

Transformational Strategies and Best Practices in Functional Literacy and School Achievement in Relation to National Assessment Results of One Leading Province: Springboard to Advocacy Goal in Education

Orchid E. Gocotano*¹, Mildred F. Accad²

Authors Information:

¹⁻²Sultan Kudarat State University, ACCESS Campus, Tacurong City, Philippines

Correspondence:

orchidgocotano@sksu.edu.ph

Article History:

Date Received: May 4, 2026

Date Revised: May 11, 2026

Date Accepted: May 12, 2026

DOI:

<https://doi.org/10.5281/zenodo.20247127>

Document ID: 2026IJROMS0069

Recommended Citation:

Gocotano, O. E., & Accad, M. F. (2026). Transformational Strategies and Best Practices in Functional Literacy and School Achievement in Relation to National Assessment Results of One Leading Province: Springboard to Advocacy Goal in Education. *International Journal of Research on Multidisciplinary Studies*, 1(4), 204–218.

<https://doi.org/10.5281/zenodo.20247127>

Abstract. This study examined transformational strategies in functional literacy, best practices in education, school achievement, and National Achievement Test (NAT) performance in the South Cotabato and Koronadal City Divisions, Philippines, with the aim of developing an educational advocacy framework. A convergent parallel mixed methods design was employed involving 329 teachers, 25 school leaders, and 9 government officials. Quantitative data were gathered through structured questionnaires and analyzed using descriptive statistics, Spearman correlation, and regression analysis, while qualitative data were analyzed thematically. Results showed that transformational strategies ($M = 4.41$), best practices in education ($M = 4.53$), and school achievement ($M = 4.34$) were rated very high, while NAT performance was low proficient ($M = 49.33$). Correlation analysis revealed significant positive relationships between transformational strategies and school achievement ($\rho = 0.676$, $p < .001$), and between best practices and school achievement ($\rho = 0.739$, $p < .001$). Regression analysis indicated that transformational strategies ($\beta = 0.329$, $p < .001$) and best practices ($\beta = 0.567$, $p < .001$) significantly predicted school achievement, with the model explaining 59.7% of the variance ($R^2 = .597$). However, neither transformational strategies nor best practices significantly predicted NAT performance ($p > .05$). The qualitative findings supported the quantitative results by confirming that instructional practices and leadership processes enhance school achievement, while NAT performance is influenced by broader systemic and contextual factors beyond school-level interventions. The study concludes that strengthening functional literacy strategies and school-wide best practices can improve school achievement, but improving standardized assessment outcomes requires broader educational and structural support. Based on the findings, an educational advocacy framework is proposed to enhance functional literacy initiatives and support replication in similar educational contexts.

Keywords: Educational Advocacy; Functional Literacy; National Achievement Test; School Achievement; Transformational Practices

Introduction

Functional literacy has become a critical priority in both global and national education agendas, particularly in developing countries such as the Philippines. It extends beyond basic reading and writing to include the ability to apply literacy, numeracy, and critical thinking skills in real-life contexts. As a foundational competency, functional literacy supports lifelong learning, informed decision-making, civic participation, and overall quality of life.

Recent studies have emphasized literacy as a transferable skill that enhances individuals' ability to process information, solve problems, and engage in meaningful social and academic contexts (Kim et al., 2022). At the school level, research has examined how instructional quality, teacher development, and school leadership influence literacy and achievement outcomes. For example, Leithwood et al. (2020) found that effective school leadership and sustained professional development are strongly associated with improved student achievement, including literacy-related performance. Similarly, other studies on school improvement highlight the role of evidence-based instructional practices and continuous improvement systems in enhancing learner outcomes.

Despite these contributions, existing studies tend to focus on isolated dimensions of literacy intervention, such as instructional practices, leadership effects, or student competencies, rather than examining these factors in an integrated framework. In addition, most research has been conducted at broader national or international levels, with limited focus on specific high-performing local divisions and how their practices relate to standardized assessment outcomes.

In the Philippine context, the Second Congressional Commission on Education (EDCOM II, 2024) reports persistent challenges in foundational literacy and numeracy, emphasizing the need to identify effective practices from high-performing divisions that may be replicated across the system. National assessment results, such as the National Achievement Test (NAT), serve as key indicators of learning outcomes. However, evidence from large-scale assessments shows that standardized test performance does not always fully align with school-based performance, as outcomes are also influenced by contextual and systemic factors beyond classroom instruction, including socioeconomic conditions and access to learning resources (Organisation for Economic Co-operation and Development [OECD], 2023).

In this context, it is important to examine how transformational strategies in functional literacy and best educational practices influence school achievement and their relationship with NAT performance. While existing studies have explored literacy interventions and instructional reforms, what remains insufficiently addressed is the combined effect of transformational strategies, best practices, and school achievement within high-performing Philippine divisions, particularly in relation to standardized assessment outcomes such as NAT performance.

This study addresses this gap by examining the Divisions of Koronadal City and South Cotabato, which are identified as high-performing in functional literacy in national reports. It investigates their transformational strategies, best practices, stakeholder engagement, and performance outcomes to identify replicable models for broader educational improvement.

Ultimately, this study aims to contribute to an evidence-based framework for strengthening functional literacy and improving school outcomes. The findings are expected to support policy development and program implementation, promote equitable, high-quality education, and produce functionally literate learners prepared for lifelong learning and active citizenship.

Research Questions

This study explored and analyzed the best practices of the top province in the Philippines for functional literacy to develop a springboard advocacy plan as a replication program for other regions. It answered the following questions:

1. What is the level of implementation of transformational strategies in functional literacy in terms of:
 - 1.1 numeracy skills;
 - 1.2 reading comprehension;
 - 1.3 documentary literacy;
 - 1.4 problem-solving skills;
 - 1.5 functional health literacy; and
 - 1.6 exposure to mass media?
2. What is the level of best practices in the Division of South Cotabato and Koronadal City in terms of:
 - 2.1 contextual learning;
 - 2.2 skills development and assessment;
 - 2.3 multi-dimensional focus;
 - 2.4 frequent and formative assessment;
 - 2.5 use of technology and media;
 - 2.6 holistic teacher training; and
 - 2.7 community and family engagement?
3. What is the level of school achievement in the Division of South Cotabato and Koronadal City in terms of:
 - 3.1 academic achievement;
 - 3.2 learners' progress and completion;
 - 3.3 co-curricular and extra-curricular achievements; and
 - 3.4 institutional recognition and performance indicators?
4. What is the level of proficiency of the Division of South Cotabato and Koronadal City in terms of the NAT results?
5. Is there a significant relationship between transformational strategies in functional literacy and perceived school achievement?
6. Is there a significant relationship between best practices in education and perceived school achievement?
7. To what extent do transformational strategies and best practices in education predict the National Assessment Results (NAT)?
8. To what extent do transformational strategies and best practices in education predict school achievement?
9. How do these provinces engage stakeholders such as schools, parents, and local government units in promoting functional literacy?

10. How do the top two most functionally literate provinces sustain their best practices in education that lead to strong performance in functional literacy?

Scope and Delimitation of the Study

This study was delimited to the examination of transformational strategies and best practices in education in the two top-performing divisions in Region XII in terms of functional literacy, specifically the Division of South Cotabato and the Koronadal City Division in Region XII, Philippines. It specifically focused on transformational strategies in functional literacy, including numeracy skills, reading comprehension, documentary literacy, problem-solving skills, functional health literacy, and exposure to mass media.

Literature Review

Functional Literacy

Functional literacy refers to the ability to apply reading, writing, numeracy, and problem-solving skills in real-life contexts such as communication, work, and civic participation. It is considered a foundational competency for lifelong learning and active societal engagement. The Organisation for Economic Co-operation and Development (2023) emphasizes that literacy is a multidimensional skill that includes cognitive, digital, and critical thinking abilities necessary for effective information processing in modern societies. Similarly, United Nations Educational, Scientific and Cultural Organization (2021) highlights its role in improving learning equity and enabling individuals to adapt to complex social and economic environments. These perspectives support the importance of strengthening functional literacy as a core educational outcome linked to learner achievement.

Best Practices In Functional Literacy

Best practices in education refer to instructional approaches that are evidence-based, learner-centered, and focused on improving student outcomes. These include contextualized instruction, formative assessment, and structured learning experiences that support knowledge transfer and application. Research shows that high-impact teaching strategies and timely feedback significantly improve student learning outcomes when effectively implemented (OECD, 2023). However, the effectiveness of these practices depends on teacher capacity, implementation fidelity, and school context, indicating that instructional quality alone does not guarantee consistent achievement gains (Ribner et al., 2021; UNESCO, 2022). These findings support the role of best practices as critical determinants of school performance in relation to functional literacy development.

National Achievement Test (NAT)

The National Achievement Test (NAT) serves as a standardized measure of student learning outcomes in the Philippines and is used to assess the effectiveness of instructional programs and curriculum implementation. However, large-scale assessment literature indicates that standardized test results may not fully reflect the breadth of student competencies, as they primarily measure selected academic skills rather than higher-order thinking, collaboration, and applied learning (OECD, 2019). In the Philippine context, variations in NAT results across regions highlight the influence of system-level factors such as instructional consistency, learning conditions, and resource availability (Department of Education, 2023). These findings suggest that NAT performance should be interpreted alongside other indicators of learning to provide a more comprehensive evaluation of educational outcomes.

School Achievement

School achievement is a key indicator of educational effectiveness, reflecting learners' academic performance, progression, and completion outcomes. Academic achievement is strongly shaped by instructional quality, feedback mechanisms, and the implementation of evidence-based teaching strategies, with research showing that high-impact practices and timely formative feedback improve learning outcomes when consistently applied and supported by teacher competence (OECD, 2023). However, evidence also suggests that instructional interventions alone are not sufficient to ensure sustained gains, as their effectiveness depends on implementation fidelity, teacher capacity, and contextual school conditions (Ribner et al., 2021; UNESCO, 2022). Likewise, learners' progress and completion rates reflect school efficiency in terms of retention and graduation, with structured academic support systems contributing to improved progression and completion outcomes (Dynarski, Hemelt, & Hyman, 2018), although completion does not always equate to deep learning or mastery of competencies (OECD, 2023). Accordingly, effective school systems integrate early identification of at-risk learners and targeted interventions such as remedial instruction and mentoring to enhance retention and promote more equitable learning outcomes (UNESCO, 2022).

Methodology

Research Design

This study employed a mixed-methods convergent parallel design to provide a comprehensive analysis of transformational strategies, best practices in functional literacy, and school achievement in relation to National Achievement Test (NAT) performance. This design was appropriate because it allows the concurrent collection and analysis of quantitative and qualitative data, enabling a more complete understanding of statistical relationships and participants' lived experiences (Creswell & Plano Clark, 2018). For the quantitative component, descriptive and correlational research designs were used to determine the levels of transformational strategies, best practices, and school achievement, as well as to examine relationships among these variables. For the qualitative component, a transcendental phenomenological approach was employed to explore stakeholders' lived experiences in implementing and sustaining functional literacy practices, while applying bracketing to reduce researcher bias (Creswell & Poth, 2018). Data were collected concurrently, analyzed separately, and then merged during interpretation. The integration of both datasets allowed for triangulation and comparison of findings, strengthening the validity and depth of the study results.

Sampling Design

This study employed a multi-stage sampling technique, combining purposive sampling and proportionate stratified random sampling for the quantitative component, and purposive sampling for the qualitative component. In the first stage, purposive sampling was used to select the research locale. The Divisions of South Cotabato and Koronadal City were chosen because they are recognized as top-performing areas based on the Functional Literacy, Education, and Mass Media Survey (FLEMMS) results released by the Philippine Statistics Authority. Purposive sampling is appropriate for selecting cases that are information-rich and relevant to the study's objectives (Creswell, 2014). In the second stage, purposive sampling was again used to select the participating schools. Only large elementary and secondary schools were included, as they have larger populations and more established literacy programs, making them suitable sources of data. To determine the sample size for teacher respondents, Slovin's formula was applied. This approach is commonly used when the population size is known but variability is assumed to be unknown, allowing for a practical estimation of a representative sample. In the final stage, proportionate stratified sampling was employed to allocate respondents from each selected school. The sample size was distributed proportionally based on teacher population per school, while complete enumeration was used for school head respondents to ensure full coverage. Proportionate allocation is recommended to improve representativeness and reduce sampling bias in heterogeneous populations (Sekaran & Bougie, 2019). For the qualitative component, purposive sampling was used to select participants from key government agencies. This technique enabled the deliberate selection of individuals who could provide rich and in-depth information aligned with the study's objectives. Purposive sampling is widely used in qualitative research to identify information-rich cases (Patton, 2015).

Research Locale

The study was conducted in the Division of South Cotabato and the Division of Koronadal City, which are located in Region XII (SOCCSKSARGEN), Philippines. South Cotabato is a province situated in the southern part of Mindanao, bounded by Davao del Sur to the northeast, Sarangani to the south and southeast, and Sultan Kudarat to the north and west. Its capital is Koronadal City, which also serves as one of the key educational centers of the province. These two divisions were selected as the locale of the study based on the Functional Literacy, Education, and Mass Media Survey (FLEMMS) results released by the Philippine Statistics Authority and the report of the Second Congressional Commission on Education (EDCOM II, 2024), which identified South Cotabato as among the highest-performing provinces in Region XII in terms of functional literacy. Koronadal City Division and South Cotabato Division were further recognized as leading Schools Division Offices in the region, making them appropriate settings for examining transformational strategies and best practices in education. Specifically, the study was conducted in selected large public elementary and secondary schools within these two divisions, which serve as the actual research sites and sources of quantitative data. These schools were chosen due to their large student populations, established literacy programs, and active implementation of functional literacy interventions. As such, they provide relevant and information-rich settings for examining school-based practices and learner outcomes. In addition, the locale also included key government agencies within Region XII for the qualitative component of the study. These include the Commission on Higher Education (CHED), Department of Education (DepEd), Department of Labor and Employment (DOLE), Technical Education and Skills Development Authority (TESDA), Department of Trade and Industry (DTI), Department of Science and Technology

(DOST), and the South Cotabato Provincial Local Government Unit. These agencies were included due to their direct involvement in policy formulation, program implementation, and support mechanisms for functional literacy and human resource development.

Research Participants

The respondents in the quantitative component consisted of 329 teachers and 25 school leaders from large elementary and secondary schools in the Divisions of South Cotabato and Koronadal City. These respondents completed survey questionnaires focusing on transformational strategies in functional literacy, school achievement, and best practices in functional literacy. On the other hand, the qualitative component involved nine participants from various government agencies who took part in in-depth interviews. The number of participants is consistent with Creswell's (2008) recommendation that qualitative interviews typically involve between 3 and 12 participants. These interviews explored stakeholder engagement in promoting functional literacy and in sustaining best practices. The participants included the Regional Directors of the CHED Region XII, DepEd Region XII, Department of Labor and Employment (DOLE) Region XII, Technical Education and Skills Development Authority (TESDA) Region XII, Department of Trade and Industry (DTI) Region XII, and Department of Science and Technology (DOST). Also included were the Schools Division Superintendents of South Cotabato and Koronadal City, as well as the Provincial Governor of the South Cotabato Provincial Local Government Unit (PLGU). The qualitative participants were purposively selected from key government agencies because of their direct involvement in policy-making, program implementation, and resource allocation related to functional literacy.

Research Instrument

The researcher utilized a structured survey questionnaire to assess transformational strategies in functional literacy, school achievement, and best practices in functional literacy among selected schools in the Divisions of South Cotabato and Koronadal City. The instrument consisted of three parts using a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The first part measured transformational strategies in functional literacy, developed by the researcher and anchored on the Functional Literacy, Education, and Mass Media Survey (FLEMMS) of the Philippine Statistics Authority, as well as OECD (2019) and UNESCO literacy frameworks. It included indicators such as numeracy, reading comprehension, documentary literacy, problem-solving, functional health literacy, and exposure to mass media. The second part assessed school achievement in terms of academic performance, learners' progress and completion, co-curricular and extra-curricular achievements, and institutional recognition. The third part measured best practices in functional literacy, including contextual learning, skills development and assessment, multi-dimensional focus, formative assessment, use of technology and media, teacher training, and community engagement. Secondary data from the National Achievement Test (NAT) were used as a supporting indicator of school achievement rather than as a validation tool, to provide additional reference for interpreting performance outcomes. For the qualitative component, a semi-structured interview guide consisting of seven (7) open-ended questions was used to explore stakeholders' engagement in promoting functional literacy and sustaining best practices. The interview guide was content-validated by a panel of experts prior to administration. Content validation of the instruments was conducted through expert review. Reliability testing using Cronbach's Alpha showed high internal consistency across all scales: transformational strategies ($\alpha = 0.95$), school achievement ($\alpha = 0.90$), and best practices ($\alpha = 0.96$). These results indicate that the instruments consistently measure their intended constructs.

Data Gathering Procedure

This study employed a convergent parallel mixed-methods design in which quantitative and qualitative data were collected concurrently, analyzed separately, and then integrated to provide a comprehensive understanding of transformational strategies in functional literacy, best practices, school achievement, and National Achievement Test (NAT) performance. Prior to data collection, research instruments were developed based on the study variables and reviewed literature. The questionnaire underwent expert validation to ensure content validity in terms of clarity, relevance, and alignment with research objectives. It was subsequently pilot-tested among respondents with similar characteristics to the target participants to establish reliability and improve instrument clarity. Necessary revisions were incorporated before final administration. For the quantitative phase, the finalized questionnaire was administered to selected school heads and teachers from large public elementary and secondary schools using appropriate sampling techniques. Data were gathered either through face-to-face distribution or via Google Forms, depending on accessibility. Respondents were informed of the study purpose, assured of confidentiality and anonymity, and reminded of voluntary participation. Data collection was conducted over a two- to three-week period. Responses were encoded and analyzed using SPSS. Descriptive statistics (mean and standard deviation) were used to describe the variables, while Pearson's product-moment correlation

was employed to examine relationships among key constructs. For the qualitative phase, participants were purposively selected based on their involvement in literacy programs and their capacity to provide in-depth insights. Semi-structured interviews were conducted in a private setting to encourage open and detailed responses. With consent, interviews were audio-recorded, transcribed verbatim, and securely stored, with recordings deleted after analysis to ensure confidentiality. Both datasets were analyzed independently and subsequently integrated during interpretation. Quantitative findings provided statistical patterns and relationships, while qualitative data offered contextual explanations. The integration of results allowed for a more comprehensive understanding of how educational practices influence functional literacy and student achievement outcomes.

Results and Discussions

Research Question 1: What is the level of implementation of transformational strategies in functional literacy in terms of numeracy skills, reading comprehension, documentary literacy, problem-solving skills, functional health literacy, and exposure to mass media?

Table 1. Summary of the Table on the Implementation of Transformational Strategies in Functional Literacy

Dimensions	Means	SD	Verbal Description
Numeracy Skills	4.26	0.53	Very High
Reading Comprehension	4.11	0.57	High
Documentary Literacy	4.25	0.59	Very High
Problem-solving Skills	4.37	0.56	Very High
Functional Health Literacy	4.26	0.60	Very High
Exposure for Mass Media	4.01	0.66	High
Overall Mean	4.21	0.46	Very High

Table 1 shows that transformational strategies in functional literacy were rated very high ($M = 4.21$, $SD = 0.46$), indicating consistent implementation of practices that support learners' competencies, particularly in problem-solving, numeracy, and health literacy. This suggests that schools are effectively promoting practical and life-relevant skills, consistent with Bronfenbrenner's Ecological Systems Theory (1979), which emphasizes the role of school and community interactions in learner development. However, comparatively lower ratings in reading comprehension and media exposure point to gaps in balanced literacy development. While structured numeracy and problem-solving strategies enhance analytical skills (Boaler, 2015), unstructured or passive media use may hinder literacy outcomes (Ribner et al., 2021). Overall, the results imply the need for a more balanced implementation of functional literacy strategies, where schools strengthen reading comprehension and digital literacy alongside already strong numeracy and problem-solving practices. This highlights the importance of integrated instructional planning and teacher capacity-building to ensure that all literacy domains are equally developed within classroom practice.

Research Question 2: What is the level of best practices in the Division of South Cotabato and Koronadal City in terms of contextual learning, skills development and assessment, multi-dimensional focus, frequent and formative assessment, use of technology and media, holistic teacher training, and community and family engagement?

Table 2. Summary of Best Practices in the Divisions of South Cotabato and Koronadal City

Dimensions	Means	SD	Verbal Description
Contextual Learning	4.58	0.46	Very High
Skills Development and Assessment	4.66	0.44	Very High
Multi-dimensional Focus	4.51	0.48	Very High
Frequent and Formative Assessment	4.57	0.47	Very High
Use of Technology and Media	4.56	0.48	Very High
Holistic Teacher Training	4.41	0.53	Very High
Community and Family Engagement	4.38	0.57	Very High
Overall Mean	4.53	0.41	Very High

Table 2 indicates that best practices in education are implemented at a very high level ($M = 4.53$, $SD = 0.41$), suggesting consistent and effective application of learner-centered, technology-integrated, and contextualized strategies across schools in South Cotabato and Koronadal City. High ratings in multidimensional instruction, technology integration, and skills-based assessment reflect strong alignment with evidence-based teaching practices, while slightly lower scores in teacher training and community engagement indicate areas for strengthening. These findings support the view that formative assessment and

responsive instruction enhance learner outcomes (Brookhart, 2017) and that contextualized, learner-centered teaching improves engagement, equity, and retention in classroom instruction (Darling-Hammond et al., 2020). However, effective implementation depends on strong instructional systems, as research shows that school improvement efforts require coherent leadership, teacher support, and sustained capacity-building to translate reforms into improved learning outcomes (OECD, 2019; Hattie, 2009). The findings imply that schools should sustain strong implementation of learner-centered, technology-integrated, and contextualized instructional practices while prioritizing targeted strengthening of teacher training and community engagement to ensure consistent translation of best practices into improved learner outcomes.

Research Question 3: What is the level of school achievement in the Division of South Cotabato and Koronadal City in terms of academic achievement, learners' progress and completion, co-curricular and extra-curricular achievements, and institutional recognition and performance indicators?

Table 3. Summary on School Achievements in the Division of South Cotabato and Koronadal City

Dimensions	Means	SD	Verbal Description
Academic Achievement	4.16	0.55	High
Learners' Progress and Completion	4.27	0.54	Very High
Co-Curricular and Extra-Curricular Achievements	4.54	0.50	Very High
Institutional Recognition and Performance Indicators	4.39	0.52	Very High
Overall Mean	4.34	0.46	Very High

Table 3 shows that overall school achievement is very high ($M = 4.34$, $SD = 0.46$), indicating consistent performance across academic, co-curricular, and institutional domains in South Cotabato and Koronadal City. High ratings in co-curricular and institutional performance suggest that schools provide enriched environments that support holistic learner development. This aligns with evidence that structured extracurricular engagement enhances students' social, emotional, and cognitive outcomes (Durlak et al., 2022). However, slightly lower academic achievement scores point to the need for strengthening core instructional practices, as academic success remains closely tied to instructional quality and assessment-informed teaching (Darling-Hammond et al., 2020). Interpreted through Bronfenbrenner's Ecological Systems Theory (1979), these findings highlight how school achievement reflects the interaction of classroom practices, institutional support, and community linkages. The results imply that schools should sustain strong co-curricular and institutional programs while prioritizing continuous improvement of core instructional practices to further enhance academic achievement.

Research Question 4: What is the level of proficiency of the Division of South Cotabato and Koronadal City in terms of the NAT results?

Table 4. National Achievement Test (NAT) Rating by School

Schools	Mean	Level of Proficiency
A	63.40	Nearly Proficient
B	36.70	Low Proficient
C	46.40	Low Proficient
D	51.20	Nearly Proficient
E	78.70	Proficient
F	41.70	Low Proficient
G	51.80	Nearly Proficient
H	35.40	Low Proficient
I	40.40	Low Proficient
J	80.70	Proficient
K	43.90	Low Proficient
L	40.60	Low Proficient
M	64.60	Nearly Proficient
N	42.50	Low Proficient
O	52.40	Nearly Proficient
P	36.70	Low Proficient
Q	52.20	Nearly Proficient
R	34.60	Low Proficient
S	57.60	Nearly Proficient
T	40.40	Low Proficient
U	41.70	Low Proficient
V	37.30	Low Proficient
W	76.80	Proficient
X	36.20	Low Proficient
Mean Score	49.33	Low Proficient

Table 4 shows that schools in South Cotabato and Koronadal City obtained a low proficiency level in the National Achievement Test ($M = 49.33$), indicating limited mastery of assessed competencies despite the implementation of transformational strategies and best practices in functional literacy. The majority of schools fall within the low proficient category, with only few reaching higher performance levels, suggesting uneven learning outcomes across divisions. This reflects a possible gap between classroom-based instructional innovations and competencies measured in standardized assessments. As noted by the OECD (2021), improvements in teaching practices do not always translate immediately into higher test performance, particularly when misalignment exists between instruction and assessment. Similarly, Darling-Hammond et al. (2020) emphasize the importance of coherent alignment among curriculum, instruction, and assessment to improve learning outcomes. The findings imply the need to strengthen alignment between classroom instruction and standardized assessment demands, while also reinforcing targeted interventions to improve learners' mastery of core competencies assessed in national examinations.

Research Question 5: Is there a significant relationship between transformational strategies in functional literacy and perceived school achievement?

Table 5. Correlational Analysis of Transformational Strategies in Functional Literacy and School Achievement

Dimensions	School Achievement		Decision
	Spearman's rho	p-value	
Numeracy Skills	0.476	< .001	Reject the Null Hypothesis
Reading Comprehension	0.508	< .001	
Documentary Literacy	0.552	< .001	
Problem-solving Skills	0.597	< .001	
Functional Health Literacy	0.639	< .001	
Exposure for Mass Media	0.454	< .001	
Transformational Strategies in Functional Literacy	0.676	< .001	

Note. * $p < .05$, $df = 352$

Results show that all functional literacy indicators have significant positive relationships with school achievement ($p < .001$), with an overall correlation of $\rho = 0.676$, indicating a moderately strong to strong association. This leads to the rejection of the null hypothesis, confirming that improvements in functional literacy strategies are linked to higher academic performance. Among indicators, functional health literacy shows the strongest relationship ($\rho = 0.639$), suggesting that the ability to access and apply health-related information is closely tied to learners' academic outcomes, consistent with findings that applied literacies enhance cognitive engagement and decision-making (Paakkari & Okan, 2020). Problem-solving skills ($\rho = 0.597$) also show a strong relationship, reinforcing the role of higher-order thinking in academic success, as supported by Lazonder and Harmsen (2016). Meanwhile, documentary literacy ($\rho = 0.552$) and reading comprehension ($\rho = 0.508$) demonstrate moderately strong relationships, confirming literacy as a foundational predictor of achievement (OECD, 2021). Numeracy ($\rho = 0.476$) and exposure to mass media ($\rho = 0.454$) show moderate associations, suggesting that their impact depends on structured and guided application rather than exposure alone (Bond et al., 2020). The findings imply that schools should strengthen functional literacy as an integrated set of competencies, with emphasis on applied skills such as health literacy and problem-solving while ensuring that foundational skills like reading comprehension and numeracy are consistently reinforced through structured and guided instruction.

Research Question 6: Is there a significant relationship between best practices in education and perceived school achievement?

Table 6. Correlational Analysis of Best Practices in Education and School Achievement

Dimensions	School Achievement		Decision
	Spearman's rho	p-value	
Contextual Learning	0.622	< .001	Reject the null hypothesis
Skills Development and Assessment	0.594	< .001	
Multi-dimensional Focus	0.652	< .001	
Frequent and Formative Assessment	0.574	< .001	
Use of Technology and Media	0.586	< .001	
Holistic Teacher Training	0.590	< .001	
Community and Family Engagement	0.637	< .001	
Best Practices in Education	0.739	< .001	

Note. * $p < .05$, $df = 352$

As shown in the results table 6, all indicators show significant positive relationships with school achievement ($p < .001$), indicating that stronger implementation of best practices in education is associated with higher academic performance. Among the dimensions, multi-dimensional focus ($\rho = 0.652$) and community and family engagement ($\rho = 0.637$) show the strongest correlations, followed by contextual learning ($\rho = 0.622$), suggesting that holistic and real-world-connected instruction enhances student outcomes. Skills development and assessment ($\rho = 0.594$), holistic teacher training ($\rho = 0.590$), technology and media use ($\rho = 0.586$), and formative assessment ($\rho = 0.574$) show moderate but meaningful relationships, highlighting the role of continuous feedback, teacher capacity, and instructional innovation in improving achievement. The composite best practices variable shows the strongest relationship ($\rho = 0.739$, $p < .001$), confirming that integrated implementation of these strategies leads to higher school performance and supporting the rejection of the null hypothesis. This aligns with findings that coherent instructional systems and formative assessment practices significantly improve student achievement when properly implemented (OECD, 2021; Darling-Hammond et al., 2020). The findings imply that schools should prioritize a holistic and integrated implementation of best practices, particularly strengthening community engagement, contextualized instruction, and coordinated instructional systems to maximize student achievement outcomes.

Research Question 7: To what extent do transformational strategies and best practices in education predict the National Assessment Results (NAT)?

Table 7. Regression Analysis of National Achievement Test (NAT) Rating Predictors: Functional Literacy Strategies and Best Practices of Schools

Predictor	Estimate	SE	95% Confidence Interval		t	p	Cohen's f^2
			Lower	Upper			
Intercept	41.97	6.99	28.23	55.71	6.008	< .001	0.0036
Functional Literacy Strategies	2.08	1.9	-1.65	5.81	1.099	0.273	
Best Practices of Schools	-1.25	2.11	-5.41		-0.593	0.553	

Notes. $R^2 = .0036$, $Adj R^2 = -.00208$, $F(2,351) = .633$, $p = .531$

The results show that the intercept is statistically significant (estimate = 41.97, $p < .001$), indicating the baseline NAT rating when predictors are held constant. However, functional literacy strategies (estimate = 2.08, $p = .273$) and best practices (estimate = -1.25, $p = .553$) are not statistically significant predictors of NAT performance, as their p-values exceed 0.05 and their confidence intervals include zero. The very small effect size (Cohen's $f^2 = 0.0036$) further indicates a negligible explanatory contribution of the model. This suggests that while these variables are positively associated with achievement in correlational analysis, they do not independently predict standardized test outcomes. Similar findings in large-scale assessments indicate that standardized performance is more strongly influenced by structural and contextual factors such as socioeconomic status, school resources, and family background than by instructional practices alone (OECD, 2023; UNESCO, 2022). In particular, socioeconomic disparities consistently explain substantial variation in achievement, often outweighing classroom-level effects (Reardon & Portilla, 2021). The findings imply that improving standardized test performance requires not only strengthening instructional practices but also addressing broader contextual and equity-related factors that influence learner outcomes.

Research Question 8: To what extent do transformational strategies and best practices in education predict school achievement?

Table 8. Regression Analysis of School Achievement Predictors: Functional Literacy Strategies and Best Practices

Predictor	Estimate	SE	95% Confidence Interval		t	p	Cohen's f^2
			Lower	Upper			
Intercept	0.386	0.1752	0.0417	0.731	2.2	0.028	1.48
Functional Literacy Strategies	0.329	0.0475	0.2355	0.422	6.92	< .001	
Best Practices of Schools	0.567	0.053	0.463	0.671	10.7	< .001	

Notes. $R^2 = .597$, $Adj R^2 = .595$, $F(2,351) = .260$, $p < .001$

Table 8 shows that the model is statistically significant, with both functional literacy strategies ($\beta = 0.329$, $p < .001$) and best practices in schools ($\beta = 0.567$, $p < .001$) serving as significant predictors of school

achievement. The confidence intervals for both predictors do not include zero, confirming the reliability of their effects, while the very large effect size (Cohen's $f^2 = 1.48$) indicates a substantial explanatory power of the model. Results further show that best practices exert a stronger influence than functional literacy strategies, highlighting the critical role of institutional factors such as instructional quality, assessment systems, teacher development, and stakeholder engagement in shaping school achievement. This aligns with evidence that differentiated and responsive instruction improves learning outcomes when supported by formative assessment and adaptive teaching practices (OECD, 2021; UNESCO, 2022). Similarly, active and collaborative learning strategies enhance student engagement and achievement when combined with structured guidance and feedback (Hmelo-Silver et al., 2020; Freeman et al., 2021). The findings imply that improving school achievement requires a strong focus on institutional strengthening, particularly through enhancing best practices in instruction, assessment, and teacher development alongside continued reinforcement of functional literacy strategies.

Research Question 9: How do these provinces engage stakeholders such as schools, parents, and local government units in promoting functional literacy?

Stakeholder Engagement in Promoting Functional Literacy

This section presents stakeholder engagement in promoting functional literacy involving schools, parents, communities, and local government units. The findings indicate a multi-level, multi-sectoral system of shared responsibility; however, engagement is not merely a function of participation but is shaped by institutional arrangements, resource conditions, and coordination mechanisms that influence how literacy initiatives are implemented and sustained. Four interrelated themes emerged: (1) school and institutional collaboration, (2) parent and community involvement, (3) LGU and inter-agency partnership, and (4) communication, outreach, and participation mechanisms.

Theme 1: School and Institutional Collaboration

School and institutional collaboration in promoting functional literacy is largely shaped by structured accountability systems that require coordination across schools and administrative units. While this ensures alignment and consistency of literacy programs, collaboration is often operationalized through monitoring, reporting, and compliance mechanisms rather than sustained professional engagement. This indicates that collaboration is not only a voluntary professional practice but also an institutional requirement embedded in governance structures. As a result, collaboration tends to function as a compliance-driven process, which strengthens program standardization but may limit deeper reflective practice and innovation at the school level. This aligns with findings that professional learning communities enhance instructional quality and student outcomes when collaboration is meaningful and sustained (Admiraal et al., 2021), but effectiveness declines when collaboration is primarily compliance-oriented rather than developmental in nature (Prenger et al., 2019). The findings suggest a tension between system-wide standardization and localized instructional autonomy, where institutional demands shape the form and depth of collaboration.

Theme 2: Parent and Community Involvement

Parent and community involvement in functional literacy reflects the expectation that literacy development extends beyond the school and into home and community environments. However, engagement levels are uneven and are strongly shaped by contextual conditions such as socioeconomic status, parental availability, and educational background. This results in differentiated participation, where some parents are able to actively support literacy development through school engagement and home-based practices, while others face constraints that limit consistent involvement. Consequently, parental engagement operates less as a uniform support mechanism and more as a variable resource shaped by social and economic inequalities. This finding supports research showing that parental engagement and home literacy practices significantly improve learners' literacy outcomes (Wu & Hindman, 2023), but its effectiveness is moderated by contextual limitations such as time, capacity, and socioeconomic conditions (Boonk et al., 2018). Thus, parental involvement functions within broader structural constraints that influence equity in literacy support across learners.

Theme 3: LGU and Inter-Agency Partnership

LGU and inter-agency partnerships play a critical role in sustaining functional literacy programs by addressing resource gaps and expanding implementation capacity. These partnerships function as mechanisms for resource mobilization, logistical coordination, and program support, particularly in contexts where schools alone cannot fully sustain literacy initiatives. However, the effectiveness of these partnerships is shaped by differences in institutional mandates, priorities, and governance structures among agencies. While cross-sector collaboration enhances the scope of literacy initiatives, it also requires continuous coordination to align goals and avoid fragmentation. This aligns with findings that cross-sector collaboration

strengthens educational inclusion and school improvement (Ainscow et al., 2021), but also highlights the need for clear coordination mechanisms due to governance complexity and differing institutional logics (Azorin et al., 2020). Therefore, LGU and inter-agency partnerships function not only as supportive structures but also as negotiated systems of coordination requiring sustained alignment.

Theme 4: Communication, Outreach, and Participation Mechanisms

Communication, outreach, and participation mechanisms sustain stakeholder engagement through a combination of formal and informal platforms, including meetings, councils, social media, and institutional agreements. The use of multiple communication channels reflects an adaptive strategy aimed at increasing accessibility and participation across diverse stakeholder groups. However, the effectiveness of these mechanisms is influenced by unequal access to digital technologies and varying levels of digital literacy among stakeholders. While digital platforms enhance efficiency and widen communication reach, they may also exclude groups with limited connectivity or technological capacity. This creates a blended communication environment where inclusivity depends on balancing digital tools with traditional communication approaches. This finding aligns with evidence that digital tools enhance engagement in education (Bond, 2020), but also underscores concerns about digital divide issues that necessitate blended communication strategies to ensure equitable participation (Bond, 2020). Thus, communication mechanisms function as both enablers of participation and potential sources of exclusion depending on access conditions.

Research Question 10: How do the top two most functionally literate provinces sustain their best practices in education that lead to strong performance in functional literacy?

Sustainability of Best Practices in Functional Literacy

This section presents how participating offices sustain best practices that support functional literacy. Findings reveal four key themes: (1) monitoring and continuous improvement, (2) capacity building and quality standards, (3) institutionalization and resource support, and (4) partnership, leadership, and adaptive sustainability. These themes illustrate the mechanisms that enable sustained implementation of literacy-related initiatives across institutions.

Theme 1: Monitoring and Continuous Improvement

Sustainability of functional literacy practices is strongly shaped by institutionalized monitoring systems that include regular school visits, validation activities, technical assistance, and data-informed decision-making. These mechanisms function as feedback loops that enable agencies to track implementation fidelity and adjust interventions based on learner performance and school needs. However, the sustainability effect of monitoring depends on how it is enacted. While it strengthens accountability and supports continuous improvement, it may also reinforce compliance-oriented behavior when emphasis is placed heavily on performance indicators rather than instructional reflection. This creates a dual function of monitoring systems—as both improvement tools and accountability mechanisms. This aligns with evidence that structured monitoring and feedback systems strengthen program fidelity and support sustainable educational reforms (OECD, 2021; World Bank, 2020). However, literature also highlights that overly indicator-driven systems may narrow instructional focus and reduce opportunities for meaningful pedagogical improvement (OECD, 2021). Thus, sustainability through monitoring is conditioned by the balance between accountability and developmental support.

Theme 2: Capacity Building and Quality Standards

Sustainability is reinforced through continuous professional development and adherence to quality standards that regulate instructional practice across schools. Capacity-building initiatives provide the mechanism through which teachers and school leaders update competencies, align with policy expectations, and maintain consistency in literacy instruction. However, the impact of capacity building depends on its design, duration, and contextual relevance. When professional development is sustained and content-focused, it contributes to meaningful instructional improvement. In contrast, short-term or compliance-driven training tends to produce limited long-term change. This suggests that capacity building is not automatically transformative but depends on how deeply it is embedded in practice. This supports findings that sustained, content-focused professional development improves teaching effectiveness and learner outcomes (Darling-Hammond et al., 2020; Admiraal et al., 2019). However, its effectiveness varies depending on implementation quality, as overly standardized approaches may limit contextual responsiveness and innovation (UNESCO, 2022). Therefore, sustainability is shaped by the tension between standardization and adaptability in professional learning systems.

Theme 3: Institutionalization and Resource Support

Sustainability is further ensured through institutionalization processes that embed literacy programs within formal governance structures such as division plans, policy frameworks, and performance management systems. This embedding transform literacy initiatives from time-bound projects into sustained institutional responsibilities. Financial and logistical resource allocation also plays a critical role in maintaining program continuity and equity across schools. However, sustainability is not guaranteed by institutionalization alone; it is also shaped by the adequacy and stability of resource flows that support implementation. This aligns with evidence that institutional embedding and policy alignment are essential for long-term educational reform sustainability (OECD, 2021; UNESCO, 2022), while stable funding is necessary for maintaining program quality and equity (World Bank, 2020). However, excessive institutionalization may introduce bureaucratic rigidity, which can limit innovation and reduce responsiveness to local educational needs (Fullan, 2020). Thus, sustainability depends on balancing structural stability with flexibility.

Theme 4: Partnership, Leadership, and Adaptive Sustainability

Sustainability of functional literacy practices is also driven by multi-stakeholder partnerships, leadership engagement, and adaptive implementation strategies. These partnerships connect schools, communities, local government units, and external agencies, enabling shared responsibility for resource mobilization, program continuity, and contextual adaptation. However, the effectiveness of partnerships depends on the clarity of roles, strength of coordination mechanisms, and consistency of leadership engagement. Where coordination is strong, partnerships enhance resilience and continuity of literacy programs; where coordination is weak, fragmentation may occur. This finding aligns with evidence that cross-sector partnerships improve sustainability by integrating resources and aligning institutional efforts (Bryson et al., 2021; OECD, 2021). Additionally, leadership plays a central role in sustaining reforms by providing direction, ensuring consistency, and maintaining commitment over time (Leithwood et al., 2020). However, challenges emerge when governance structures are unclear or coordination is weak, emphasizing that sustainability is contingent on effective leadership and governance coherence (Head & Alford, 2020).

Integration of Quantitative and Qualitative Findings

Using a convergent parallel mixed-methods design, quantitative and qualitative findings were integrated to provide a comprehensive understanding of transformational strategies in functional literacy, best practices, school achievement, and their relationship with National Achievement Test (NAT) performance. The integration was interpreted through Bronfenbrenner's Ecological Theory (1979), emphasizing the interaction of microsystem, mesosystem, exosystem, and macrosystem influences on learner outcomes.

Convergence of Findings

Both datasets consistently show that transformational strategies ($M = 4.21$), best practices ($M = 4.53$), and school achievement ($M = 4.34$) are implemented at very high levels. Qualitative themes such as School and Institutional Collaboration, Monitoring and Continuous Improvement, and Capacity Building and Quality Standards support this, indicating structured implementation, sustained professional development, and coordinated school practices. This convergence is further supported by significant positive relationships ($p < .001$) between key variables, suggesting that strong institutional practices are associated with higher school achievement. These findings align with studies showing that collaborative professional cultures and sustained instructional support improve school effectiveness (Darling-Hammond et al., 2020). Ecologically, this reflects strong microsystem and mesosystem interactions among teachers, school leaders, and institutions.

Divergence of Findings

A divergence emerges between internal school performance and external assessment outcomes. Despite very high implementation of strategies and practices, NAT results indicate low proficiency ($M = 49.33$), suggesting a gap between school-based indicators and standardized test performance. Qualitative findings point to contextual explanations, including resource variation, stakeholder coordination, and alignment with national assessment frameworks. This aligns with evidence that standardized test outcomes are influenced not only by instruction but also by socioeconomic and systemic conditions (OECD, 2021). From an ecological perspective, this reflects exosystem and macrosystem influences that extend beyond classroom-level practices.

Complementarity of Findings

Qualitative data further explain quantitative results by showing how leadership, monitoring systems, and capacity building strengthen school-level outcomes but may not fully translate into NAT performance. While regression results show that best practices significantly predict school achievement, their effect on NAT is not significant, indicating a disconnect between internal improvement and external assessment measures. Studies emphasize that instructional leadership and continuous professional development enhance teaching quality and learner outcomes when systematically implemented (Fullan & Quinn, 2020). However, large-scale assessments are also shaped by external conditions such as learner background and resource access. Additionally, parent and community involvement emerged as a reinforcing factor not captured in quantitative measures, highlighting the broader ecological system influencing learning (Bronfenbrenner, 1979).

Meta-Inference

Overall, the findings show strong convergence between transformational strategies, best practices, and school achievement, indicating effective internal school systems. However, divergence with NAT results suggests that standardized performance is shaped by broader systemic and contextual factors beyond school-level control. Complementarity of data reveals that while schools are effective in implementing instructional and institutional reforms, external conditions and assessment alignment remain critical determinants of measurable student achievement. Anchored in Ecological Theory, the results demonstrate that educational outcomes emerge from dynamic interactions across multiple systems. Thus, improving learner achievement requires not only strong school practices but also strengthened alignment between instructional systems, stakeholder support, and broader policy and socio-economic contexts

Ethical Considerations

The researcher ensured that all ethical standards mandated by Sultan Kudarat State University were strictly observed to prevent any form of implicit or explicit abuse or exploitation of the research participants. Prior to conducting the survey and interviews, the researcher secured the necessary approval letters. It was the researcher's responsibility to obtain all required permits for the study. Approval was sought from the Schools Division Superintendents and the Regional Director. In compliance with the Data Privacy Act of 2012, the researcher upheld the participants' right to privacy and data protection. All information and responses collected were treated with the highest level of confidentiality. Participants' identities were protected by using code names or pseudonyms to ensure anonymity. Furthermore, all collected data were securely stored in a locked cabinet and were accessible only to the researcher, thereby preventing unauthorized access, disclosure, or misuse. With regard to gender sensitivity, the researcher demonstrated respect for the participants' gender identities and preferences. Care was taken to remain mindful of the respondents' emotions, ensuring that dignity and inclusivity were upheld throughout the research process. In terms of cultural sensitivity, the participants came from diverse cultural backgrounds. The researcher ensured that each participant's culture, traditions, and beliefs were respected. Cultural awareness and sensitivity were consistently observed throughout the interviews.

Conclusion

The study concludes that transformational strategies in functional literacy and best educational practices are strongly associated with improved school achievement among learners, particularly in enhancing applied competencies such as problem-solving and functional health literacy, as well as through multidimensional and contextualized instructional approaches. However, despite high levels of implementation at the school level, learners' relatively low performance in the National Achievement Test (NAT) suggests a disconnect between classroom-based practices and standardized assessment outcomes, indicating the influence of broader contextual and systemic factors such as socioeconomic conditions, resource availability, and policy alignment. Although both transformational strategies and best practices significantly predict school achievement, best practices exert a stronger influence, underscoring the importance of institutional quality, including instructional leadership, assessment practices, teacher development, and stakeholder engagement, in shaping learner outcomes. Moreover, stakeholder collaboration across schools, families, communities, and government agencies, along with continuous monitoring, capacity building, and inter-agency partnerships, plays a vital role in sustaining functional literacy initiatives. Overall, the findings highlight that improving educational outcomes requires a holistic, multi-level approach that integrates effective classroom practices with strong institutional systems and supportive external environments to ensure sustained and equitable learner achievement.

Recommendations

Based on the findings, it is recommended that schools strengthen targeted literacy and numeracy interventions by enhancing access to reading materials, establishing mini-libraries, and integrating structured reading and critical media literacy activities to improve comprehension and higher-order thinking skills. Teachers and school leaders should also sustain the implementation of transformational strategies and best educational practices, particularly in contextualized instruction, formative assessment, and competency-based learning, supported by continuous professional development through NEAP and other accredited training programs. To further enhance learner outcomes, schools may implement structured academic support mechanisms such as remedial classes, mentoring programs, and enrichment activities, especially for learners in geographically disadvantaged areas, in collaboration with DepEd and local government units to ensure equitable access to learning resources. In addition, stronger alignment between classroom instruction and standardized assessment requirements is encouraged to better prepare learners for national examinations such as the NAT. Finally, sustained multi-sectoral partnerships among schools, LGUs, parents, and community stakeholders should be strengthened through formal agreements, structured communication, and capacity-building initiatives, while further studies are recommended to validate and expand the findings of this study.

References

- Admiraal, W., Schenke, W., de Jong, L., Emmelot, Y., & Sligte, H. (2019). Schools as professional learning communities: What can schools do to support professional development of their teachers? *Professional Development in Education*, 47(4), 687–703. <https://doi.org/10.1080/19415257.2019.1665573>
- Ainscow, M., Slee, R., & Best, M. (2021). *Promoting inclusion and equity in education systems*. Routledge.
- Azorín, C., Harris, A., & Jones, M. (2020). Taking a distributed perspective on leading professional learning networks. *School Leadership & Management*, 40(2–3), 111–127. <https://doi.org/10.1080/13632434.2019.1647418>
- Boaler, J. (2015). *Mathematical mindsets: Unleashing students' potential through creative math, inspiring messages and innovative teaching*. Jossey-Bass.
- Bond, M., Bedenlier, S., Marín, V. I., & Händel, M. (2021). Emergency remote teaching in higher education: Mapping the first global online semester. *International Journal of Educational Technology in Higher Education*, 18(1), Article 50. <https://doi.org/10.1186/s41239-021-00282-x>
- Boonk, L., Gijssels, H. J. M., Ritzen, H., & Brand-Gruwel, S. (2018). A review of the relationship between parental involvement indicators and academic achievement. *Educational Research Review*, 24, 10–30. <https://doi.org/10.1016/j.edurev.2018.02.001>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Brookhart, S. M. (2017). *How to give effective feedback to your students* (2nd ed.). ASCD.
- Bryson, J. M., Crosby, B. C., & Stone, M. M. (2021). Designing and implementing cross-sector collaborations: Needed and challenging. *Public Administration Review*, 81(2), 298–306. <https://doi.org/10.1111/puar.13336>
- Creswell, J. W. (2008). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). SAGE Publications.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 24(2), 97–140. <https://doi.org/10.1080/10888691.2018.1537791>
- Department of Education. (2023). *MATATAG agenda: Bansang makabata, batang makabansa basic education reform agenda*. <https://www.deped.gov.ph/wp-content/uploads/2023/01/MATATAG-Agenda.pdf>
- Durlak, J. A., Weissberg, R. P., & Pachan, M. (2022). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology*, 70(1–2), 1–20. <https://doi.org/10.1002/ajcp.12598>

- Dynarski, S. M., Hemelt, S. W., & Hyman, J. (2018). The missing manual: Using course scheduling to improve student success. *Economics of Education Review*, 64, 29–42. <https://doi.org/10.1016/j.econedurev.2018.03.003>
- EDCOM II. (2024). *Second Congressional Commission on Education report: Transforming Philippine education for the future*. Republic of the Philippines. <https://edcom2.gov.ph/>
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410–8415. <https://doi.org/10.1073/pnas.1319030111>
- Fullan, M., & Quinn, J. (2020). *Coherence: The right drivers in action for schools, districts, and systems*. Corwin.
- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.
- Head, B. W., & Alford, J. (2020). Wicked problems: Implications for public policy and management. *Administration & Society*, 52(5), 793–817. <https://doi.org/10.1177/0095399720920224>
- Hmelo-Silver, C. E., Liu, L., & Slotta, J. D. (2020). On activities and affordances for mobile learning. *Contemporary Educational Psychology*, 60, Article 101829. <https://doi.org/10.1016/j.cedpsych.2019.101829>
- Jeynes, W. H. (2021). A meta-analysis: The relationship between parental involvement and academic achievement. *Urban Education*, 56(4), 1–35. <https://doi.org/10.1177/00420859211073892>
- Kim, K., Kim, H., Jang, S. N., & Kim, S. (2022). A systematic review of the association between health literacy and pain self-management. *Patient Education and Counseling*, 105(6), 1427–1440. <https://doi.org/10.1016/j.pec.2021.09.037>
- Kim, S. W., & Hill, N. E. (2015). Including fathers in the picture: A meta-analysis of parental involvement and students' academic achievement. *Journal of Educational Psychology*, 107(4), 919–934. <https://doi.org/10.1037/edu0000023>
- Lazonder, A. W., & Harmsen, R. (2016). Meta-analysis of inquiry-based learning: Effects of guidance. *Review of Educational Research*, 86(3), 681–718. <https://doi.org/10.3102/0034654315627366>
- Leithwood, K., Harris, A., & Hopkins, D. (2020). Seven strong claims about successful school leadership revisited. *School Leadership & Management*, 40(1), 5–22. <https://doi.org/10.1080/13632434.2019.1596077>
- OECD. (2021). *21st-century readers: Developing literacy skills in a digital world*. OECD Publishing. <https://doi.org/10.1787/a83d84cb-en>
- OECD. (2023). *Do adults have the skills they need to thrive in a changing world? Survey of Adult Skills 2023*. OECD Publishing. <https://doi.org/10.1787/b263dc5d-en>
- OECD. (2024). *PISA 2022 results (country note): Philippines*. OECD Publishing. https://www.oecd.org/pisa/publications/PISA2022_CN_PHL.pdf
- Paakkari, L., & Okan, O. (2020). COVID-19: Health literacy is an underestimated problem. *The Lancet Public Health*, 5(5), e249–e250. [https://doi.org/10.1016/S2468-2667\(20\)30086-4](https://doi.org/10.1016/S2468-2667(20)30086-4)
- Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). SAGE Publications.
- Prenger, R., Poortman, C. L., & Handelzalts, A. (2019). The effects of networked professional learning communities. *Journal of Teacher Education*, 70(5), 441–452. <https://doi.org/10.1177/0022487117753574>
- Reardon, S. F., & Portilla, X. A. (2016). Recent trends in income, racial, and ethnic school readiness gaps at kindergarten entry. *AERA Open*, 2(3). <https://doi.org/10.1177/2332858416657343>
- Ribner, A. D., Fitzpatrick, C., & Blair, C. (2021). School readiness and exposure to screen media in early childhood. *Child Development*, 92(3), e446–e463. <https://doi.org/10.1111/cdev.13529>
- Sekaran, U., & Bougie, R. (2019). *Research methods for business: A skill-building approach* (8th ed.). Wiley.
- UNESCO. (2022). *Global education monitoring report 2022: Non-state actors in education*. <https://www.unesco.org/gem-report/en/2022-youth-report>
- van Dijk, J. A. G. M. (2020). *The digital divide*. Polity Press.
- World Bank. (2020). *Realizing the future of learning: From learning poverty to learning for everyone, everywhere*. World Bank Group. <https://www.worldbank.org/en/topic/education/publication/realizing-future-of-learning-from-learning-poverty-to-learning-for-everyone-everywhere>
- Wu, S. C., & Hindman, A. H. (2023). Home literacy environment and children's literacy development. *Early Childhood Research Quarterly*, 64, 101–113. <https://doi.org/10.1016/j.ecresq.2023.01.005>