuous exposure to review content, opportunities for guided discussions, and reinforcement of key concepts, thereby strengthening knowledge retention and examination readiness. These findings support those of Amanonce and Maramag (2020), who reported that sustained participation in review and academic support programs positively influences licensure examination performance and professional readiness.

Similarly, participation demonstrated a significant and high positive relationship with LEPT performance ($r = 0.844$, $p < .001$). The results indicate that participants who actively engaged in discussions, collaborative learning activities, and interactive review sessions achieved better examination outcomes than those with lower levels of participation. Active participation reflects cognitive engagement, motivation, and meaningful interaction with learning tasks, all of which enhance understanding and retention of knowledge. Fredricks (2023) likewise reported that learners who actively participate in instructional and collaborative learning activities consistently demonstrate stronger comprehension, improved retention, and higher academic achievement.

Among the four dimensions, completion of review activities exhibited the strongest relationship with LEPT performance ($r = 0.881$, $p < .001$). This finding highlights the importance of consistently completing mock examinations, review exercises, and assigned learning tasks in enhancing examination performance. Completing these activities enables participants to apply acquired knowledge, identify learning gaps, receive feedback, and strengthen mastery through repeated practice. Similar findings were reported by Desai (2024), who emphasized the value of practice-based learning in improving examination preparedness. Likewise, Heretape and Paglinawan (2024) and Robinos et al. (2026) concluded that the consistent completion of review-related activities contributes significantly to academic achievement and licensure examination success.

Likewise, mentoring and support sessions demonstrated a significant and high positive relationship with LEPT performance ($r = 0.833$, $p < .001$). Participants who actively engaged in mentoring and psychosocial support activities generally performed better in the LEPT than those with lower levels of involvement. Beyond academic preparation, mentoring provides emotional encouragement, enhances learners' confidence, and strengthens resilience when preparing for high-stakes examinations. Zheng et al. (2023) and Manuel et al. (2024) similarly emphasized that mentoring and psychosocial support foster learner engagement, reduce examination anxiety, and improve academic performance.

Overall, the level of engagement in the READY Program obtained a correlation coefficient of $r = 0.881$ ($p < .001$), indicating a significant and high positive relationship with LEPT performance. This finding demonstrates that graduates who were more actively engaged in the various components of the READY Program consistently achieved higher LEPT ratings. The results underscore that meaningful engagement extends beyond attendance alone and encompasses active participation, consistent completion of review activities, and sustained involvement in mentoring and support initiatives. From an action research perspective, these findings provide empirical support for the effectiveness of the READY Program as an institutional intervention designed to enhance graduates' examination preparedness. They further suggest that strengthening learner engagement across all program components may contribute to improved licensure examination performance and can serve as a basis for the continuous enhancement of future LEPT review initiatives.

Predictive Relationship Equation

Table 4. Result of Linear Regression for Predictive Relationship Mathematical Equation

	Estimates	SE	t-value	p-value	Interpretation and Mathematical Model
Attendance	53.35 7.15	2.418 0.684	22.1	<.001	Predictive $y = 7.15x + 53.35$
Participation	56.16 6.38	2.239 0.633	25.1	<.001	Predictive $y = 6.38x + 56.16$
Completion of Review Activities	55.45 7.39	1.957 0.621	28.3	<.001	Predictive $y = 7.39x + 55.45$
Involvement in Mentoring & Support sessions	56.66 6.33	2.293 0.658	24.7	<.001	Predictive $y = 6.33x + 56.66$
Overall Level of Engagement	53.90 7.25	2.084 0.609	25.9	<.001	Predictive $y = 7.25x + 53.90$

Note: Constant – LEPT Performance; Only with significant value are included in the linear regression. All p-value are resulted to <0.001.

The findings reveal that all dimensions of engagement significantly predicted LEPT performance, as indicated by the significant regression coefficients and p-values less than 0.001. These results suggest that participants' engagement in the READY Program serves as a strong predictor of their performance in the Licensure Examination for Professional Teachers (LEPT). The findings further imply that increased engagement in review-related activities may contribute to higher examination ratings and stronger examination preparedness.

In terms of attendance, the regression model yielded the equation $y = 7.15x + 53.35$, interpreted as predictive of LEPT performance. The regression coefficient indicates that for every one-unit increase in attendance engagement, LEPT performance is predicted to increase by 7.15 points. This suggests that consistent attendance in review sessions may substantially contribute to stronger examination performance because participants are continuously exposed to review discussions, reinforcement activities, and examination-oriented instruction. The obtained t-value of 22.1 further indicates that attendance is a strong predictor of LEPT outcomes. Similar findings have been reported in previous studies emphasizing that regular attendance in structured review and academic intervention programs positively influences learners' academic achievement and licensure examination readiness (Amanonce & Maramag, 2020).

Participation likewise demonstrated a predictive relationship with LEPT performance, generating the regression equation $y = 6.38x + 56.16$. The model indicates that a one-unit increase in participation engagement corresponds to a predicted increase of 6.38 points in LEPT performance. This finding suggests that active involvement in discussions, collaborative learning activities, and review interactions contributes positively to learners' understanding and retention of concepts necessary for the examination. The significant t-value of 25.1 further highlights participation as an important predictor of examination success. Research similarly emphasizes that active engagement in learning activities enhances cognitive processing, motivation, and academic performance among learners (Johar et al., 2023).

For completion of review activities, the regression analysis generated the equation $y = 7.39x + 55.45$, indicating a predictive relationship with LEPT performance. The regression coefficient implies that every one-unit increase in engagement in review activities predicts a 7.39-point increase in LEPT ratings. Among the indicators, this variable obtained one of the highest predictive coefficients, suggesting that completing mock examinations, practice exercises, and review requirements may strongly contribute to examination preparedness and content mastery. The significant t-value of 28.3 further reinforces the importance of practice-based learning activities in strengthening examination performance. Previous studies also indicate that repeated practice and consistent completion of review-related tasks improve learners' academic confidence, retention, and examination outcomes (Desai, 2024).

Similarly, involvement in mentoring and support sessions significantly predicted LEPT performance, producing the regression equation $y = 6.33x + 56.66$. This finding indicates that every one-unit increase in mentoring and support engagement predicts a 6.33-point increase in LEPT performance. The results suggest that mentoring initiatives and psychosocial support mechanisms may positively influence participants' confidence, emotional preparedness, motivation, and resilience during the review process. The obtained t-value of 24.71 further indicates that mentoring and support systems play an important role in predicting examination success. Robinos et al. (2026) similarly emphasized that mentoring and psychosocial interventions contribute significantly to learners' academic engagement and examination readiness, particularly in high-stakes assessments.

Overall, the level of engagement in the READY Program significantly predicted LEPT performance, yielding the mathematical model $y = 7.25x + 53.90$. The model indicates that every one-unit increase in the overall level of engagement predicts a corresponding 7.25-point increase in LEPT performance. The significant t-value of 25.9 further confirms the predictive strength of engagement in relation to examination outcomes. These findings suggest that engagement in review programs extends beyond mere attendance and encompasses active participation, completion of learning activities, and meaningful involvement in mentoring and support mechanisms. The predictive models developed in this study provide empirical support that engagement in the READY Program may be used as a basis for estimating LEPT performance among participants. Furthermore, the findings reinforce existing literature emphasizing that learner engagement is a critical factor influencing academic achievement, examination preparedness, and professional readiness.

Multiple Linear Regression

The prediction mathematical model becomes

$$Y = 52.75 + 4.26(A) - 3.31(P) + 5.85(C) + 1.21(IM) \quad \text{Eq 1.}$$

Multiple linear regression analysis was conducted to determine which dimensions of engagement significantly predicted LEPT performance. The overall regression model demonstrated a strong predictive capability ($R = .900$, $R^2 = .809$), indicating that 80.9% of the variance in LEPT performance was explained collectively by attendance, participation, completion of review activities, and mentoring and support sessions.

Table 5. Result of Multiple Linear Regression for Prediction Model Equation

	Estimates	SE	t-value	p-value	Significant?
Intercept	52.75	2.15	24.48	<.001	---
Attendance	4.26	1.88	2.26	.029	Yes
Participation	-3.31	2.36	-1.40	.168	No
Completion of Review Activities	5.85	1.82	3.22	.003	Yes
Involvement in Mentoring & Support sessions	1.21	1.43	0.84	.404	No

Note: $R = 0.90$, $R^2 = .809$

Among the four dimensions, Attendance significantly predicted LEPT performance ($B = 4.26$, $p = .029$), indicating that increased attendance in the READY Program was associated with higher LEPT ratings. Likewise, Completion of Review Activities emerged as the strongest predictor ($B = 5.85$, $p = .003$), suggesting that participants who consistently completed review exercises, mock examinations, and assigned learning tasks achieved significantly better examination performance. These findings support those of Amanonce and Maramag (2020), who reported that consistent attendance in schools' review initiatives positively influences licensure examination performance and professional readiness. In addition, Desai (2024), Heretape and Paglinawan (2024), and Robinos et al. (2026) emphasized the value of practice-based learning in improving examination preparedness. Likewise, concluded that the consistent completion of review-related activities contributes significantly to academic achievement and licensure examination success.

In contrast, Participation ($B = -3.31$, $p = .168$) and Mentoring and Support Sessions ($B = 1.21$, $p = .404$) were not significant predictors after controlling for the other engagement dimensions. Although these variables individually demonstrated significant positive correlations with LEPT performance, their unique contributions were no longer statistically significant when analyzed together with the other predictors. This finding suggests that the effects of participation and mentoring may overlap with those of attendance and completion of review activities, which appear to have stronger direct influences on LEPT performance. Similar findings were reported by Farro et al. (2025) and Panlaqui (2025), who noted that consistent attendance in LET review programs is a stronger direct predictor of licensure examination performance than general support activities. This pattern is expected in multiple regression analysis, where predictors may share variance with one another. Unlike simple regression, which examines each predictor independently, multiple regression estimates the unique contribution of each predictor while controlling for the others. Consequently, a variable that appears significant in an individual regression may become weaker, change direction, or become statistically non-significant when overlapping predictors are included in the model (Ruan, 2024).

Conclusion

The findings of this study provide empirical evidence that engagement in structured review interventions plays a significant role in strengthening licensure examination performance among teacher education graduates. The results demonstrate that meaningful engagement in the READY Program is positively associated with LEPT performance, with attendance and completion of review activities emerging as the strongest predictors of examination success in the multiple regression analysis. These findings suggest that while participation and mentoring remain important components of a holistic review program, consistent attendance and the completion of structured review activities have the greatest direct influence on graduates' readiness for the LEPT.

As LEPT performance serves as a key quality indicator of teacher education institutions, the findings have important implications for institutional policy and practice. Teacher education institutions should strengthen evidence-based and data-driven review programs by ensuring regular participant attendance, monitoring the completion of review activities, and providing timely academic interventions for graduates who demonstrate low levels of engagement. Institutions may likewise establish systematic mechanisms for tracking engagement indicators throughout the review period to identify at-risk graduates and provide targeted academic, mentoring, and psychosocial support before they take the licensure examination. Such initiatives may contribute not only to

improved LEPT performance but also to the continuous quality improvement of teacher education programs and institutional outcomes.

From a research perspective, this study contributes to the growing body of local literature on learner engagement as a predictor of licensure examination performance and highlights the value of predictive modeling in evaluating institutional review interventions. The mathematical model developed in this study provides an evidence-based framework that may assist teacher education institutions in forecasting graduates' examination readiness and informing program enhancement initiatives. Future studies may validate the proposed model using larger and more diverse samples and examine additional variables, such as motivation, self-efficacy, academic achievement, study habits, and learning modalities, to develop more comprehensive predictive models of professional licensure examination success. Future action research may likewise investigate the effectiveness of a Re-READY Program specifically designed for LEPT retakers. Considering that repeat examinees have consistently influenced the institution's overall LEPT performance in recent years, a specialized intervention focusing on targeted content reinforcement, individualized mentoring, psychosocial support, and strategic review planning may help improve retakers' success rates. Evaluating the effectiveness of such a program could provide evidence-based recommendations for strengthening graduate support services and advancing the continuous quality improvement initiatives of teacher education institutions.

Contributions of Authors

Author 1: conceptualization, proposal writing, statistical validation, data gathering, data analysis, manuscript finalization, and revisions.

Author 2: conceptualization, proposal writing, data gathering, and manuscript finalization.

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Conflict of Interests

No potential conflict of interest.

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References

- Amanonce, J., & Maramag, A. (2020). Licensure examination performance and academic achievement of teacher education graduates. *International Journal of Evaluation and Research in Education (IJERE)*. <https://doi.org/10.11591/ijere.v9i3.20614>
- Desai, A. (2024). Anxiety levels and coping mechanisms of Indian adolescents under exam stress. *Studies in Psychological Science*. <https://doi.org/10.56397/sps.2024.12.02>
- Dionio, B., Dagpin, A.R., Cabillas, A.J.Q., Edullantes, J.R., & Baluyos, G. (2025). Predictors of graduates' performance in the Licensure Examination for Teachers (LET). *EduLine: Journal of Education and Learning Innovation*, 5(1), 79–103. <https://doi.org/10.35877/454RLeduline3535>
- Farro, R., Magno, G., & Tigas, B.G. (2025). Nurturing future teachers: Exploring factors and challenges in board performance of BECED curriculum graduates. *International Journal of Research and Innovation in Social Science*. <https://doi.org/10.47772/ijriss.2025.909000661>
- Fredricks, J. (2023). Getting students engaged. National Association of State Boards of Education. <https://tinyurl.com/4z427yty>
- Garcia, G.D.V., & Rivera, J. (2025). Enhancing the Philippine labor market information system and TESDA's skills anticipation and prioritization of skills requirements framework. *Research Paper Series*. <https://doi.org/10.62986/rps2025.03>
- Heretape, E.H., & Paglinawan, J.L. (2024). Academic support services and review program initiatives on students' preparedness for licensure examination. *International Journal of Scientific and Management Research*, Volume 07.
- Jiang, Y., & Peng, J.-E. (2023). Exploring the relationships between learners' engagement, autonomy, and academic performance in an English language MOOC. *Computer Assisted Language Learning*, 38, 71–96. <https://doi.org/10.1080/09588221.2022.2164777>
- Johar, N., Kew, S., Tasir, Z., & Koh, E. (2023). Learning analytics on student engagement to enhance students' learning performance: A systematic review. *Sustainability*. <https://doi.org/10.3390/su15107849>
- Lee, H., Chung, H., Zhang, Y., Abedi, J., & Warschauer, M. (2020). The effectiveness and features of formative assessment in US K-12 education: A systematic review. *Applied Measurement in Education*, 33(2), 124–140. <https://doi.org/10.1080/08957347.2020.1732383>
- Macalinao, Z., Abagon, B., Dalusong, R., Laguer, P., Parangal, J., Charcos, C., & Dantic, M. (2024). Trends and comparative analysis in College of Teacher Education graduates' licensure examination performance (2021-2024). *East African Scholars Journal of Education, Humanities and Literature*. <https://doi.org/10.36349/easjehl.2024.v07i11.001>
- Manuel, K., Diaz, T.M., Burigay, F.A., Bangi, J., & Luyun, C. (2024). Success stories of top performers in teacher education and liberal arts. *Journal of Interdisciplinary Perspectives*, 2(11), 180–195. <https://doi.org/10.69569/jip.2024.0451>
- Martinez-Serna, M.I., Baixauli-Soler, J.S., Beldaz-Ruiz, M., & Yague, J. (2024). The effect of online class attendance on academic performance in finance education. *The International Journal of Management Education*. <https://doi.org/10.1016/j.ijme.2024.101023>
- Metz, C., Metz, M., & Falcone, J. (2024). A toolbox of strategies to improve test-taking skills: A comparison of student perceptions. *Advances in Physiology Education*. <https://doi.org/10.1152/advan.00067.2024>
- Olvido, M.M., Dayagbil, F., Alda, R., Uyitico, B.J., & Rodriguez, K.F. (2024). An exploration of the quality of graduates of Philippine teacher education institutions. *Frontiers in Education*. <https://doi.org/10.3389/educ.2024.1235261>
- Panlaqui, C. (2025). Unveiling the key factors and challenges on the graduates' board performance in the new curriculum. *Edukasiana: Jurnal Inovasi Pendidikan*. <https://doi.org/10.56916/ejip.v4i1.976>
- Parjan, Anistiyasari, Y., Ekohariadi, & Hidayati, S.C. (2024). Predicting academic achievement through engagement analysis with sparse logistic regression. 2024 International Seminar on Intelligent Technology and Its Applications (ISITIA), 483–487. <https://doi.org/10.1109/isitia63062.2024.10667991>
- Park, J., Yun, S., & Choi, E. (2024). Professional identity of physical education teachers: What are the key components?. *Journal of Teaching in Physical Education*, 2024, <https://doi.org/10.1123/jtpe.2024-0078>
- Putri, G.A. (2024). Social support and educational resilience: A systematic review of students facing academic challenges. *Vifada Journal of Education*, volume 2, issue 2, pages 24–44. <https://doi.org/10.70184/hnxcrc44>

- Rizwan, S., Nee, C.K., & Garfan, S. (2025). "Identifying the factors affecting student academic performance and engagement prediction in MOOC using deep learning: A systematic literature review." *IEEE Access*, vol. 13, 2025, pp. 18952–18982. <https://doi.org/10.1109/access.2025.3533915>
- Robinos, J.R., Romasoc, B., Alipasa, J.B., Galang, M.K., & Ica, M. (2025a). Employability and perceived attainment of program educational objectives and program learning outcomes: A tracer study of Batch 2022 graduates of the College of Education. *UKR Journal of Arts, Humanities and Social Sciences (UKRJAHSS)*, Volume 1(Issue 9), 10–19. <https://doi.org/10.5281/zenodo.17528003>
- Robiños, J.R., Sagudo, F., Jr., Ramos, B., Medina, L., Mempin, M.F., Camilon, R.B., Balagtas, R., Diola, D., Quirong, R., Sar Jaafar, M.O., Hernandez, A.M., & Gollayan, S. (2026). Three years of Project ALTAS (Alternative Learning Through Accessible Services): A journey of educational empowerment and life transformation. *UKR Journal of Arts, Humanities and Social Sciences (UKRJAHSS)*, 2(2), 22–36. <https://doi.org/10.5281/zenodo.18476431>
- Robiños, J.R., Sagudo, F., Jr., Birung, R.J., Camilon, R.B., Legaspi, J., & Cacho, R. (2023). A correlational analysis of predictor test results and licensure examination board performance among Education and Criminology graduates from a private university. *Journal of Interdisciplinary Perspectives*, 1(2), 37–42. <https://doi.org/10.69569/jip.2023.0019>
- Robinos, J.R., Camilon, R.B., & Sagudo, F., Jr. (2024a). Career trajectory: A longitudinal analysis of criminology graduates' attributes and professional success in a private HEI. *Journal of Interdisciplinary Perspectives*, 2(8), 630–636. <https://doi.org/10.69569/jip.2024.0325>
- Robinos, J.R., Daque, C., Dipad, V.C., Gunda, K.J., Salaysay, J., & Sevilla, M. (2024b). Exploring the influence of field-based learning experiences on the professional development of pre-service teachers. *Journal of Interdisciplinary Perspectives*, 2(12), 627–633. <https://doi.org/10.69569/jip.2024.0592>
- Robinos, J.R., Roxas, M.J., Villalona, C., Alipasa, C.D., & Reyes, K.N. (2025b). Equipped to educate: Exploring work readiness of graduating teacher education students. *Journal of Interdisciplinary Perspectives*, 3(10), 145–155. <https://doi.org/10.69569/jip.2025.504>
- Ruan, Y. (2024). Exploring multiple regression models: Key concepts and applications. *Science and Technology of Engineering, Chemistry and Environmental Protection*. <https://doi.org/10.61173/yjpt3s59>
- Rubio, A.M., Matalines, A.M., Malinao, R., & Condes, R.B. (2025). Bridging academic excellence and licensure success: Unveiling the pathway for future educators. *Journal of Interdisciplinary Perspectives*, 3(12), 333–340. <https://doi.org/10.69569/jip.2025.720>
- Schildkamp, K., van der Kleij, F., Heitink, M., Kippers, W., & Veldkamp, B. (2020). Formative assessment: A systematic review of critical teacher prerequisites for classroom practice. *International Journal of Educational Research*. <https://doi.org/10.1016/j.ijer.2020.101602>
- Stynska, V., Prokopiv, L., & Kravets, N. (2024). Content component of professional training of higher education applicants in the period of formation of independent Ukraine. *Mountain School of Ukrainian Carpaty*, 2025. <https://doi.org/10.15330/msuc.2024.31.47-51>
- Sumicad, R., Balanga, E., Cuevas, G., Gimarangan, R., Pacaldo, J., & Lawan, A. (2023). Perceived psychological preparedness of the new tertiary curriculum graduates in taking the professional board examination. *Journal of Learning and Development Studies*. <https://doi.org/10.32996/jlds.2023.3.3.1>
- The Summit Express. (2018, May). March 2018 LET results. <https://tinyurl.com/ycxw5f9h>
- The Summit Express. (2018, December). September 2018 LET result secondary list of passers. <https://tinyurl.com/y6h68v6s>
- The Summit Express. (2022, March). January 2022 LET result: Performance of schools secondary. <https://tinyurl.com/2ekd9aer>
- Zheng, G., Zhang, Q., & Ran, G. (2023). The association between academic stress and test anxiety in college students: The mediating role of regulatory emotional self-efficacy and the moderating role of parental expectations. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1008679>