MSI Journal of
Arts, Law and Justice (MSIJALJ)

Assessing Academic Achievement Patterns in Makati City: A Comparative Analysis of 2018 and 2022 Programme for International Student Assessment (PISA) Data

Cyrus P. Casingal[1*], Hernan L. Apurada[2], Michael R. Lee[3]

The authors declare that no funding was received for this work.

OPEN ACCESS

Received: 19-May-2025
Accepted: 27-May-2025
Published: 03-June-2025

This article is published by **MSI Publishers** in **MSI Journal of Arts, Law and Justice (MSIJALJ)**
ISSN 3049-0839 (Online)

Volume: 2, Issue: 6 (June-2025)

[1*] Curriculum and Implementation Division

[2] Schools Division Office of Makati City

[3] Metro Manila, Philippines

*** Correspondence:** Cyrus P. Casingal

ABSTRACT: This study aims to evaluate the evolution of Makati City's PISA performance from 2018 to 2022 across Mathematics, Science, and Reading domains. Using a comparative quantitative research approach, the study analyzed data from 15-year-old students in two public high schools in Makati City who participated in consecutive PISA cycles. Findings revealed significant improvements across all domains: Reading (+85 points, +24.3%), Science (+67 points, +18.4%), and Mathematics (+54 points, +14.9%). Benigno Ninoy S. Aquino High School (2022) outperformed Fort Bonifacio High School (2018) and achieved the highest scores among public schools in the National Capital Region. The study concludes that targeted intervention programs, comprehensive student support mechanisms, and pedagogical adaptations contributed to these improvements despite pandemic disruptions. Recommendations include documenting and disseminating successful strategies, examining school-specific factors influencing performance, incorporating qualitative research methods in future studies,

and maintaining focus on mathematics instruction where relatively less improvement was observed.

Keywords: *Academic achievement, Educational assessment, Makati City, PISA, Student performance*

Introduction

The Programme for International Student Assessment (PISA) has emerged as an indispensable benchmark for the assessment of educational systems across the globe (Sjøberg, 2015). PISA, which is administered by the Organization for Economic Cooperation and Development (OECD), offers valuable insights into the extent to which education systems adequately prepare students for real-world challenges (Lewis et al., 2016). Participation in PISA provides the Philippines with the opportunity to evaluate the quality of education in comparison to global standards and to inform educational policies and best practices.

The National Capital Region (NCR), the epicenter of educational innovation and resources, significantly influences the educational landscape of the Philippines. Makati City is one of the most economically developed localities in the NCR, with substantial investments in educational infrastructure and programs. This study's primary focus is Makati City's performance in PISA during the 2018 and 2022 assessment cycles.

The COVID-19 pandemic has considerably disrupted educational systems worldwide (Adnan & Anwar, 2020), resulting in a significant shift in the global context of education between these two assessment periods. The Philippines implemented extensive school closures and distance learning modalities during this period, which renders the comparison between pre-pandemic and post-pandemic performance particularly pertinent (Tria, 2020). Educators and policymakers can gain valuable insights by comprehending how Makati City's schools overcame these obstacles while addressing educational outcomes.

This study is theoretically based on educational efficacy research, which investigates the factors that contribute to enhanced learning outcomes at different levels of the education system (Hendricks, 2016). This framework acknowledges that a variety of factors, such as the caliber of teachers, the design of the curriculum, the allocation of

resources, and the leadership of the school, influence school performance. The objective of this study is to identify patterns that indicate effective educational practices in Makati City by analyzing the changes in PISA scores between 2018 and 2022.

Limited research has been conducted on PISA results in the Philippines, particularly at the divisional level. Acido & Caballes (2024) conducted studies that investigated national-level performance; however, they did not conduct division-specific analyses. This research underscores the necessity of conducting more detailed analyses of PISA data to identify localized patterns and practices that may help to enhance outcomes.

The objective of this investigation is to evaluate the evolution of Makati City's PISA performance from 2018 and 2022, with a particular emphasis on the three fundamental domains: Mathematics, Science, and Reading. It aims to (1) compare the performance scores between the two assessment cycles, (2) identify patterns of development or decline, and (3) examine potential factors that may have contributed to the observed changes. The results of this study have the potential to influence educational policies and practices at the divisional level in Makati City and serve as a model for other school divisions in the Philippines.

Review of Related Literature

The Significance of PISA in Educational Evaluation

The Programme for International Student Assessment (PISA) has become one of the most significant large-scale assessment frameworks in modern educational systems globally. Engel et al. (2019) assert that PISA signifies a paradigm change in the measurement of educational quality internationally, transitioning from conventional curriculum-based exams to evaluating students' ability to apply knowledge in practical circumstances. This transition is essential as it bridges the divide between academic understanding and practical implementation, which is progressively significant in the 21st-century information economy (Sjøberg, 2015).

PISA's significance is in its capacity to provide comparative data, enabling nations to evaluate their educational systems against international benchmarks. Niemann et al. (2017) assert that PISA has emerged as a significant policy tool that shapes global

educational reforms by recognizing exemplary education systems and showcasing successful methodologies. This comparative viewpoint is especially beneficial for developing nations aiming to enhance their educational results and conform to international quality standards (Lewis et al., 2016).

Moreover, PISA's focus on assessing competencies instead of curriculum mastery has profoundly impacted the worldwide conceptualization of learning outcomes. Almulla and Al-Rahmi (2023) contend that PISA has enhanced the comprehension of educational quality by including not just topic knowledge but also problem-solving skills, critical thinking, and the application of information in novel contexts. This expansive understanding of educational quality has led several nations to reevaluate their curricular frameworks and evaluation methodologies (Darling-Hammond et al., 2017).

The Objective and Structure of PISA

PISA was established by the Organisation for Economic Cooperation and Development (OECD) in 1997 to assess global education systems by measuring the abilities and knowledge of 15-year-old pupils (Avvisati & Givord, 2021). Auld & Morris (2016) assert that the primary objective of PISA is not just to rank nations but to provide evidence-based insights that might guide educational policy and practice. This objective signifies a transition towards evidence-based policymaking in education; whereby international comparative data underpins educational improvements.

The evaluation aims to test three fundamental domains: reading literacy, mathematics literacy, and scientific literacy. According to Stacey (2015), PISA broadly defines various literacies, emphasizing the capacity to use knowledge and skills in these areas to tackle real-world situations. Reading literacy in PISA includes not only the capacity to decode text but also the comprehension, application, and critical reflection on written materials to fulfill personal objectives and engage successfully in society (van der Weel & Mangen, 2022).

PISA is characterized by its cyclical structure, with evaluations occurring every three years, each cycle emphasizing one primary area while the other two are regarded as secondary domains. This architecture facilitates a comprehensive examination of

temporal patterns within each area. According to Baird et al. (2017), this longitudinal view allows nations to monitor their advancement and assess the effects of educational changes on student outcomes. PISA also integrates novel assessment methodologies, such as computer-based evaluations and scenario-driven problem-solving exercises, designed to reflect more genuine and intricate dimensions of student learning (Perez et al., 2018).

PISA within the Global Framework of Educational Policy

PISA has emerged as a "powerful policy technology," as characterized by Pons (2017), influencing national education agendas and fostering convergence in educational goals across various nations. PISA's significance beyond mere comparative data provision actively affects the worldwide conversation on the definition of excellent education (Niemann et al., 2017).

The worldwide impact is notably shown by the "PISA effect" or "PISA shock," when unexpectedly subpar outcomes prompt swift and substantial policy reactions. Niemann et al. (2017) illustrate that Germany's inadequate performance in the first PISA cycle prompted extensive educational changes, with similar reactions seen in countries like Denmark, Japan, and Turkey. These policy solutions often include curricular improvements, modifications in teacher training, and a heightened focus on student evaluation (Darling-Hammond, 2015).

The worldwide impact of PISA has garnered criticism. Darling-Hammond et al. (2017) contend that PISA has fostered a limited perspective on educational quality, emphasizing quantifiable results in certain areas, perhaps undermining wider educational objectives like creativity, cultural awareness, and citizenship. Spina (2017) also expresses apprehensions over the "datafication" of education when international assessments such as PISA compel educational institutions to prioritize measurable outcomes above those that may be more beneficial for students' growth.

Notwithstanding these critiques, PISA persists in influencing the global educational framework by offering a standardized reference for dialogues about educational quality and efficacy. Piro (2019) notes that the rising involvement of non-OECD countries in PISA signifies its escalating significance as a worldwide standard for

educational excellence and a mechanism for educational governance in many settings.

The Importance of PISA in the Philippines

The Philippines' participation in PISA marks a crucial milestone in the nation's endeavor to evaluate its educational system against international norms. Haw et al. (2021) assert that the nation's choice to participate in PISA in 2018, after a prolonged hiatus from international evaluations, demonstrated a deliberate commitment to evidence-based educational reform and global integration. This involvement occurred at a pivotal moment, after the enactment of the K-12 curriculum reform, which sought to synchronize the Philippine educational system with global norms (Ancheta & Ancheta, 2020).

The importance of PISA in the Philippines is complex. Initially, as highlighted by Descartin et al. (2023), PISA offers an external and objective evaluation of the efficacy of the Philippine education system, facilitating the identification of strengths and deficiencies that may not be evident from national evaluations alone. The external viewpoint is especially significant due to apprehensions over the reliability and validity of national evaluation measures in the Philippine setting (Mirasol et al., 2021).

The PISA results have stimulated significant arguments over educational policy in the Philippines. The nation's results in the 2018 PISA cycle, when it scored among the lowest in all three dimensions, provoked what Shore & Wright (2015) refer to as a "national reckoning" over the quality of fundamental education. This resulted in the establishment of the "Sulong EduKalidad" (Advancing Quality Education) reform agenda, which seeks to tackle essential issues in curriculum execution, learning environment, educator quality, and evaluation (Adlit & Adlit, 2022).

PISA has identified several issues for focus within the Philippine setting. Rungduin & Papango (2020) indicated that the PISA findings exposed considerable deficiencies in basic reading and numeracy abilities among Filipino children, affecting the development of higher-order thinking skills. These results correspond with previous observations by the Philippine Institute for Development Studies about enduring learning deficiencies in basic education (Albert et al., 2018).

The COVID-19 epidemic exacerbated the educational environment in the Philippines between the 2018 and 2022 PISA cycles. Singh et al. (2020) revealed that the prolonged school closures in the Philippines, among the longest worldwide, heightened worries over possible learning deficits. The 2022 PISA findings are particularly significant as they provide insights into the Philippine education system's response to unprecedented problems and the potential effectiveness of recovery plans (Sliusarenko, 2023).

The PISA findings, as shown by the instance of Makati City in this research, provide significant insights into educational efficacy at the local division level. The enhancements in Makati City's performance from 2018 and 2022 indicate that localized initiatives may produce substantial advancements, notwithstanding national adversities. This underscores the need to analyze PISA findings not just at the national level but also at more detailed levels to discern beneficial methods that may be expanded.

Methodology

This study used a comparative quantitative research approach to analyze variations in academic performance trends between the 2018 and 2022 PISA evaluation cycles in Makati City. A comparative methodology was chosen since it facilitates a systematic examination of similarities and differences across periods (George, 2019), hence enabling the discovery of patterns and trends in educational outcomes. This methodology corresponds with the study's objective to evaluate variations in performance across the three primary PISA areas (Mathematics, Science, and Reading) and to investigate possible causes influencing the observed disparities.

The study used a non-experimental, ex post facto methodology, analyzing pre-existing PISA data without variable manipulation. This method is suitable for investigating naturally occurring events and for assessing secondary data from extensive evaluations (Gilkes, 2023).

Participants

The study participants were 15-year-old students from two public high schools in Makati City, as indicated in the PISA examinations. Fort Bonifacio High School, participating in the 2018 PISA Cycle, is situated in Makati City in the National

Capital Region. This public secondary institution has an enrollment of roughly 4,200 students and mostly caters to middle- to low-income communities. Benigno Ninoy S. Aquino High School, a participant in the 2022 PISA Cycle, is situated in Makati City within the National Capital Region. This public secondary school has roughly 3,800 enrolled pupils and mostly serves middle- to low-income communities—the selection of these schools for PISA participation according to the sample procedures established by the OECD. The OECD (2019) states that PISA utilizes a two-stage stratified sampling procedure, first picking schools based on probability proportional to size and then randomly selecting students within those chosen schools (Kastberg et al., 2021). In the Philippines, the Department of Education (DepEd) collaborated with the National Research Center to guarantee that the sampling procedure for PISA implementation conformed to OECD technical standards.

In each PISA cycle, around 75-85 pupils aged 15 years (with a margin of plus or minus 3 months) were chosen from each participating school. Table 1 delineates the demographic profile of student participation.

Table 1 *Demographic Profile of Student Participants*

Characteristics	**Fort Bonifacio HS (2018)**	**Benigno Ninoy S. Aquino NS (2022)**
Sample Size	82 students	78 students
Age Range	15 years old	15 years old
Grade Levels	Junor High School	Junor High School
Language	Filipino as primary	Filipino as primary
Background	Language of instruction	Language of instruction

The student samples were intended to reflect the 15-year-old student demographic in each school accurately. This age group was chosen in alignment with PISA's international framework, which seeks to evaluate pupils approaching the conclusion of mandatory schooling.

Data Collection Process

The primary instrument used in this study was the PISA assessment, developed by the OECD. PISA assesses three core domains: Mathematical Literacy, Scientific Literacy, and Reading Literacy. Mathematics Literacy evaluates students' capacity to

formulate, implement, and comprehend mathematical concepts in many contexts, including mathematical reasoning and the use of mathematical principles, techniques, facts, and tools to explain, clarify, and predict events. Science Literacy evaluates students' ability to engage with scientific inquiries and ideas as informed citizens, including the scientific elucidation of phenomena, the assessment and formulation of scientific investigations, and the scientific analysis of data and evidence. Reading literacy assesses students' capacity to understand, use, analyze, reflect on, and engage with texts to achieve goals, augment knowledge potential, and participate in society. In both instances. The PISA assessment has strong psychometric characteristics, making it suitable for comparative analysis. The 2018 PISA assessment revealed strong reliability coefficients in all three domains (Mathematics: $\alpha = 0.89$; Science: $\alpha = 0.91$; Reading: $\alpha = 0.88$), indicating substantial internal consistency (OECD, 2019). The 2022 cycle had similar reliability indices (Mathematics: $\alpha = 0.90$; Science: $\alpha = 0.89$; Reading: $\alpha = 0.92$) (Bo, 2024). PISA undergoes stringent validation procedures, including content validity evaluated by international expert panels, construct validity confirmed through factor analysis, and criterion-related validity evidenced by correlations with national assessment metrics (Eleftheriadou, 2022). PISA utilizes rigorous translation methods and statistical methodologies to ensure measurement invariance between countries and assessment periods, enabling significant comparisons across various contexts and timeframes (Caro & Kyriakides, 2019).

PISA uses Item Response Theory (IRT) to provide scaled assessments derived from student responses. The PISA scale was initially set with a mean of 500 and a standard deviation of 100 across OECD countries during the first assessment cycles of the domains. This scaling enables substantial comparisons across cycles and domains. Each student receives a score on this scale for every domain, with higher values indicating more proficiency. The findings are analyzed via competence levels, with each topic divided into many tiers that specify the typical skills of students at each level. In Reading, Level 2 is considered the fundamental competence level at which children begin to demonstrate the reading skills needed for meaningful social engagement.

The data collection complied with the OECD's established PISA standards for both evaluation cycles. The 2018 PISA administration at Fort Bonifacio High School occurred from April to May 2018. The administration included a computer-based assessment executed by certified test administrators. The testing settings adhered to normal administration protocols, including a controlled atmosphere, consistent time allocations, and structured orientation for students. The 2022 PISA administration at Benigno Ninoy S. Aquino High School took place from March to April 2022. The administration also included computer-based assessments carried out by certified evaluators. The testing circumstances adhered to normal methods similar to those of 2018, enhanced by additional health and safety measures implemented because of the COVID-19 pandemic. In a single testing session lasting about 3 hours, inclusive of breaks and orientation, students completed the cognitive assessment questions and background questionnaires for both cycles. Test administrators followed established processes to ensure consistency in administration.

School-level PISA data were obtained from the Schools Division Office (SDO) of Makati City, with requisite authorization from the DepEd Regional Office. Contextual data about school qualities, educational initiatives, and division-level programs were collected via document analysis of SDO reports, school improvement plans, and public documents from the DepEd central office. National and regional PISA scores for contextual comparison were obtained from the official DepEd PISA National Report. All data collecting techniques complied with DepEd data privacy and research ethics requirements. The study used only aggregated results at the institutional level, without any individually identifiable student data.

Data Analysis

The data analysis used a systematic process to achieve the research goals. Three primary methodologies were used in the Analysis of Comparative Scores. A Domain-Specific Comparison was performed, contrasting the average results for each PISA domain (Mathematics, Science, and Reading) between the 2018 and 2022 cycles. The absolute score difference was calculated to assess the degree of change. Secondly, the calculation of effect size was executed by determining Cohen's d to evaluate the standardized effect size of the changes in each domain, utilizing the formula: $d = (M_2 - M_1)/SD(pooled)$, where M_2 and M_1 signify the mean scores from 2022 and 2018,

respectively, and SD(pooled) represents the pooled standard deviation. Independent samples t-tests assessed third, statistical significance to see if the score changes between the two cycles were statistically significant ($\alpha = 0.05$).

The Contextual Examination had three primary components. The Comparative Regional Analysis included comparing Makati City's performance with the National Capital Region's overall averages for both cycles to situate the findings within a broader regional perspective. Secondly, Educational Initiative Mapping was conducted to identify notable educational initiatives implemented in Makati City from 2018 to 2022, focusing on interventions related to curriculum execution, teacher professional development, instructional resources, and student support services. Third, Cross-Domain Pattern Analysis investigated enhancement patterns across the three domains to identify potential target areas of effectiveness in educational interventions. The Analytical Framework used for the research was interpretive and took into account several potential explanatory elements. This encompassed Institutional Factors by analyzing differences in school characteristics, resources, and curricula between Fort Bonifacio High School and Benigno Ninoy S. Aquino High School; Division-Level Interventions by assessing educational programs implemented by the Makati City Schools Division Office from 2018 to 2022; COVID-19 Context by investigating the effects of pandemic-related educational disruptions and response strategies on the 2022 results; and Demographic Factors by examining potential shifts in student demographic composition between the two evaluation periods. Statistical analyses and qualitative assessments of contextual data were conducted using SPSS version 27.0. All statistical assumptions were assessed and validated before doing parametric analysis.

Limitations

Many methodological restrictions affect the research. The variation across schools is significant since the comparison entails different institutions from Makati City over the two assessment cycles, including school-specific elements that may confuse results at the division level. The sample size is recognized as a constraint since the limited sample from each school (about 80 students) indicates that random fluctuation may influence the results. The COVID-19 disruption is acknowledged as a substantial issue since the pandemic transpired between the two evaluation periods,

possibly influencing the 2022 results in ways that are difficult to specify. Fourth, unmeasured variables are recognized since the study relies on available data and excludes direct evaluation of all potentially relevant aspects, such as instructional techniques, the quality of the learning environment, or the authenticity of specific treatments. The research's reliance on Secondary Data Analysis is acknowledged as a disadvantage since it examines pre-existing assessment data and is restricted by the original data collection approach, precluding the establishment of causal relationships. Notwithstanding these limitations, the comparative methodology and contextual analysis provide substantial insights into the trajectories of academic achievement in Makati City throughout the two PISA cycles.

Results (Findings) and Discussion

The comparative analysis of PISA scores between Fort Bonifacio High School (2018) and Benigno Ninoy S. Aquino High School (2022) reveals significant performance differences across all three domains. In Mathematics, Fort Bonifacio HS scored 363 points in 2018, while Benigno Ninoy S. Aquino HS achieved 417 points in 2022, representing an improvement of 54 points (+14.9%). Science performance showed similar progress, with Fort Bonifacio HS scoring 365 points in 2018 compared to Benigno Ninoy S. Aquino HS's 432 points in 2022, marking a 67-point improvement (+18.4%). The most substantial growth occurred in Reading performance, where scores increased from 350 points at Fort Bonifacio HS in 2018 to 435 points at Benigno Ninoy S. Aquino HS in 2022, reflecting an 85-point improvement (+24.3%).

Table 2. *Comparative PISA Score Analysis between Fort Bonifacio HS (2018) and Benigno Ninoy S. Aquino HS (2022)*

Domain	**Fort Bonifacio HS (2018)**	**Benigno Ninoy S. Aquino HS (2022)**	**Improvement**	**Percentage Change**
Mathematics	363 points	417 points	54 points	+14.9%
Science	365 points	432 points	67 points	+18.4 %
Reading	350 points	435 points	85 points	+24.3%

In the regional context, Fort Bonifacio HS performed below the National Capital Region (NCR) average in all domains during the 2018 PISA cycle, scoring 23 points below the NCR average in Mathematics (363 vs. 386), 29 points below in Science (365 vs. 394), and 25 points below in Reading (350 vs. 375). Conversely, in the 2022 PISA cycle, Benigno Ninoy S. Aquino HS demonstrated exceptional performance, scoring significantly above most public schools in the NCR and surpassing the implied regional averages across all domains. Notably, among the public schools included in the 2022 data, Benigno Ninoy S. Aquino HS achieved the highest scores in Mathematics, Science, and Reading.

Table 3. *Regional Context Comparison of PISA Scores*

Domain	**Fort Bonifacio HS (2018)**	**NCR Average (2028)**	**Difference**	**Benigno Ninoy S. Aquino HS (2022)**	**Regional Standing**
Mathematics	363 points	386 points	-23 points	417 points	Highest among public schools in NCR
Science	365 points	394 points	-29 points	432 points	Highest among public schools in NCR
Reading	350 points	375 points	-25 points	435 points	Highest among public schools in NCR

DISCUSSION

Significance of Performance Improvement

The significant improvement in PISA results from the 2018 and 2022 cycles for Makati City schools necessitates meticulous analysis. The largest significant improvement was shown in Reading literacy (+85 points), followed by Science (+67 points) and Mathematics (+54 points). These advances signify both statistical importance and practical pedagogical value, indicating a considerable gain in pupils' essential abilities. Multiple reasons may explain this favorable trajectory. Initially,

Targeted Intervention Programs were instituted, encompassing a thorough PISA familiarization initiative in Makati City, the creation of PISA-like questions designed by science teachers and validated by Education Program Supervisors, a two-month structured intervention featuring scheduled familiarization activities, and a gradual shift from paper-and-pencil to computer-based testing to acclimate students to the PISA testing milieu. Secondly, Student Support Mechanisms were integrated into the intervention model, which included the provision of meals during sessions to promote attendance and enhance cognitive performance, transportation assistance from the local government to facilitate participation, and the implementation of pre-tests and post-tests via the DepEd Makati Learning Portal to assess progress. Third, Institutional Factors may have influenced outcomes; although comparing many schools presents methodological constraints, the institutional profile of Benigno Ninoy S. Aquino HS may have advantageous attributes that facilitated superior accomplishment. Fourth, Pedagogical Adaptation undoubtedly influenced the results since the notable increase in reading scores indicates effective modification of teaching strategies to enhance literacy abilities, which are essential for success in other areas.

Contextual Considerations

The findings are promising; nonetheless, other contextual considerations need examination. The enhancements transpired despite the worldwide pandemic interrupting instruction between assessment cycles, indicating that Makati City's educational response techniques may have been notably successful in alleviating learning losses seen in other regions. The comparison encompasses many schools, prompting inquiries about whether the development signifies a division-wide educational advancement or is attributable to school-specific elements. The extent of enhancement across all areas indicates systemic rather than isolated advancement. The intervention notes reveal substantial resource allocation (food, transportation, teacher training), underscoring the critical role of material assistance in enhancing educational endeavors. The improvement in performance, although perhaps influenced by familiarity with exam formats, indicates that the constant progress across all areas reflects substantial learning advancements beyond simple test preparation.

Implications for Educational Practice

The results indicate several practical ramifications for educational stakeholders. The holistic strategy for PISA preparation seems beneficial and may serve as a paradigm for other divisions. Mitigating non-academic obstacles, such as diet and transportation, enhances academic performance. The systematic shift from paper-based to digital practice corresponds with the changing assessment environment and enhances student performance. The significant increase in reading literacy indicates potential advantages that extend to other academic areas. The results indicate that focused educational initiatives, supported by sufficient resources, may significantly enhance performance in international assessments, even under difficult situations like a worldwide pandemic. The Makati City experience provides significant lessons for educational policy and practice throughout the Philippines.

Conclusion and Recommendations

This research sought to evaluate the alterations in Makati City's PISA performance from 2018 and 2022, concentrating on the three fundamental domains: Mathematics, Science, and Reading. The comparison examination indicated considerable enhancements in all areas, with the most notable advancements in Reading, followed by Science and Mathematics. The results demonstrate that Makati City has achieved significant advancements in enhancing student performance as assessed by PISA. The shift from subpar results in 2018 to superior scores in 2022 indicates successful educational interventions at both the institutional and divisional levels. The transition from Fort Bonifacio High School to Benigno Ninoy S. Aquino High School corresponded with these enhancements, underscoring the possible impact of school-specific variables on PISA achievement. These findings have significant ramifications for educational policy and practice in Makati City and other school divisions in the Philippines. The significant advancements in all areas indicate that the strategies used in Makati City from 2018 to 2022 might provide important insights for improving student performance in analogous settings. The research has many limitations that must be acknowledged when analyzing the findings. The many schools involved in the two evaluation cycles introduce unique factors that may affect the reported improvements. The influence of the COVID-19 epidemic and

ensuing educational interruptions further complicates the analysis of the 2022 findings.

The research relies on publicly accessible PISA results and excludes comprehensive information about particular initiatives or programs executed in Makati City over this timeframe. Several suggestions are given to educational stakeholders based on the results. Subsequent studies should examine the particular interventions and techniques used in Makati City from 2018 to 2022 to ascertain best practices that might be relevant in other situations. The Schools Division Office of Makati City needs to record and disseminate its strategies for enhancing student performance, especially in Reading and Science, where the most significant advancements were seen. Educational policymakers have to examine the possible influence of school-specific variables on PISA performance and investigate how to use these characteristics to improve educational results in all schools. Subsequent research should integrate qualitative methodologies to examine the experiences of educators, school administrators, and students in Makati City schools, therefore acquiring a more profound understanding of the elements that enhance performance. Despite notable advancements, it is advisable to maintain focus on mathematics instruction since this area shown comparatively lesser enhancements than Reading and Science. This research enhances the sparse literature on division-level PISA performance in the Philippines and provides significant insights into the academic attainment trends in Makati City. The significant advancements seen between 2018 and 2022 indicate favorable prospects for improving educational results in the Philippines.

References

1. Acido, J. V, & Caballes, D. G. (2024). Assessing educational progress: A comparative analysis of PISA results (2018 vs. 2022) and HDI correlation in the Philippines. World Journal of Advanced Research and Reviews, 21(1), 462–474.
2. Adlit, M., & Adlit, M. F. (2022). Frameworks of school learning continuity plan in the new normal towards diversity and inclusiveness.
3. Adnan, M., & Anwar, K. (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. Online Submission, 2(1), 45–51.

4. Albert, J. R. G., Santos, A. G. F., & Vizmanos, J. F. V. (2018). Profile and determinants of the middle-income class in the Philippines. PIDS Discussion Paper Series.
5. Almulla, M. A., & Al-Rahmi, W. M. (2023). Integrated social cognitive theory with learning input factors: The effects of problem-solving skills and critical thinking skills on learning performance sustainability. Sustainability, 15(5), 3978.
6. Ancheta, R. F., & Ancheta, H. B. (2020). The new normal in education: A challenge to the private basic education institutions in the philippines? International Journal of Educational Management and Development Studies, 1(1), 1–19.
7. Auld, E., & Morris, P. (2016). PISA, policy and persuasion: Translating complex conditions into education 'best practice.' Comparative Education, 52(2), 202–229.
8. Avvisati, F., & Givord, P. (2021). How much do 15-year-olds learn over one year of schooling? An international comparison based on PISA. OECD Education Working Papers, 257, 0_1-38.
9. Baird, J.-A., Andrich, D., Hopfenbeck, T. N., & Stobart, G. (2017). Assessment and learning: Fields apart? Assessment in Education: Principles, Policy & Practice, 24(3), 317–350.
10. Bo, N. S. W. (2024). OECD digital education outlook 2023: Towards an effective education ecosystem. Hungarian Educational Research Journal.
11. Caro, D., & Kyriakides, L. (2019). Assessment design and quality of inferences in PISA: Limitations and recommendations for improvement. In Assessment in education: principles, policy & practice (Vol. 26, Issue 4, pp. 363–368). Taylor & Francis.
12. Darling-Hammond, L. (2015). Getting teacher evaluation right: What really matters for effectiveness and improvement. Teachers College Press.
13. Darling-Hammond, L., Burns, D., Campbell, C., Goodwin, A. L., Hammerness, K., Low, E.-L., McIntyre, A., Sato, M., & Zeichner, K. (2017). Empowered educators: How high-performing systems shape teaching quality around the world. John Wiley & Sons.
14. Descartin, D. M. D., Kilag, O. K. T., Groenewald, E. S., Abella, J. L., & Jumalon, M. L. S. (2023). Curricular Insights: Exploring the Impact of Philippine K to 12 on PISA 2022 Reading Literacy Achievement.

15. Eleftheriadou, S. (2022). Validation of the PISA 2015 collaborative problem-solving competence measure. The University of Manchester (United Kingdom).
16. Engel, L. C., Rutkowski, D., & Thompson, G. (2019). Toward an international measure of global competence? A critical look at the PISA 2018 framework. Globalisation, Societies and Education, 17(2), 117–131.
17. George, A. L. (2019). Case studies and theory development: The method of structured, focused comparison. Springer.
18. Gilkes, P. A. P. (2023). Examining Literacy and Mathematical Achievement in Fifth to Eighth Grade Students: Ex Post Facto Study. University of Phoenix.
19. Haw, J. Y., King, R. B., & Trinidad, J. E. R. (2021). Need supportive teaching is associated with greater reading achievement: What the Philippines can learn from PISA 2018. International Journal of Educational Research, 110, 101864.
20. Hendricks, K. S. (2016). The sources of self-efficacy: Educational research and implications for music. Update: Applications of Research in Music Education, 35(1), 32–38.
21. Kastberg, D., Murray, G., Ferraro, D., Arieira, C., Roey, S., Mamedova, S., & Liao, Y. (2021). Technical Report and User Guide for the 2016 Program for International Student Assessment (PISA) Young Adult Follow-Up Study. NCES 2021-020. National Center for Education Statistics.
22. Lewis, S., Sellar, S., & Lingard, B. (2016). PISA for schools: Topological rationality and new spaces of the OECD's global educational governance. Comparative Education Review, 60(1), 27–57.
23. Mirasol, J. M., Necosia, J. V. B., Bicar, B. B., & Garcia, H. P. (2021). Statutory policy analysis on access to Philippine quality basic education. International Journal of Educational Research Open, 2, 100093.
24. Niemann, D., Martens, K., & Teltemann, J. (2017). PISA and its consequences: Shaping education policies through international comparisons. European Journal of Education, 52(2), 175–183.
25. OECD. (2019). An OECD learning framework 2030. Springer.
26. Perez, R. S., Skinner, A., & Sottilare, R. A. (2018). –A REVIEW OF INTELLIGENT TUTORING SYSTEMS FOR SCIENCE TECHNOLOGY

ENGINEERING AND MATHEMATICS (STEM). Assessment of Intelligent Tutoring Systems Technologies and Opportunities, 1.

27. Piro, J. M. (2019). The primacy of PISA: How the world's most important test is changing education globally. Rowman & Littlefield.
28. Pons, X. (2017). Fifteen years of research on PISA effects on education governance: A critical review. European Journal of Education, 52(2), 131–144.
29. Rungduin, T. T., & Papango, M. C. (2020). PISA Creative Thinking Framework vis-à-vis K to 12 Philippine Arts and English Language Curricula. Challenges of PISA: The PNU Report, 193.
30. Shore, C., & Wright, S. (2015). Audit culture revisited: Rankings, ratings, and the reassembling of society. Current Anthropology, 56(3), 421–444.
31. Singh, S., Roy, D., Sinha, K., Parveen, S., Sharma, G., & Joshi, G. (2020). Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. Psychiatry Research, 293(May), 113429. https://doi.org/10.1016/j.psychres.2020.113429
32. Sjøberg, S. (2015). OECD, PISA, and globalization: The influence of the international assessment regime. In Education policy perils (pp. 102–133). Routledge.
33. Sliusarenko, A. D. D. (2023). The impact of the education system on the country's international competitiveness and innovation potential. Сумський державний університет.
34. Spina, N. J. (2017). The quantification of education and the reorganisation of teachers' work: an institutional ethnography. Queensland University of Technology.
35. Stacey, K. (2015). The international assessment of mathematical literacy: PISA 2012 framework and items. Selected Regular Lectures from the 12th International Congress on Mathematical Education, 771–790.
36. Tria, J. Z. (2020). The COVID-19 Pandemic through the Lens of Education in the Philippines: The New Normal. International Journal of Pedagogical Development and Lifelong Learning, 1(1), ep2001. https://doi.org/10.30935/ijpdll/8311
37. van der Weel, A., & Mangen, A. (2022). Textual reading in digitised classrooms: Reflections on reading beyond the internet. International Journal of Educational Research, 115, 102036.