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An Assessment of Sustainable E-learning in Facebook-based Remedial Reading Classes

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Ester T. Rada
College of Arts and Sciences
San Beda University, Manila, Philippines
erada@sanbeda.edu.ph

Rosalie I. Zingapan
Department of Education
DepEd Central Office, Manila, Philippines
Rosalie.zingapan@deped.gov.ph

Adrian M. Segovia
Science and Technology / Psychology
Centro Escolar University, Manila, Philippines
amsegovia@ceu.edu.ph

Abstract

The Department of Education Memorandum No. 173, s. 2019, "HAMON: Bawat Bata Bumabasa," aims to improve Filipino learners' reading proficiency. This study assesses the Grade 7 Lunas-Basa remedial reading program in two public schools. It aims to determine the readiness of the Facebook-based program using Edralin and Pastrana's Organizational Readiness in E-learning measure; assess its seven dimensions—learner, teacher, content, technology, administrative, financial, and learning-environment support; and recommend actions to enhance the program. Students and teachers/administrators reported favorable perceptions across all seven dimensions. Student mean scores ranged from 4.10 to 4.46, while teacher/administrator ratings ranged from 4.33 to 4.54. Students rated content/curriculum highest (M = 4.46, SD = 0.52), followed by technology (M = 4.40, SD = 0.55) and administrative support (M = 4.38, SD = 0.56). Teachers/administrators gave the highest rating to administrative support (M = 4.54, SD = 0.74), followed by technology (M = 4.49, SD = 0.72) and financial support (M = 4.49, SD = 0.76). ANOVA showed statistically significant variation across dimensions only in the student group. Exploratory factor analysis indicated that all seven dimensions loaded onto one higher-order factor, interpreted as sustainable e-learning readiness. Although conceptually distinct, respondents perceived the dimensions as closely integrated aspects of readiness for Facebook-based remedial reading. Stronger factor loadings among teachers/administrators indicated a more consolidated perception of readiness than among students. Recommended actions include

improving learner engagement, faculty development, administrative support, technology access, content, financial support, and the collaborative learning environment.

Keywords: Sustainable e-learning, Facebook-based remedial reading program, Lunas-Basa, Collaborative learning, SDG#4

Introduction

Background of the Study

The Department of Education (DepEd) Memorandum No. 173, s. 2019, titled *"HAMON: Bawat Bata Bumabasa* (3Bs Initiative)," aims to enhance reading proficiency among learners in the Philippines. It emphasizes the need to strengthen the Every Child A Reader Program (ECARP) to equip learners with reading skills and nurture a culture of reading in schools and communities. The memorandum outlines the objectives of the initiative: 1) to equip learners with reading skills to become proficient and independent readers; 2) to capacitate teachers to become effective reading teachers; and 3) to nurture a culture of reading in various levels of governance within DepEd.

In line with 3Bs initiative, ECARP and the need to enhance reading comprehension skills of the Filipino students, Jose P. Laurel High School and Quirino High School, among other public schools, take their initiatives, in collaboration with their Filipino Department, in launching their respective intervention programs, where *Lunas-Basa,* a remedial reading program, as its key component. The program has been operational for more or less 10 years for Grade 7 students but further intensified as part of the continuous improvement project of the schools. The Remedial Reading program (*Lunas-Basa*) focuses on the use of Facebook as a mode of instruction to Grade 7 students. In the formal opening of the remedial classes, the program coordinators explained its framework to the students, teachers, and other stakeholders. Each remedial reading session lasts for 30 minutes face-to-face, and an asynchronous class utilizes Facebook (Zingapan et al., 2023).

But with the set up in the New Normal and eventual face-to-face classes or hybrid setup DepEd's call under DepEd Order 24, s.2022—Adoption to Basic Education Development Plan 2030 quality education has been again heightened to fill in the learning gaps brought about by the pandemic. In part, equitable access to education using varied learning modalities has resurfaced. Thus, in the Blended Learning set up, online applications, particularly social media platforms, have been seen as effective alternative learning modalities.

Notwithstanding these efforts, among 80 nations, the Philippines ranked among the lowest 10 for reading comprehension in the 2022 PISA

test (Organisation for Economic Co-operation and Development, 2022). This reflects the need to renew teacher education and development, curriculum, and above all the attitude of giving more importance on critical and creative thinking and application rather than on rote memorization. The 2024 Functional Literacy, Education, and Mass Media Survey (FLEMMS) disclosed that a meager 70.8% of Filipinos aged 10 to 64 are functionally literate, hinting at an undetected learning crisis (Philippine Statistics Authority, 2024). This data shows that we must immediately implement reforms in the education system to improve the reading comprehension of Filipino students. (Phl reading comprehension ranks among bottom 10 countries Daily Tribune April 19, 2024.

Congruently, Sustainable Development Goal (SDG) 4 that seeks to "Ensure inclusive and quality education for all and promote lifelong learning" is a priority objective of 2030 Agenda (Garcia et al., 2020). Education is the basis for improving our lives and for sustainable development. In addition to enriching people's quality of life, access to inclusive and equitable education can contribute by providing people with the tools to develop innovative solutions to the world's major problems (Garcia et al., 2020). Quality education is understood as one of the most powerful and proven drivers for ensuring sustainable development, which can be applied in various educational contexts, formal and non-formal, and which can generate multiple benefits for the general public.

The present study aims to evaluate the remedial reading program, *Lunas-Basa* in order to enhance its capacity to offer help to the students in need to improve their reading comprehension skills. The instrument developed by Edralin and Pastrana (2021) was used to assess the program since the instrument evaluates organizational readiness for a sustainable e-learning.

Through this comprehensive evaluation, *Lunas-Basa* program aspires to continuously refine its strategies and contribute to DepEd's broader mission of ensuring that every Filipino learner becomes a competent and critical reader, capable of thriving in an increasingly complex and information-driven world.

Statement of Research Problem:
How does Remedial Reading (*Lunas-Basa*) program foster sustainable e-learning?

Statement of Specific Objectives:

1. Determine the readiness of Facebook-based remedial reading (*Lunas-Basa*) program using Edralin and Pastrana's Organizational Readiness in E-learning measure.
2. Assess the dimensions of remedial reading (*Lunas-Basa*) program in terms of learners, teachers, content, technology, administrative support, financial support and learning environment.
3. Recommend program of action for further enhancement of the remedial reading *(Lunas-Basa)* program.

Review of Related Literature

Gülbahar, Kalelioğlu and Madran (2010) study showed that social media platforms have contributed significantly to teaching-learning perspectives, more so in this generation, where youths are more exposed to Facebook as a day-to-day lifestyle. These platforms have varied applications such as videos, blogs, photos, news, and other files as sources of data. The applications were also used for exchanging of ideas for collaboration, discussions, forums for critical thinking, problem solving and other learning methods.

Sustainable e-learning can be defined as e-learning that has become normative in meeting the needs of the present and future (Robertson, 2008). Nichols (2007 as cited in Robertson, 2008) uses the term 'sustainable embedding' to describe a process where e-learning is characterized as proactive, scalable and self-perpetuating. Jochems, van Merrienboer and Koper (2004 as cited in Robertson, 2008) propose that the optimum integration of e-learning needs to address organizational, technological, and pedagogic perspectives. This proposition is not unproblematic in terms of implementation or outcome. Where there is incongruence between these perspectives, a less than optimum outcome will occur.

The term "sustainable" is defined by dictionary references as: "able to be maintained at a certain rate or level" (Oxford Dictionary of English [Soanes & Stevenson, 2005] as cited in Stepanyan & Marganyan, 2013). The verb "sustain" is defined (ibid.) as: "cause to continue for an extended period" or "uphold, affirm, or confirm the justice or validity." Regardless

of the variations in the definitions of the term, there appears to be a common foundation: a property of continuity over time (Stepanyan & Marganyan, 2013). In a Scopus review of Stepanyan & Marganyan (2013), they particularly pointed out three domains, among others, as the foci of research for sustainable e-learning, such as resource management (e.g., cost-effectiveness of distance and blended learning), educational attainment (e.g. evidence of benefits, perceptions of quality, usability of new technologies, and student performance), and professional development and innovation (e.g. teacher training and development, institutional transformation, and educational leadership).

Five main factors (Learner's Quality, Instructor's Quality, Information's Quality, System's Quality and Institutional Quality) were identified as a determinant of e-learning service performance in a study by Alam et al (2021).

Chipere (2016) posits that the framework for sustainable e-learning design must be based on three principles: (1) stakeholder-centeredness; (2) cost-effectiveness and (3) high operational efficiency.

Morever, the use of Facebook foster flexible learning. "Beatty (2019 as cited in Cruz & Dulay, 2023) defines Flexible Learning as a set of educational philosophies and systems, concerned with providing learners with increased choice, convenience, and personalization that suit the learner. Its approaches are suggested to be designed with consideration to the full range of teaching and learning theories, philosophies, and methods that shall maximize the opportunities of students to learn. Internet-based tools, learning management systems, and discussion boards, which may or may not be complemented by face-to-face classroom tutorials and lectures, could be designed as a "blended" instructional approach. (p. 205)

Conceptual Model/ Operational Framework

The assessment model used consists of seven dimensions: student, faculty, curriculum, technology, administrative support, financial support, and learning (organization) environment, which are the components developed by Edralin and Pastrana (2021) and the measure to be used for the study with the following reliability statistics as shown in Table 1.

Table 1.

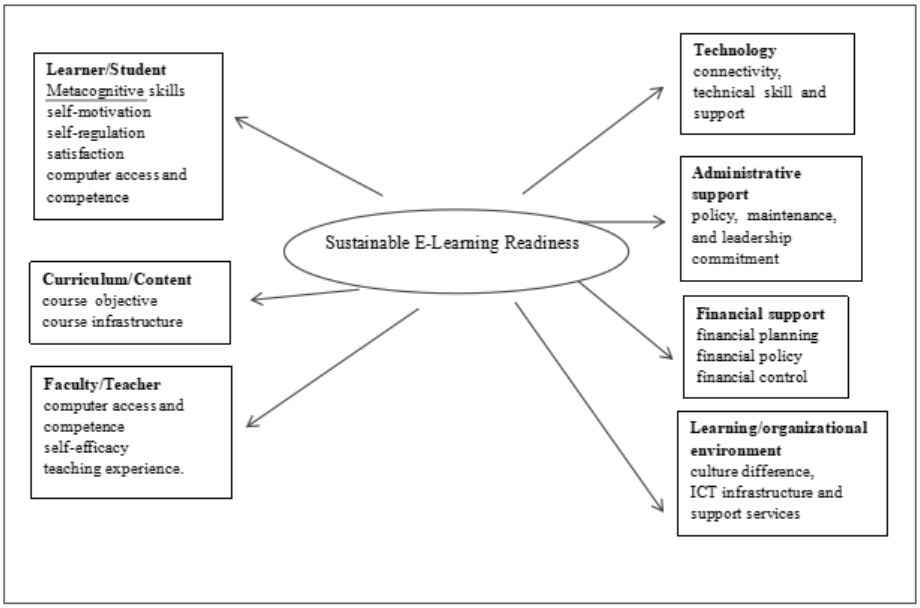
Organizational Readiness Dimensions for Sustainable E-learning and Reliability Indices

Dimensions	No. of Items (Question/Indicators)	Cronbach's alpha Coefficient
Student (Learner)	10	0.916
Faculty/Teacher	10	0.931
Curriculum (Content)	5	0.921
Technology	5	0.880
Administrative Support	5	0.919
Financial Support	5	0.956
Learning (Organization) Environment	5	0,933

Based on a literature review of Edralin and Pastrana (2021), they specified the critical elements or factors for online readiness as the following: for the student/learner dimension, metacognitive skills, self-motivation, self-regulation, satisfaction, and computer access and competence. On the other, faculty/teacher dimension should have elements for e-learning readiness, such as computer access and competence, self-efficacy, and teaching experience. In the curriculum/content dimension, the factors that should be present for online readiness are course objectives and course infrastructure. The critical elements or factors that should be present in the online readiness technology dimension are connectivity, learning management system, and technical skill and support. Further, the administrative support dimension should have factors such as policy, maintenance, and leadership commitment. Moreover, for the financial support dimension, factors such as financial planning, financial policy, and financial control should be considered. Lastly, the learning (organization) environment dimension should include factors such as cultural differences, ICT infrastructure, and support services to ensure online readiness.

Figure 1.

The critical elements or factors that should be present in the online readiness dimensions



In this study, the seven dimensions are conceptualized as first-order domains representing different aspects of organizational readiness. Collectively, however, they are hypothesized to reflect a broader higher-order construct referred to as Sustainable E-learning Readiness. Thus, while each dimension captures a unique component of readiness, the overall assessment examines whether these domains operate together as indicators of a unified organizational capability for sustainable e-learning.

In the technology dimension, only the use of Facebook as a learning modality and its effectiveness was assessed (i.e., no other technological platforms, such as learning management system (e.g. Canvas, Moodle, etc.), Google Classroom, Microsoft Word, MS Teams, Adobe Acrobat, Excel, Google Chrome, and others, were part of the assessment)

Educational Psychology and Sustainable E-Learning

Highlighting the concepts in Educational Psychology such as metacognitive skills (item nos. 1 and 5), self-motivation (item no. 10), self-regulation (item nos. 2, 3, and 6), and self-efficacy (item nos. 14 and 16) in Edralin and Pastrana's (2021) dimensions in sustainable e-learning, are

crucial for effective learning. These concepts are particularly relevant when using Facebook as a learning mode of instruction. Here's how they can be applied (Hartelt and Martens, 2024):

Metacognitive skills:

Item no. 1. Each student has a clear understanding of their purpose of their learning in the course. (Ang bawat mag-aaral ay alam ang kanilang mga layunin sa pagkatuto sa kurso.)

Item no. 5. Each student knows what they want in an online course. (Alam ng bawat mag-aaral kung ano ang gusto nila sa isang online na kurso.)

Encouraging students to reflect on their learning process helps them develop metacognitive skills. They should also be able to identify their strengths and weaknesses so they can adjust their study strategies. Teachers should give them self-assessment exercises and discuss with them their learning experiences.

Self-motivation:

Item no. 10. Each student has confidence in their use of the internet and communication on the computer for learning. (May kumpiyansa ang bawat mag-aaral sa paggamit ng internet at komunikasyong ginagamitan ng computer.)

Modular instructional resources using Facebook posts, quotes, blogs and the likes can engage students in self-directed learning that they can explore and learn independently.

Self-regulation:

Item no. 2. Each student was able to finish the activities/tasks of the course (assignment, activity, project, and quizzes) to meet the needed purpose of their learning. (Ang bawat mag-aaral ay kusang tinatapos ang mga kinakailangan sa kurso (mga takdang-aralin, pagsasanay, proyekto, at mga pagsusulit) upang makamit ang kanilang layunin sa pagkatuto.)

Item no. 3. Each student has the desire to actively join the process of learning. (Ang bawat mag-aaral ay hangad na madalas na makilahok sa buong proseso ng pagkatuto.)

Item no. 6. Each student carefully executes their tasks aligned with the needs of the course. (Maingat na ginagampanan ng bawat mag-aaral ang kanilang mga gawain alinsunod sa mga kahingian ng kurso.)

Structured learning plans and regular feedback can aid the students in monitoring their learning progress. Teachers should also guide them to set their goals and adjust their strategies as needed.

Self-efficacy:

Item no. 14. Each teacher has confidence in their use of computers for internet and communication for learning. (May kumpiyansa ang bawat guro sa paggamit ng internet at mga komunikasyong ginagamitan ng computer para sa pag-aaral.)

Item no. 16. Each teacher has the confidence to teach online classes. (May kumpiyansa ang bawat guro na magturo online.)
Teachers should be confident in their ability to deliver remedial reading instruction via Facebook. Instructional materials must be relevant and effective.

Methodology

The assessment model used consists of seven dimensions: student, faculty, content/curriculum, technology, administrative support, financial support, and learning (organization) environment, which are the components developed by Edralin and Pastrana (2021) and the measure used for the study.

This research is an empirical descriptive design.

The researchers sought first the permission of DepEd-National Capital Region, School Division Office of Quezon City and school principals of target schools. Then, they administered Edralin and Pastrana's Organizational Readiness for Sustainable E-learning instrument to Grade 7 students under the Remedial Reading classes and faculty-members and the administrators at Jose P. Laurel High School and Quirino High School. Initially, the instrument was translated to Filipino and back-translated to English by a bilingual psychology professor and then revised as necessary. It also underwent pre-test cognitive debriefing with 6 male and female Grade 7 students under remedial reading class for content validation using the following questions: 1) What does this item mean to you? 2) Paraphrase

the item in your own words. 3) What comes to mind when you read the item? 4) Any word that you don't understand or find unacceptable or offensive? 5) Please suggest alternative words to usual language. (Language Scientific, 2018 cited in Rada & Nieva, 2024) with the guidance of the teachers/and researchers.

The Filipino translated version was administered to 126 Grade 7 student samples in remedial reading program, and the original English version of the Organizational Readiness for Sustainable E-learning instrument was administered to 45 samples of teachers/administrators handling remedial classes. Likert-scale survey studies typically require at least 30 respondents per group to allow for meaningful inferential statistics. Educational research norms suggest that for school-based studies, 30-50 participants per subgroup is sufficient for exploratory studies (Nor Roselidyawaty, 2024; Kusmaryono et al, 2022). They were selected using purposive sampling based on the inclusion criteria above. Construct validity of the instrument was primarily established by Edralin and Pastrana (2021) during the original instrument development through expert validation, reliability testing, and psychometric evaluation. In the present study, the researchers focused on ensuring linguistic and conceptual equivalence through forward translation, back-translation, cognitive debriefing, and content validation. The cognitive debriefing process confirmed that participants understood each item as intended, thereby supporting the applicability of the validated constructs within the Filipino remedial reading context.

This study was conducted through a consent form for the teachers and administrators and assent form for the minors (student participants) since they cannot legally sign on their own. The questionnaires were distributed in printed form for all the participants.

Results and Discussion

Descriptive statistics were used to assess the effectiveness of Facebook as a learning modality. Cronbach's alpha for reliability indices. Exploratory factor analysis for validity indices was also conducted. Statistical analyses were conducted using SPSS v23. Students (N = 126) ages The study participants included 12-15 individuals, with 52% female and 48% male, as well as teachers and administrators aged 28-64; 71.1% of the participants were female and 28.9% were male. Cronbach's alpha of 0.96 for students and 0.98 for teachers and administrators indicates

excellent consistency across 45 items. The student and teacher survey datasets show strong internal consistency, with Cronbach's alpha values above the commonly accepted threshold of 0.70, indicating reliable measurement of perceptions of online learning quality. Validity checks suggest that most items align well with the intended constructs. Table 2 shows dimension scores of students and teachers and administrators.

Table 2.

Dimension Scores of Students and Teachers/Administrators

Dimension	Students		Teachers/ Administrators		Interpretation
	M	SD	M	SD	
Learner/Students	4.1	0.52	4.33	0.72	High High engagement and clarity of learning goals
Faculty	4.34	0.5	4.37	0.76	High Teachers/Admin show stronger confidence and pedagogical clarity.
Content/Curriculum	4.46	0.52	4.41	0.79	Very high Structured content consistently supports learning.
Technology	4.4	0.55	4.49	0.72	Very high Teachers/Admin perceive technology as more reliable.
Administrative Support	4.38	0.56	4.54	0.74	Very high Teachers/Admin strongly affirm institutional backing.
Financial Support	4.3	0.6	4.49	0.76	High to very high Teachers/Admin recognize financial stability; students less aware.
Learning/ Organizational Environment	4.35	0.53	4.47	0.75	High to very high Teachers/Admin rate safety and engagement higher.

Across all seven dimensions, both students and teachers/administrators reported favorable perceptions of the Facebook-based remedial reading program. Among students, mean scores ranged from 4.10 to 4.46, whereas among teachers/administrators, mean ratings ranged from 4.33 to 4.54. For students, the highest-rated dimension was

content/curriculum (M = 4.46, SD = 0.52), followed by technology (M = 4.40, SD = 0.55) and administrative support (M = 4.38, SD = 0.56). For teachers/administrators, administrative support obtained the highest mean (M = 4.54, SD = 0.74), followed by technology (M = 4.49, SD = 0.72) and financial support (M = 4.49, SD = 0.76). Although learner/student and financial support dimensions received comparatively lower ratings, these remained within the generally positive range.

Overall, the findings indicate that both groups viewed Facebook-based e-learning as supportive of remedial reading. All dimension means were above 4.00, reflecting consistently favorable evaluations of the program. Among students, content/curriculum emerged as the strongest dimension, suggesting high confidence in the relevance and clarity of instructional materials. Among teachers/administrators, administrative support, technology, and financial support received the highest ratings, indicating strong perceived institutional backing for the program. Teachers/administrators generally rated the dimensions slightly higher than students, although the differences were modest, suggesting broad agreement across respondent groups. Taken together, the results point to strengths in content quality, faculty readiness, technology support, and administrative support, while learner engagement and financial support appear to be comparatively weaker areas that may benefit from further enhancement.

Table 3.

Differences on dimension scores

Source	Students					Teachers/Administrators				
	SS	*df*	MS	*F*	*p*	SS	*df*	MS	*F*	*p*
Dimensions	9.47	6	1.58	18.28	< .001	1.48	6	0.25	1.99	0.068
Error	64.76	750	0.09			32.74	264	0.12		
Subjects	173.86	125	1.39			127.77	44	2.9		
Total	248.1	881				162	314			

The ANOVA showed that only the student group demonstrated statistically significant variation in ratings across dimensions. This suggests that students were more differentiated in how they perceived various components of the program. In contrast, teachers/administrators evaluated the dimensions more uniformly, as reflected in the nonsignificant within-group ANOVA result. Across both groups, learners/students and financial support tended to receive comparatively lower ratings, although these still

fell within the favorable range. These dimensions may therefore represent areas for program strengthening.

The study is consistent with previous researches such as in Cavus, et al (2021) which posit that social networking sites like Facebook were effective for sustainable education, enhancing engagement but raising concerns about distraction. Atento (2023) found that the integration of SDGs into e-learning showed promise but highlighted gaps in policy alignment. Project EAGLE at Luis Hervias National High School found e-learning platforms improved literacy in low-resource settings, but connectivity issues persisted (2021). Comparative Studies (2015–2025) showed that online learning improved flexibility and performance but reduced social interaction compared to face-to-face (Cano, 2022).

In contrast, ten years ago, remedial reading programs (e.g., Iloilo study, 2018–2019) emphasized teacher-led interventions with limited tech integration (Sancada, 2022). Today, sustainable e-learning via Facebook and Learning Management System (LMS) platforms shows higher reliability, broader institutional support, and stronger learner confidence.

Table 4.

Pearson Correlation Matrix of E-Learning Dimensions Among Students

Dimension	L/S	F	C/C	T	AS	FS	LOE
Learner/Student	—	.624***	.531***	.521***	.477***	.437***	.535***
Faculty		—	.710***	.570***	.525***	.481***	.552***
Content/Curriculum			—	.839***	.774***	.719***	.872***
Technology				—	.855***	.888***	.908***
Administrative Support					—	.921***	.895***
Financial Support						—	.870***
Learning (Organization) Environment							—

Note. ***$p < .001$.

Table 4 showed that among students, all seven e-learning dimensions were positively and significantly interrelated, with correlation coefficients ranging from .437 to .921, all *ps* < .001. This indicates that more favorable student perceptions in one dimension were generally associated with more favorable perceptions in the other dimensions. The strongest relationships were observed between administrative support and financial support ($r = .921$, $p < .001$), technology and learning environment ($r = .908$,

$p < .001$), and administrative support and learning environment ($r = .895$, $p < .001$). These results suggest that, from the students' perspective, institutional support dimensions were tightly linked with perceptions of the learning environment and technological readiness.

Table 5.

Pearson Correlation Matrix of E-Learning Dimensions Among Teachers/Administrators

Dimension	L/S	F	C/C	T	AS	FS	LOE
Learner/Student	—	.756***	.737***	.634***	.597***	.613***	.614***
Faculty		—	.840***	.794***	.790***	.692***	.637***
Content/Curriculum			—	.792***	.726***	.713***	.655***
Technology				—	.882***	.872***	.848***
Administrative Support					—	.839***	.789***
Financial Support						—	.956***
Learning/Organizational Environment							—

Note. ***$p < .001$.

To compare, Table 5 revealed that among teachers/administrators, all seven e-learning dimensions were likewise positively and significantly interrelated, with coefficients ranging from .597 to .956, all *ps* < .001. This indicates that more favorable teacher and administrator evaluations in one dimension were consistently associated with more favorable evaluations in others. The strongest relationships were found between financial support and learning environment ($r = .956$, $p < .001$), technology and administrative support ($r = .882$, $p < .001$), and technology and financial support ($r = .872$, $p < .001$). These findings suggest that, for teachers and administrators, perceptions of sustainability were especially anchored in the interplay among institutional resources, technological support, and the broader learning environment.

Table 6.

Exploratory Factor Analysis Adequacy Indices for the Seven E-Learning Dimensions

Group	KMO	Bartlett's χ^2	df	*p*
Students	0.815	1071.87	21	< .001
Teachers/Administrators	0.807	467.98	21	< .001

The exploratory factor analysis (EFA - Table 6) supported the factorability of the seven e-learning dimensions for both respondent groups. For students (Filipino version), the Kaiser-Meyer-Olkin measure of sampling adequacy was .815, while Bartlett's test of sphericity was significant, $\chi^2(21) = 1071.87$, $p < .001$. For teachers/administrators (English version), the Kaiser-Meyer-Olkin value was .807 and Bartlett's test was likewise significant, $\chi^2(21) = 467.98$, $p < .001$. These results indicate that the intercorrelation matrices for both groups were appropriate for factor extraction.

Table 7.

Exploratory Factor Analysis Results for the Seven E-Learning Dimensions Among Students and Teachers/Administrators

Group	Factor	Eigenvalue	% Variance Explained	Cumulative %	Factor Loadings
Students	1	5.26	74.51	74.51	.65–.95
	2	0.9	12.77	87.28	—
	3	0.44	6.27	93.55	—
	4	0.24	3.35	96.91	—
	5	0.1	1.39	98.29	—
	6	0.08	1.06	99.36	—
	7	0.04	0.64	100	—
Teachers/ Administrators	1	5.74	80.07	80.07	.79–.97
	2	0.67	9.38	89.45	—
	3	0.42	5.92	95.36	—
	4	0.17	2.42	97.79	—
	5	0.11	1.52	99.3	—
	6	0.04	0.58	99.88	—
	7	0.01	0.12	100	—

Note. Factor loadings are reported as ranges only for the retained first factor.

Referring to Table 7 EFA, for students, the first factor had an eigenvalue of 5.26 and accounted for 74.51% of the total variance, whereas all succeeding factors had eigenvalues below 1.00, supporting a one-factor solution. The retained factor showed positive loadings across all seven dimensions: learner/student (.65), faculty (.72), content/curriculum (.91), technology (.95), administrative support (.93), financial support (.90), and learning/organizational environment (.95). The strongest loadings were observed for technology and the learning/organizational environment, followed closely by administrative support and content/curriculum. This pattern indicates that, among students, the seven dimensions functioned as closely related indicators of a broader construct of sustainable e-learning readiness, with technological and learning environment aspects appearing most central to that overall perception.

A similar pattern emerged among teachers/administrators. The first factor had an eigenvalue of 5.74 and explained 80.07% of the total variance, with all subsequent factors yielding eigenvalues below 1.00, likewise supporting a one-factor solution. The retained factor showed strong positive loadings across all seven dimensions: learner/student (.79), faculty (.89), content/curriculum (.91), technology (.97), administrative support (.95), financial support (.92), and learning environment (.89). The highest loadings were found for technology, administrative support, and financial support, suggesting that teachers and administrators anchored their evaluations of sustainable e-learning more strongly in institutional and technological conditions.

Taken together, the findings indicate that the seven e-learning dimensions converged into a dominant single factor in both groups. The stronger loadings and higher explained variance among teachers/administrators suggest a more unified and consolidated view of the dimensions as components of a single construct, whereas students, although also showing a clear one-factor structure, displayed slightly greater variability in how the dimensions related to overall sustainable e-learning readiness.

Although the seven dimensions converged into a single dominant factor, this finding should be interpreted with caution. One possible psychometric explanation is the presence of a halo effect, wherein respondents who hold generally positive impressions of the remedial reading program tend to provide uniformly favorable ratings across multiple dimensions. Such response tendencies are common in self-report perception measures and may inflate intercorrelations among theoretically distinct

constructs. Consequently, while the one-factor solution provides evidence that the dimensions collectively represent sustainable e-learning readiness, it does not necessarily imply that the dimensions are empirically indistinguishable. Rather, the results suggest that respondents viewed learner readiness, faculty readiness, curriculum, technology, administrative support, financial support, and learning environment support as highly integrated components of an overarching readiness construct. Future studies employing confirmatory factor analysis, higher-order factor models, bifactor models, or multitrait-multimethod approaches may further examine whether these dimensions exhibit stronger discriminant validity in other educational contexts.

To look at the trend between 2015 and 2025, earlier studies showed blurred factor structures and weak institutional support. Pandemic-era studies highlighted technology as dominant. Current results show a balanced, multidimensional model with institutional support and technology as anchors, mediated by content and learner engagement.

Content, Technology and Administrative Support as Strengths

Content/curriculum dimensions received the highest ratings among students. This suggests that teachers are confident in their ability to deliver remedial reading instruction via Facebook and that the instructional materials are perceived as relevant and effective. These findings align with Cabero-Almenara and Llorente-Cejudo (2021), who emphasized the importance of digital competence among educators. Faculty expertise is a cornerstone of sustainable e-learning, and in this study, it appears to be a strength. Content quality, likewise, is critical. Gulbahar et al. (2017) noted that students' reading strategies in digital environments depend heavily on the clarity and relevance of instructional materials. The high ratings for content suggest that Facebook-based modules were well-designed and aligned with learning objectives.

Technology, financial, and administrative support dimensions scored high among faculty and administrators. This suggests that infrastructure and institutional commitment are solid. Malinias (2023) reported that during lockdowns, technology access was a major challenge for remedial reading programs. The present findings indicate improvement, with schools providing reliable connectivity and functional learning management systems. Administrative support, likewise, is critical. Manca and Ranieri (2016) emphasized the collaborative potential of social media in education, but such potential can only be realized with strong institutional

backing. The high ratings in this dimension, it suggests that administrators are actively supporting the integration of Facebook into remedial reading.

Learner Motivation and Financial Support

In contrast, learner motivation received lower ratings from both students and teachers, although it was still high. For students, financial support is rated second lowest, while for teachers, this dimension is rated very high. This indicates that while students recognize the value of remedial reading, their engagement may not be as strong as desired. Motivation is a complex construct influenced by self-efficacy, interest, and external support. UNESCO (2019) highlighted the importance of motivational scaffolding in digital literacy programs, noting that technology alone cannot sustain engagement. Financial support, meanwhile, reflects institutional investment in devices, connectivity, and training. The ratings, though still high, suggest that while resources are available, they may not be sufficient to fully support sustainable e-learning. This echoes global concerns about equity in access, particularly for students from low-income families.

Learning Environment

The learning environment dimension also scored high to very high and played a significant role across the other dimensions. This reflects perceptions of engagement, collaboration, and safety in the online classroom. Junco (2012) raised concerns about Facebook as a distraction, but the present study suggests that structured faculty guidance mitigates these risks. The learning environment is not merely a function of technology but of pedagogy and community. Collaborative online reading communities foster peer support and enhance motivation, contributing to sustainability.
Previous studies, such as Malinias (2023), found that the readiness of teachers and parents during lockdown was a challenge, with technology access as a limiting factor. The results in the present show stronger agreement on technology support, suggesting improvement (infrastructure.e-saliksik.deped.gov.ph). Guiro & Santos' (2019) study highlighted persistent reading difficulties despite remedial programs. The findings suggest that integrating Facebook enhances engagement compared to traditional remedial approaches (.ijams-bbp.net). Further, the DepEd ARAL Program (2022) emphasized targeted support for literacy gaps. The results in the present study is aligned, showing technological and institutional support as critical dimensions.

The findings highlight that institutional support drives perceptions of sustainable e-learning. This aligns with studies by Manca & Ranieri

(2016) and Cabero-Almenara & Llorente-Cejudo (2021), which emphasized faculty readiness and institutional infrastructure.

Recommendations: Program of Action

1. Learner Engagement

At any age. gamifying reading activities, which are passive tasks, always derives fun while learning. A teacher can integrate trivias in quizzes, memes, badges and leaderboards within Facebook groups to sustain motivation. Those students having difficulty can be paired with good readers, thus fostering collaborative learning. Parents also can help in the process by seeking their support in reading activities and monitoring their child's progress. Providing feedback loops for immediate personalized monitoring on reading exercises can be reinforcing as well.

2. Faculty Development

Teachers need to be upgraded in their pedagogical and technological skills. They must undergo regular workshops on digital pedagogy, sustainable e-learning, and use of social media for instruction. Communities of practice must also be established for them to be updated of best practices, resources and challenges via Facebook groups. They must also be encouraged to digital literacy certification in online teaching and educational technology. More so, teachers who are more technological savvy must mentor other teachers on how to incorporate technology in remedial reading tasks.

3. Administrative Support

As shown in the results of the study, institutional backing is an important component in sustainable e-learning. Thus, Facebook-based remedial reading must be institutionalized as part of continuous improvement plans. By doing so, clear metrics (reading comprehension scores, engagement rates) must be established to monitor the progress of the remedial reading program utilizing Facebook as a mode of instruction. This must be a collaborative effort among administrators, parents, and community heads for sustainable education. Flexibility is also important in class schedules, especially in hybrid set up.

4. Technology Access

It is commendable for the Quezon City local government that issued Ordinance No. SP-2954, S. 2020, allowing students access to free use of tablets with monthly load/data for online classes. Such provision from an

institution encourages sustainable e-learning. Partnership with telecommunication providers must also be sought for subsidized internet access. Technical personnel must also ensure continued assistance for troubleshooting whenever necessary. Further, there should be training on how to maximize Facebook features for both synchronous and asynchronous online learning.

5. Content Enhancement

There are several ways by which topics in remedial reading sessions can be enhanced. One could be content about values in one's own locality that teach Filipino values, i.e., "*Kyusi"* culture in the Filipino context: "Quezon City's defining ethos was at heart populist, an attitude characterized by tolerance and inclusiveness." Online newspaper posts, infographics, and other multimedia reading materials can also encourage engaging discussions based on personal experiences. These materials must be suited to the interests of the students, where sustainable development goals, especially SDG 4 themes (e.g., gender equality and educational access and appreciation of diversity), are given utmost attention for critical thinking.

6. Financial Support

Financial support is a key dimension for sustainable e-learning. Specifically, remedial reading activities must have allocated funds as part of school enhancement plans. Although there are available free Facebook tools and open access references, personal use of gadgets for online learning must be available for individual usage so that students can learn more even outside of formal class schedules. Local and national government institutions must be sought for grants for sustainable education.

7. Collaborative Learning Environment

Encourage students to think of their own activities in groups, such as creating their own blogs, vlogs, and podcasts as content for discussions. The schools can also collaborate with other schools who do similar programs for sharing of strategies and resources. In doing so, hybrid set up - onsite and online hubs—can be created where reading materials can be shared. Learners who are physically or intellectually challenged can also contribute in their creative ways by integrating assistive technologies to promote inclusivity.

The program's sustainability hinges on balancing institutional support (policy, funding, technology) with learner-centered strategies

(engagement, content relevance, collaboration). Faculty competence and content quality are already strong pillars; the next step is to elevate learner motivation and financial backing to the same level (Microsoft co-pilot AI companion).

Conclusion

The Facebook-based remedial reading program, *Lunas-Basa,* is a modern approach in facing reading literacy challenges in the technology-driven world among Filipino learners. Rooted in 3Bs initiatives, ECARP is aligned with SDG 4, and it shows how technology and hybrid learning can improve reading comprehension while students enjoy learning using social media platforms where they are exposed on a daily basis.

Facebook is a practical tool that can engage learners with the use of its features such as multimedia posts, i.e. blogs, vlogs, leaderboards and the likes. These features can encourage collaboration, promote critical thinking, and foster self-regulated learning. Moreover, blended approach - synchronous and asynchronous sessions and face-to face classes - provides versatility with peripheral guidance from the teachers and self-paced practice of the students.

The study highlights three pillars that sustain the program: quality content, reliable technology, and strong institutional support. Teachers' competence and administrative backing ensure effectiveness, while challenges such as learner motivation, internet access, and financial constraints remind us of areas needing further attention.

However, because this study focused on only two schools, its results may not generalize nationally, and reliance on self-reported data may further limit the study's findings. The present findings support the interpretation that the seven organizational dimensions collectively represent a broader construct of Sustainable E-learning Readiness. Although the dimensions remain theoretically distinct, respondents tended to evaluate them holistically, suggesting that institutional support, technology, curriculum, faculty, learner readiness, financial resources, and learning environment function together as integrated components of sustainable e-learning implementation. Practically, the study provides evidence for Department of Education to institutionalize social media–based remedial reading programs. Future research may include locality-wide institutions to strengthen evidence.

Ultimately, *Lunas-Basa* program demonstrates that motivation, innovation, efficacy, self-regulation, and collaboration are key components to address educational challenges. By enhancing learner engagement, upgrading teacher competencies, ensuring technological access, and securing resources, the program can progress. With these efforts, it contributes meaningfully to the national goal of raising functionally literate, critical, and lifelong learners ready to explore the opportunities of the technological-adept setting.

To further strengthen *Lunas-Basa* program and ensure its long-term sustainability, the following recommendations are proposed:

Future Recommendation:

- Expand remedial reading scope: The program may be extended to other grade levels and other subject areas since reading skill is a basic communication skill that cuts across all content areas.
- Integrate other reading comprehension assessments: Other culturally adapted reading tests alongside program evaluations may be used to ensure more objective measures for further improvement.
- Enhance learner motivation, self-regulation, and metacognition: Integrate engaging activities, group tasks, reward system and self-monitoring tasks thus promoting accountability for own learning.
- Provide regular teacher training: Constant seminar-workshops on digital pedagogy, differentiated reading instruction, and communities of practice to be exposed on best practices from similar programs.
- Enhance technological skill and access: Self-efficacy is a psychological tool that can translate into actual performance when teachers are equipped with necessary resources. Support from national and local government institutions can provide digital and knowledge resources.
- Secure dedicated funding: To ensure sustainability, financial support and administrative support are crucial. Seek external sponsorship and partnership from non-government organizations for reading digital resources to ensure long-term implementation.
- Advance home-school partnerships: Encourage parents and guardians to monitor their children's progress and reinforce reading habits beyond the classroom.

- Conduct Longitudinal Studies: Track learners' progress over several years to measure lasting impact on comprehension, critical thinking, and lifelong learning.

Educational Psychology and Sustainable E-Learning

The following constructs are not newly developed variables, but theoretical components embedded within the validated Organizational Readiness for Sustainable E-learning instrument. The cited questionnaire items illustrate how each construct is operationalized in the instrument and demonstrate their relevance to Facebook-based remedial reading.

Metacognitive Skills (Items 1 & 5). E-learning promotes metacognition. Students can plan, monitor, and evaluate their strategies depending on their learning styles. Teachers can develop metacognitive skills in learners by posting reflective prompts after reading sessions, asking students to comment on what approaches helped them understand reading material. More so, students can assess their comprehension by using Facebook quizzes in order to check their progress. Learners can also express their ideas in comment threads in group chats. Through this, they may assess their own thought processes, making them aware of their strengths and weaknesses.

Self-Motivation (Item 10). Motivation is the driving force that sustains one's behavior. Facebook-based learning sessions promote self-directed learning when teachers use multimedia entries such as videos, infographics, virtual stories, and the like. This satisfies the need for affiliation or relatedness when learners securely connect to other learners. Incentives reinforce both intrinsic (inherent satisfaction) and extrinsic (rewards) motivation with the use of recognition systems (badges, shout-outs in group posts). Thus, students feel empowered to take initiative, sustaining their interest in reading beyond the classroom.

Self-Regulation (Items 2, 3, & 6). Self-regulation is the development of own ideas about appropriate and inappropriate behavior in which learners pattern their actions accordingly. Students set their goals and adjust their strategies as needed. Facebook-based reading sessions allow students to track their own progress in comments or journals, and teachers can provide regular feedback through Messenger or group posts. Students can set personal reading goals, refine their strategies with little guidance from the teacher, thus teaching students to take responsibility for

their learning. Learners can then develop discipline and autonomy, essential for sustainable e-learning where teacher supervision is less direct.

Self-Efficacy (Items 14 & 16). Self-efficacy is more than confidence in executing a task in e-learning and teaching. It is the ability to really explore the use of internet and Facebook features with ease and savviness that is well-suited to the interests, ability, and skill of the target learners.

In conclusion, *Lunas-Basa* emphasizes the value of innovation, adaptability, and collaboration in addressing educational challenges. By continuously enhancing learner engagement, strengthening faculty development, ensuring technological access, and securing financial and administrative support, the program can further expand its impact. Ultimately, initiatives like *Lunas-Basa* contribute significantly to the national goal of producing functionally literate, critical, and lifelong learners equipped to thrive in an increasingly complex and knowledge-driven society. These findings support the recommendation for the Department of Education to consider institutionalizing such approaches as part of broader literacy and inclusion policies.

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