American Journal of Multidisciplinary Research and Innovation (AJMRI)

ISSN: 2158-8155 (ONLINE), 2832-4854 (PRINT)

VOLUME 4 ISSUE 5 (2025)

PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

American Journal of Multidisciplinary Research and Innovation (AJMRI)

Volume 4 Issue 5, Year 2025
ISSN: 2158-8155 (Online), 2832-4854 (Print)
DOI: https://doi.org/10.54536/ajmri.v4i5.5687
https://journals.e-palli.com/home/index.php/ajmri

From Remediation to Retention: Assessing the Effectiveness of Academic Support Systems in a Local College Math Education Program

Noel A. Comia[1], Qiarrah Syrah A. Chavez[1*]

Article Information

Received: July 08, 2025

Accepted: August 11, 2025

Published: September 25, 2025

Keywords

Mathematics Education, Performance, Remediation, Retention, Tutoring

ABSTRACT

This study investigated the relationship between institutionalized remediation practices and the academic performance of Bachelor of Secondary Education major in Mathematics (BSED Math) students at City College of Calapan. Notwithstanding the long-standing support systems—including Consultation Hours, Math-Tulong Tutorials, and Guidance Counseling—the persistent existence of academic difficulties and low course completion rates in mathematics reinforced the need to evaluate the interventions' effectiveness. The study employed a descriptive-correlational and comparative research design. The requisite data were gathered through validated survey instruments administered to 108 third- and fourth-year BSED Math students who had been recipient of the remediation pratices. Academic performance was evaluated on the basis of final grades in core mathematics subjects, specifically in Algebra, Calculus, Geometry, and Statistics. Descriptive statistics, Pearson's r correlation, and independent samples t-tests were used to analyze the association between remediation exposure and academic achievements. The results revealed a compelling positive correlation between Consultation Hours and academic performance, a relatively robust relationship for Math-Tulong Tutorials, and a moderate but significant connection for Guidance Counseling. Fourth-year students exhibited significantly higher mathematics performance than their third-year counterparts, establishing a persuasive manifestation of cumulative benefits emergent from sustained remediation exposure. Nevertheless, positive outcomes do not reflect efficient utility of mediation, for findings indicated underutilization of services and deficient coordination, particularly arising from the counseling domain. The study recommended a Contextualized Enhanced Remediation Program (CERP) to be further developed as the IMPACT Program, intending to consolidate and strengthen remediation through an integrated, structured, and data-driven approach. The study reveals that while current interventions yield academic benefits, a more holistic, organized and adaptive remediation framework is essential to improve outcomes and support student retention in the mathematics teacher education degree program.

INTRODUCTION

Mathematics is an integral course guiding students' academic trajectories, particularly in fields that are reliant on rational interpretations, problem-solving, and quantified inference . In this light, students who choose to be educators specializing in mathematics face an increased responsibility for mastering the subject. The Bachelor of Secondary Education major in Mathematics is envisioned not only to enable students to grasp intricate mathematical systems and patterns but also to facilitate their ability to teach it in secondary institutions. Nonetheless, a growing proportion of these teachers continue to experience problems at the foundational and advanced proficiency levels.

Remedial strategies are currently crucial for improving academic achievement, especially in mathematics, in many educational settings worldwide. Specialized interventions are necessary, as mathematics is a subject that challenges numerous students; however, it is considered as an important subject that fosters achievement in STEM careers. Additionally, remedial education is designed to meet the specific requirements of students who may lack the necessary preparation in mathematics courses for the college level in a global context. Typically, these programs employ methods like small-group instruction, individualized training, and formative evaluations and assessments to enhance students' mathematical problem-solving abilities and retention of concepts (Schunk, 2020). Research demonstrated the effectiveness of remediation in enhancing students' numeracy. One impact of this can be observed in a 2021–2025 study, which found that an intervention amongst year 7 students made a significant difference to their numeracy skills (DepEd, 2025). Furthermore, findings from the 2023 trials indicated that ICT-based mentoring, among other strategies, made a positive difference to student achievement in mathematics and provided evidence that a broad suite of effective teaching techniques is required. However, crucial issue was identified which relates to the fairness in remediation. Burch and Good (2021) observed that remediation initiatives are inclined to be more beneficial to those with higher income levels and can increase detachment between the neediest groups and those with more social and material privileges when it comes to education. This highlights the urgent need for colleges to design equitable remediation resources, particularly for

[1] City College of Calapan, Guinobatan, Calapan City, Oriental Mindoro, Philippines
[*] Corresponding author's e-mail: qiarrah.chavez@gmail.com

those students who are most at risk of falling behind the expected academic standards.

Within an academic setting, the remediation strategies are considered valuable measures taken to confront the students' academic problems, particularly regarding basic skills. Cleland *et al.* (2020) further emphasized how remediation involves three key steps: diagnosis, treatment, and re-evaluation. Understanding these processes greatly aids targeted interventions in enhance students' comprehension and retention of the material. Academic counseling with a tutor, computer-assisted learning with guided support, or opportunities for retesting for instance enhances recency and eventually the ease of retentive grasp.

Although the benefit of intervention is widely recognized, optimal methods remain unclear. Bierer *et al.* (2020) noted that, due to limited understanding and lack of standardized 'best practices' among academic staff, who are often responsible for designing remediation programs, there is significant variability in how these interventions are delivered across institutions. Similarly, Snyder *et al.* (2019) also raised this concern, and added that it is very hard and non-useful to extract generalities from this multitude of remediation strategies as they are described in the literature. To build the science and evidence for what works best for remediation, they argue that in the future, researchers should work to replicate rather than add new interventions.

In the perspective of City College of Calapan (CCC) students pursuing a Bachelor of Secondary Education major in Mathematics (BSED Math), it is deemed as both a prerequisite and an assistive screening tool for the Licensure Exam for Teachers (LET). It also serves as determinant for graduation. However, despite institutional records illustrating consistent LET results through outperformance of the national average over the past decade, academic challenges persist to exist. Despite years of structured remediation, many BSED Math students continue to struggle and fail the major subjects. This raises concern given the effectiveness and the scope, and the integration of current remediation approaches.

CCC has institutionalized three targeted remediation interventions since early 2015: consultation hours, the math-tulong tutorial program, and guidance counseling. These interventions were organized and carried out as part of formal academic support programs. Consultation hours referred to teacher-led sessions, where students had the opportunity for personalized conversations, error correction or reinforcement of learning. Faculty received standardized consultation logs, which they used to record the session date, topic, number of students present, and what worked and didn't. At the City College of Calapan, institutional policy mandates that each faculty member must render eight (8) hours of consultation per week, as stipulated in their workload distribution. These hours are officially scheduled and posted for student reference, and are designed to ensure consistent access to academic assistance throughout the semester. Faculty members are required to maintain standardized consultation logs, where they record details such as the session date, subject or topic discussed, number of students who attended, the specific difficulties addressed, and notes on what worked or did not during the session. These logs are submitted to the Office of Instruction and Curriculum Development for monitoring and accountability. This structured approach to consultation aligns with CCC's commitment to strengthening individualized academic support as part of its remediation strategy.

The Math-Tulong Tutorial Program is a peer tutoring initiative launched in early 2015, where academically high-performing upper-year students are trained to mentor their lower-year peers. A Math-Tulong report template is used for each session, detailing learning objectives, strategies used, and progress observed in tutees. Faculty coordinators oversee the program and monitor its operations through tutoring, as documented in the report submitted to the Office of the Program Head. Meanwhile, Guidance Counseling provides a structured professional support service that addressed students' academic challenges. These services included individual academic counseling, where students received personalized plans for study routines, class schedules, workload management, and goal setting.

Although such remediation services operated on a monthly documentation and reporting system, their accessibility and overall effectiveness remain uncertain. Each of the three activities had specific goals: consultation hours focused on the instructional area where faculty members are personally engaged, math-tulong served as strategic in-channel remediation through collaborative peer learning, and guidance counseling worked in the educational remediation domain by helping students organize their learning and improve their academic performance. However, despite this multi–tiered approach, challenges continued.

Data obtained from the Office of the Registrar indicated that failure in essential mathematics subjects such as Calculus, Algebra, Geometry, and Statistics was still rampant. First year BSED Math had 87 enrollees in the School Year 2021–2022. However, only 32 of these same students were enrolled by the fourth year, for a cohort survival rate of 37% by SY 2023–2024. Exit interviews and academic performance records within the institution revealed poor academic performance, particularly in core mathematics, as a consistent reason for student attrition. This revealed a concerning research-based void: BSED Math students at CCC, after having benefited from established remedially designed programs for so long, continued to perform at alarming failure rates.

The presurvey data collected in 2024 from 108 BSED Math students showed varying levels of participation (high, medium, low) in the remedial programs. The most popular was Faculty Consultation Hours (68%), but scheduling conflicts and limited available time, and many students not having enough time prevented attendance. The Math-Tulong Tutorial Program received a moderate

response rate (42%), hindered by a lack of available tutors and peer discomfort. Most notably, student use of Guidance Counseling was underutilized, with only 24% of students reporting participation, despite its structured academic support services aimed at improving study habits, learning management, and academic planning among struggling students in mathematics. These results verified that although supports were in place, they were not coordinated, and did not demonstrate high levels of participation and fit for students.

These efforts are aligned with the Commission on Higher Education (CHED) Memorandum Order No. 75 s. 2017, prescribing the Policies, Standards and Guidelines (PSG) for the Bachelor of Secondary Education for BSED, which is also employed for the Mathematics Program. The CMO specified expected program outcomes, learning competencies, and performance criteria that a pre-service mathematics teacher should achieve upon graduation. These were comprised of mathematical content knowledge in areas such as calculus, algebra, statistics, and geometry, as well as pedagogical content knowledge and habits of lifelong learning. However, the chronic underperformance in these components suggest that the current remediation regime at CCC needs to be re-evaluated in the context of these national competencies.

This study was implemented in City College of Calapan (CCC), local government-owned public higher education institution in Calapan City, Oriental Mindoro. The institution drew students from varied educational settings, including a large number from underprivileged public schools. CCC's student demographics also positioned it as an important locale in which to study how remediation systems functioned particularly in an environment where academic preparedness varies, and support services were implemented with good intentions, influence by multiple factors. The college had remediation interventions in place as part of its academic policies and processes; however, there has been no empirical assessment of their impact on long-term academic success.

The respondents of this study were the third-year and fourth-year BSED Mathematics students of the A.Y. 2024–2025. These cohorts were selected to their extensive exposure to the college's remediation efforts and covered major subject areas. The three formal remediation programs reviewed were Consultation hours, Math-Tulong tutorials, and Guidance Counseling. Academic achievement was assessed in terms of final course grades. The inclusion criteria guaranteed that only students who had had a minimum of a year of exposure to these interventions were included in the surveys and assessment.

The evaluation was focused on officially institutionalized remediation programs. Informal academic social networks, occasional peer tutoring, and off-campus tutoring were excluded. Although peer dynamics and study behaviors were of significance, they remained encapsulated within the three variables and not parsed out as separate constructs. The purpose was to assess the impact of school-led interventions that were implemented as part of CCC's standard operating procedures on student outcomes.

The study dealt with a serious institutional and scholarly problem: numerous BSED Math students are still failing in their major areas despite the availability of organized, long-standing remediation efforts. Through an examination of the coverage, the implementation extent and quality, and each correlation to desired outcomes of these remediation programs, within the context of national standards such as CMO 75, s. 2017—The study sought to determine the extent to which CCC's approach to remediation contributed to overall student success and persistence. It also sought to design a Contextualized Enhanced Remediation Program (CERP) that would enhance the academic support structure at CCC and yield better student success, with a particular emphasis on mathematics.

Research Locale

The study was conducted at the City College of Calapan (CCC), a local government-run public higher education institution located in Calapan City, Oriental Mindoro. Established to provide accessible and quality tertiary education to students within the province and nearby rural municipalities, CCC has become a key academic institution in the MIMAROPA region. It offers a range of undergraduate programs, with the Bachelor of Secondary Education major in Mathematics (BSED Mathematics) standing as one of its flagship teacher education tracks. The college caters to a diverse population of learners, many of whom enter with varying levels of academic readiness and foundational mathematical competencies.

CCC was selected as the site of the study because of its history of a systematic remediation approach, particularly in the BSED Math program. Since the school had institutionalized three academic support services: consultation hours, the Math-Tulong tutorial program, and guidance counseling, these were integrated into CCC's academic and student development protocols, including reporting mechanisms and administrative oversight. These were designed as intervention programs to aid the students who had difficulty in their core and major mathematics subjects, in alignment with the standards set by CHED Memorandum Order No. 75, s. 2017, on the policy standards of the BSED Mathematics program.

Theoretical Framework

The foundation of this study was primarily based on the Remediation Theory, developed by Snyder, Fischer, and McClintock (2019), which centers around the structured process of diagnosing and treating deficits in academic standards, attendance, or behavior, and informing students so that they can attain a higher level of academic achievement. As per the definition, remediation is a planned educational intervention that strives to close the gap between a student's performance and the desired level of achievement. It is diagnostic (determined based

on assessment), delivered one-on-one or in small groups, followed by immediate feedback and frequent progress monitoring. Remediation theory justifies institutionally structured processes to help such learners, especially in domains such as math, where foundational knowledge is cumulative.

In the case of the CCC, the application of remediation theory was evident in its three-pronged academic support system: Consultation Hours, Math-Tulong Tutorial Program, and Guidance Counseling. These interventions aligned with the key components of the theory—targeted instruction, supplementary learning strategies, and academic development support—implemented through coordinated efforts between faculty, peer tutors, and professional counselors. The theory emphasized that remediation must be intentional, adaptive, and continuously evaluated to ensure effectiveness in improving academic performance.

Complementing the remediation framework, Hattie's Visible Learning Theory (2023) supported the importance of feedback, mastery learning, and teacher-student interaction in raising student achievement. His model emphasized that feedback and instructional clarity are among the most impactful strategies for learners, especially those who are underperforming. This is directly related to CCC's consultation hours, where teachers provided one-on-one instructional reinforcement and guided students through error analysis and feedback-based learning.

Kuhn's Sociocultural Theory of Peer Learning (2022) also provided insight into the value of structured peer interaction. Kuhn extended Vygotsky's social development theory into academic settings, arguing that students internalize knowledge more effectively through collaborative tasks and guided participation. The Math-Tulong Tutorial Program at CCC operated under this premise, promoting peer-assisted learning in mathematics as a means to reinforce both content understanding and learner engagement.

Meanwhile, Usher and Rosen's (2023) contextual extension of Bandura's Self-Efficacy Theory contributed to the understanding of how academic counseling and developmental services can influence students' academic behaviors and self-regulatory skills. Their model emphasized how structured academic support (such as study planning, goal setting, and skill development) can enhance a student's belief in their ability to succeed, which in turn affects persistence and performance.

Taken together, these theories formed an integrated foundation for the study. Remediation Theory provided the primary structure for understanding how targeted instructional and support practices influence academic outcomes. Hattie's learning model reinforced the instructional aspect through feedback and mastery, Kuhn's sociocultural perspective strengthened the peer learning dimension, and Usher and Rosen's adaptation of self-efficacy theory supported the behavioral and developmental aspects of academic success. These theoretical perspectives allowed the study to adopt a holistic view of remediation, not merely as content reteaching, but as a comprehensive academic support process involving instructional design, peer collaboration, and professional guidance aimed at improving student performance and progression in mathematics.

Conceptual Framework

The study was based on the premise that structured academic interventions (remediation practices) had a substantial effect on student academic outcomes, and that students' achievement in subjects such as mathematics would be affected by those strategies, to the extent that they influence students in completing their formal training. In the context of CCC, remediation was more than an ad hoc set of remedial activities; it was a formal, institution-supported academic development program designed to strengthen content mastery, encourage retention, and enhance progression of BSED-Math students.

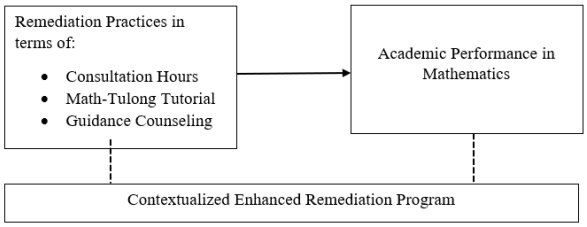

Figure 1. Hypothesized Relationship Between Remediation Practices and Academic Performance in Mathematics

CCC institutionalized three main remediation practices: Consultation Hours, Math-Tulong Tutorial, and Guidance Counseling. These were embedded into the college's academic and student services operations and monitored through a reporting system. Each practice targeted different aspects of student academic challenges. Consultation hours were arranged, faculty-led sessions concentrated on meeting individual needs in terms of learning deficiencies through content reinforcement and feedback on assessment items, and each was recorded on consultation logs. The Math-Tulong Program, a peer-assistance program introduced in early 2015, was conducted by senior students who were trained to tutor their classmates with the help of a guided session plan under the supervision of the faculty. Meanwhile, Guidance and Counseling also offered academic services like study skills workshops, examination skills, and academic advising, and this was recorded in official session reports and documentation.

All these collectively served as a root for measuring their combined effects on the academic performance of BSED Math students – operationalized here in terms of the subject grades in mathematics. This framework suggested that successful implementation and student participation in the CCC remediation would be associated with enhanced academic outcomes, persistence to course

completion, and program retention.

The study's main product was to design a Contextualized Enhanced Remediation Program (CERP) that will enhance the delivery, concurrence, and effectiveness of the academic support services to the Bachelor of Secondary Education Mathematics students in City College of Calapan. Conceptualized around the framework provided by Remediation Theory and best practices of institutions, the CERP has been developed as a holistic, integrated, and structured program where already practiced through Consultation Hours, Math-Tulong Tutorial, and Guidance Counseling into a unified, sequenced, measured, and empirical-based process.

The CERP was not thought to be an intervention or remediation tool but rather a sustainable educational support model that could be institutionalized and measured periodically and change dynamically to fit the new needs of the students. It is intended to be an outcome-oriented, more equitable, and more accountable system of remediation to help bring more people to the professional preparation of teachers of mathematics.

Statement of the Problem

The study generally aims to determine the effect of the application of reinforcement practices in enhancing the mathematics performance of BSED Mathematics students.

Specifically, it seeks to answer the following questions:

1. What is the level of remediation practices received by BSED Mathematics students in terms of:
   1. Consultation hours;
   2. Math-Tulong Tutorial; and
   3. Guidance Counseling?
2. What is the level of mathematics performance of 3rd-year and 4th-year students?
3. Is there a relationship between remediation practices and academic performance in mathematics of BSED Mathematics students?
4. Is there a difference between the level of mathematics performance of the 3rd year and 4th year?
5. Based on the findings of the study, what program can be proposed?

Statement of the Hypotheses

1. There is no relationship between the mathematics performance of BSED Mathematics students and the remediation practices applied.
2. There is no difference between the level of math performance of the 3rd-year and 4th-year.

Significance of the Study

This study was conducted to determine the relationship between institutional remediation practices and the academic performance of BSED Mathematics students at the City College of Calapan. The findings of this research are expected to provide valuable insights to various stakeholders within and beyond the institution

Scope, Limitations, and Delimitations

This study focused on determining the relationship between the remediation practices implemented at the City College of Calapan and the academic performance of students enrolled in the Bachelor of Secondary Education major in Mathematics during the Academic Year 2024–2025. Specifically, the study examined three institutional remediation interventions: Consultation Hours, Math-Tulong Tutorial Program, and Guidance Counseling. These practices were investigated in terms of their structure, frequency, and effectiveness in supporting the academic performance of students in major mathematics subjects.

The scope of the study was limited to 3rd-year and 4th-year BSED Mathematics students, as these cohorts had the most extensive exposure to the remediation services provided by the institution. The study's dependent variable—academic performance—was measured solely through students' grades in their major mathematics courses, including Algebra, Calculus, Geometry, and Statistics. Other indicators of academic behavior, such as self-confidence, motivation, or classroom participation, were beyond the scope of this study.

The examination of Consultation Hours focused on how much personalized, faculty-led instructional support contributed to better academic outcomes. The Math-Tulong Tutorial Program was reviewed in terms of how it was implemented, its coverage, and instructional impact as a peer-assisted learning strategy. For Guidance Counseling, the study specifically focused on its effectiveness as an academic development service, particularly how it contributed to students' organization of study habits, planning of academic tasks, and their overall preparedness in addressing mathematical difficulties. The emotional, behavioral, or psychological aspects typically addressed in counseling were not included in this study.

The study had several limitations. It was limited to the data provided by academic records, official logs of remediation sessions, and student self-reports. The analysis relied on available documentation of remediation activities and participation rates, and did not measure instructional quality or variations in teaching styles during remediation sessions. Furthermore, the study did not include 1st- and 2nd-year students, informal peer tutoring arrangements, or remediation practices in other academic programs outside of BSED Mathematics.

This study was delimited to the description of remediation practices in an institutionalized setting, enacted, monitored, and reported by CCC's academic and student services offices. It did not include compensations by private tutoring, parental assistance, or non-academic mentoring. The decision to limit the comparison to only grades as the academic performance variable was a choice to help maintain objectivity and generalizability in the analysis. Furthermore, despite acknowledging that personal, social, or economic reasons might influence the performance of the students, the latter were not included in the study design.

LITERATURE REVIEW

This chapter presents various literature and studies that are considered to be related and significant to the actions of the present study. The logical analysis of this literature and studies helps to strengthen the claim of this study.

Academic remediation remains central to higher education as colleges seek to decrease failure rates, increase retention, and increase program completion, particularly in subjects such as math, where content is cumulative. Mathematics, by nature, requires the mastery of foundational concepts before a student can advance to more complex topics such as Calculus, Statistics, and Algebra. When these foundations are weak, students often experience academic struggles that persist throughout their academic journey. According to Salas *et al.* (2021), intervention needs to be systemic, founded in the institution, and data-driven to adequately address gaps in learning. In tertiary mathematics education, poor students' initial lack of basic skills leads them into trouble when they have to process the contents of advanced topics like calculus or statistics. This urgently requires preventive measures to interrupt the downward spiral of failure and potential drop-out. In mathematics education, delays in foundational mastery can lead to compounded difficulties in higher-level courses, reinforcing the necessity of early and sustained intervention programs (Lopez & Rivera, 2022).

Building on the discussion of institutional models, Ghosh and Mendez (2022) highlighted the importance of comprehensive remediation programs that include peer facilitation, academic learning support, and instruction. Their research demonstrated that programs adopting a holistic remediation approach showed higher student achievement and course completion rates compared to fragmented or isolated interventions. This concept is so closely related to the remediation model of City College of Calapan, which categorizes the 3-faceted support system as consultation hours, math-tulong tutorial sessions, and guidance counseling. All are aimed at particular learning needs, but all work collaboratively within the college's system of academic support. Rivera and Santos (2024) further highlighted that in local public colleges, context-specific remediation practices tailored to institutional realities yielded higher student retention and academic gains.

Performance in mathematics among college students continues to be a primary concern in teacher education programs, where mastery of content directly correlates with professional readiness and licensure examination outcomes. Recent research indicates that performance in college-level mathematics is consistently a problem with preservice education graduates. Bautista and Francisco (2022) revealed that academic performance in mathematics is determined by the statistical interaction of educational background, family environment, individual study habits, and students' utilization of remediation services. In their study in a third-year Philippine teacher education institution, students who attended tutorials and consultations regularly showed improvement in Algebra and Calculus, both in high-stakes subjects. Their findings suggest that institutions must design a multifaceted academic support system to cater to diverse learner profiles.

Moreover, Cheng and Sarmiento (2023) stressed the importance of the use of focused instruction strategies to boost students in their math grades and to meet the rigorous demands of students in licensure examination-oriented programs. Their research associated prolonged remediation exposure with improvements in mid-term and final grades. Lim and De Vera (2021) underscored that academic performance in mathematics is a strong predictor of retention in the program, particularly in BSED Mathematics, and suggested that schools need to closely monitor academic behavior and system support.

Delos Santos *et al.* (2022) demonstrated that mastery in key areas such as Algebra and Statistics could be predicted by students' participation in faculty-led and peer-supported programs. These findings underscore the importance of early identification of learning gaps and the implementation of targeted instructional interventions. In support, Gonzales and Yambao (2023) found that the effective use of diagnostic assessments in mathematics courses allowed institutions to direct students toward tailored remediation. Balazo (2021) discovered that use of electronic Strategic Intervention Materials (eSIMath) remarkably enhanced the mathematics performance of struggling learners. This underscores the value of creating context-appropriate instructional resources that target specific competency gaps—especially in statistics and problem-solving—which is congruent with the goals of CCC's remedial framework.

Additionally, Barcelona (2022) explored the use of a self-motivated online platform integrating the Singaporean Math model in teaching primary students, finding notable improvements in problem-solving abilities through visual and modeling strategies, further reinforcing the influence of technology-mediated, learner-centric interventions in strengthening mathematical understanding.

This research serves as evidence in the academic planning on performance in math at CCC and in the development of student success services. Enrollment data from 2020 to 2024 about the survival rate of BSED Mathematics students at CCC substantiate and validate the implications of these findings. At the same time, performance gaps in core classes such as Calculus and Geometry are still a major obstacle to student retention, and academic achievement turns not just into output but into a diagnostic tool to drive intervention. This relationship is relevant to CCC, where institutional data indicates a considerable number of students in BSED Mathematics are being out due to repetitive failure in these foundation math classes. The literature evidence, therefore, directly endorses the theoretical underpinning for the CCC connected support model designed to minimize drop-out through early, targeted, and joined-up academic assistance.

Consultation hours create a way to instruct the students

outside of the classroom in a structured manner, providing students with dedicated opportunities to address subject-specific challenges directly with faculty. Nguyen and Morales (2021) report that students engaging in regular, feedback-oriented appointments had higher levels of conceptual understanding and better course performance. These improvements were particularly notable in subjects that required progressive content mastery, such as mathematics. Domingo and Caballero (2023) support this by demonstrating that college math students showed significant gains when provided with diagnostic feedback and instructional scaffolding from faculty.

Further research by Reyes and Sandoval (2023) and Lee *et al.* (2022) noted that consultation hours need to be institutionalized and coordinated with curriculum pacing. This is also relevant to CCC's model as teachers set aside an amount of time to review content and offer individualized support, all logged through a formal system of consultation logs. Similarly, Ong and Herrera (2024) found that consultation hours were seen as more useful when they focused on recent assessments or examinations. This perception aligns with CCC's practice of scheduling consultation sessions around critical evaluation periods, which allows students to clarify misunderstood concepts and receive formative guidance in preparation for high-stakes assessments.

Peer-assisted learning techniques are becoming increasingly popular because they promote active participation, personalized instruction, and cooperative learning during mathematics remediation. Zhang and Gomez (2022) concluded that, with the implementation of structured peer tutorials, students developed skills, such as retaining concepts and enhancing analytical reasoning, that were comparable to those gained through traditional sessions, largely due increased opportunities for peer-led questioning and repetition. Martin and Javier (2023) studied the implementation of the Math-Tulong program at a provincial public college and observed that students' performance in core math subjects was significantly improved when sessions were guided by syllabi and geared to the expected level of performance. Furthermore, peer tutors can break down explanations in a more peer-friendly manner than instructors, aiding in a better improved comprehension.

Villanueva and Reyes (2024) argued that documentation, tutor training, and ongoing assessment are essential for effective peer remediation, ensuring fidelity and accuracy of instruction. These findings align with the design considerations of CCC's Math-Tulong, which uses formal session logs, content alignment, and oversight by faculty coordinators. Torres *et al.* (2023) found that peer tutors who received faculty mentorship were better at delivering instructions and maintaining academic honesty during peer sessions compared to those without mentorship. Additionally, Sarmiento and Lim (2021) highlighted that peer-assisted lessons foster a low-pressure, safe environment where students feel more comfortable voicing confusion, asking questions, and discussing past errors – key elements for learning recovery. The results reinforce the strategic importance of Math-Tulong as a supplementary tool to traditional instruction within CCC's remedial framework.

Guidance counseling has become a vital academic tool in college, especially as institutions recognize the importance of addressing not only cognitive deficiencies but also the organizational and planning challenges that hinder academic progress. Torres and Dela Peña (2021) reported that academic-focused counseling positively impacted study habits and time management. These improvements allowed students to better allocate their efforts toward demanding subjects, reducing procrastination and absenteeism. Abad and Florencio (2022) highlighted the need for organized academic support programs that help students plan their academic load, balance their assignments, and prepare for examinations. They noted that when students are taught how to plan their coursework, prioritize tasks, and utilize institutional resources effectively, academic performance tends to improve across subjects, particularly in quantitative disciplines.

Ramos and Sison (2024) linked academic counseling services to better course completion outcomes, particularly in math-based programs. In the same light, Bernardo and Cruz (2023) found that a collaborative relationship between counselors and subject teachers led to more effective academic support interventions. Such findings support the place of guidance services in CCC, counselors advising students on academic strategy, referral systems, and performance checks in conjunction with remediation data. This coordination ensures that support is not isolated but instead embedded into the overall academic recovery process.

Research such as Tan and Evangelista (2022) and Madrid and Uy (2023) has stressed that remediation should be dynamic, contextualized, and supported. They argued that traditional, one-size-fits-all remediation models are often ineffective in addressing the diverse academic gaps students face in higher education. These scholars advocated for flexible remediation programs tailored to institutional culture, learner profiles, and curricular demands. Hernandez and Ilagan (2021) detailed that interventions supported by academic support systems decreased drop/fail rates in quantitative courses by up to 30%. These findings highlight the value of responsive systems that adjust remediation efforts based on real-time academic feedback. These results align with the underlying framework of CCC CERP, which is based on incorporating information and other supporting documents and conducting routine assessments in the intervention. The program seeks to institutionalize remediation through a standard framework that allows for flexibility in implementation while ensuring accountability and continuity across departments.

Cabral and Manalo (2022) emphasized the importance of teacher training in the effectiveness of remedial

instruction. The study found that remediation was most effective when handled by instructors with both content expertise and training in differentiated instruction strategies. Their research supports CCC staffing patterns to have appropriately-certified content-specialist faculty to remediate, ensuring instructional quality across the board. Further, Morales and Quinto (2021) noted that local colleges are allowed to adhere to national competency standards for remediation, similar to CCC's alignment with CMO No. 75, s. 2017 ensures that remedial efforts not only improve academic performance but also prepare students for licensure and professional success.

Recent reviews from Dizon *et al.* (2023) and Garcia and Sevilla (2024) proposed models of remediation that integrate direct instruction, peer learning, and academic counseling as triadic systems. Such integrated models foster an environment in which adaptive academic interventions collaborate, rather than work in isolation. This tripartite method is consistent with CCC's framework and offers empirical support for the proposed improvements within the CERP. It also suggests that combining consultancy, peer tutorials, and academic consulting into one system—which is well documented—will result in greater academic improvement than using them separately.

Literatures highlight that when consultation sessions are properly scheduled, aligned with curriculum pacing, and focused on recent assessments, they significantly enhance student understanding and academic performance, particularly in mathematics. Consultation hours have an even larger impact when they are formalized with standardized reporting, prompt feedback, and mapped to course goals. These findings support the benefit of CCC's organized approach to implementation of consultation hours, where local faculty conduct well-targeted remediation is directed based on consultation logs; monitoring of cases is formalized. In this study, it is confirmed that consultation hours as an independent variable serve as direct instruction that can close learning deficits and help in the advancement of more content-rich mathematics subjects.

Peer facilitation of the learning process, as in formal tutorial systems such as CCC's own Math-Tulong, has also received strong empirical support over the past few years. Martin and Javier (2023) suggest that peer tutorials encourage active engagement, retention of concepts, and deeper understanding—especially when they are led by well-prepared tutors using a structured format and under the supervision of academic staff. Documentation and monitoring were noted to be key components for continuity, consistency, instruction integrity, and congruence with academic aims. In CCC, the Math-Tulong Tutorial Program is not supplemental but rather an integral part of remediation. The corroborated link of this program with the literature indicates its potential as a potent remediation regimen, when well conceptualized, supervised, and learner-centrically delivered. It therefore serves as a structured peer learning strategy that improves student outcomes and promotes retention at the institutional level.

Academic-focused Guidance Counseling has been proposed to be a crucial intervention through the literature for the enhancement of cognitive remediation. Beyond the confines of the past, guidance encompasses studying strategies, academic goal setting, time management, and working with instructional services. Ramos and Sison (2024) support that, in conjunction with faculty mentors and remediation programs, integrated, personalized academic support increases completion rates and learning performance. For students who are struggling in math, the integration of counseling services into the larger remediation structure at CCC reflects this contemporary, holistic approach. This provides support for guidance counseling as an intervention aimed at student organization, learning strategies and retention rather than emotional or psychological issues only.

In conclusion, the literature does make a strong case in favor of a holistic approach to remediation in higher education. The literature asserts that for all three independent variables -consultation hours, math-tulong tutorials, guidance counseling -the conduct of structured, basis, and context-relevant interventions. Each variable on its own works for a different facet of struggling academics - instructional support by faculty for skill mastery, peer tutoring for peer-supported feedback and active recall, and academic counseling for organization and goal setting. However, there is also evidence that these interventions have the greatest efficacy when implemented as an integrated, systematically monitored system of remediation.

The results from the literature were consistent with the present remediation model at the City College of Calapan, and it affirmed the necessity of the planned Contextualized Enhanced Remediation Program (CERP). CCC's history of implementing the three remediation practices is similar to those utilized by national and international models, but its continued mathematics failure rates indicate a deficiency in unification, assessment, and response. Integrating academic, strategic, and student support into a single comprehensive program, the CERP can implement the major recommendations from the literature and ultimately lead to enhanced student learning, retention, and institutional accountability.

MATERIALS AND METHODS

The methods of studying, the method of data collection, and the procedure of using statistical instruments for the fulfillment of the study are described in this chapter

Research Design

A descriptive-correlational and comparative research design was used in this study. It sought to find out the relationship of the remediation practices – the Consultation Hours, Math-Tulong Tutorial Program, and the Guidance Counseling – and the academic achievement of 3rd and 4th-year BSED Mathematics students in City College of Calapan. The comparison part compared the

differences in academic performance among students, which consisted of different groups based on different combinations of remediation efforts by the students. This design was suitable for testing the magnitude of the association and comparing academic performance across various exposures to intervention types.

Sampling Technique

Simple random sampling was applied in this study which includes 108 participants—64 3rd-year and 44 4th-year BSED Mathematics students—who had significant experience with the school's remediation programs. They were students who have actively participated in faculty consultations, Math-Tulong peer tutoring, and guidance counseling for at least one academic year were the subjects of this purposefully selective sampling strategy. By targeting these upper-year students, the research ensured that participants had valuable exposure to all three remediation variables being studied. This approach provided informed perspectives on their effectiveness and how they related to each other.

Respondents of the Study

The respondents of the study were third-year and fourth-year BSED Mathematics students of City College of Calapan. The selected respondents were bona fide students of City College of Calapan who were enrolled during the School Year 2024–2025. The number taken from the population was presented in Table 1.

Table 1: Respondents of the Study

BSED – Mathematics Students Year Level	**Population**
3rd -Year	64
4th -Year	44
Total	108

The number of respondents drawn from the population of BSED Mathematics students was shown in Table 1. A total of 108 students were chosen to represent the population. It displayed the number of participants: 64 from the 3rd year and 44 from the 4th year, making a total of 108 participants in the study population.

All selected students had completed at least one academic year of exposure to any of the three remediation practices – consultation hours, math-tulong program, and guidance counseling – and were enrolled in major mathematics subjects at the time of the study.

Research instrument

The main research instrument was a researcher-made survey questionnaire composed of four parts. The first part gathered demographic data; the second assessed the extent of exposure to each remediation practice; the third measured student perception of each intervention's effectiveness; and the fourth collected self-reported final grades in major mathematics subjects, which serve as the dependent variable. The instrument utilized a 4-point Likert scale (1 = Strongly Disagree to 4 = Strongly Agree).

Validation of the Instruments

The instrument underwent a rigorous validation process to ensure its content was relevant, clear, and appropriate for the study. The validation was conducted in two phases: face validation and content validation.

At the face validation phase, the tool was reviewed for clarity, layout, and presentation. Three academic experts were interviewed for the study: a college mathematics teacher, a thesis adviser, and a research counselor serving a more traditional guidance counselor role. They also weeded out those that were vague or too complex for students, in terms of the layout of surveys, the language, how the survey was presented, etc.

As for the content validation stage, the panel of validators analyzed all the items of the instrument in a way that was clear, relevant to the study objectives, and belonged to the theoretical domain of interest. In particular, the mathematics professor focused on alignment of content with instructional process, the thesis adviser led judgments about the structure and appropriateness of the quantitative items, and the research counselor, in the role of the guidance counselor, was concerned with items focusing on academic development and support services.

The questions were rated by the validators on a validation checklist that emphasized relevance, clarity, and comprehensiveness. In light of their recommendations, a range of products were revised to ensure clarity, some products were reorganized to ensure flow, and others were reworded to reflect the operational definition of the independent variables (Consultation Hours, Math-Tulong Tutorial Program, and Guidance Counseling) and dependent variable (academic performance).

Data Gathering Procedures

Before the actual gathering of research data, the researcher obtained written consent from the Research Ethics Committee of the City College of Calapan. Subsequently, written permission letters to access student lists and conduct the survey were filed with the Office of the College Administrator.

Following the approval, the researcher worked with the program chair to publicize the research. A pre-test meeting was organized for potential respondents to describe the study, voluntary participation, the anonymity of responses, and their right to withdraw from the study at any time with no negative repercussions.

The data collection process itself took place within a two-week window in the middle of the second semester of AY 2024–2025. To meet the needs of students with different schedules, both printed questionnaires were distributed in scheduled classroom sessions, and online link (Google Forms) fill-out instructions were shared with students who wanted to access it digitally or when they were physically got unavailable.A generic consent

form was appended to each version of the questionnaire. Participants were given the form to read and sign before they did the survey. Only those who agreed were included in the final data set.

The reliability of responses was guaranteed through the neutral application of the instrument by informing class advisors and peer facilitators. They are responsible for handing out and collecting the forms but were told not to help shape student responses. Narratives from the two dimensions were transcribed and masked into a spreadsheet.

Final data were screened for completeness. Incomplete or duplicate entries were removed. The cleaned dataset was then exported to Data Analysis Excel for statistical analysis. Confidentiality and data security protocols were maintained throughout the process, with access restricted only to the researcher and the thesis adviser.

Ethical Considerations

The Principle of Respect for Persons was implemented by obtaining informed consent from all participants. Participants received a full explanation concerning the aims of the study, their role, and the right to abandon participation at no cost. Consent forms were distributed, and those obtained were collected before the instrument was administered.

Beneficence was met by structuring the study such that it would result in good, which included making recommendations to improve the remediation program of the Calapan City College. Its purpose was to enhance services for students without causing harm.

Non-maleficence was maintained by ensuring that the research process was harmless to participants. There were no invasive or harmful procedures carried out in the study, participation in which had no impact on the students' academic performance.

The integrity of justice was maintained through random participant selection. Only those students who were eligible based on academic level and exposure to remediation (treatment) were considered. No group was discriminated against or excluded without a valid reason.

Confidentiality was considered in all stages of the study. Names and identifying details were not recorded. Codes were used in place of personal information, and all data was safely kept and available only to the researcher and adviser.

Validity was addressed by the conduct of honest and transparent research. The data were presented, and the literature and instruments were cited correctly. Any change in the instrument or the procedures was recorded and tested.

Approval was obtained from the College Research Ethics Committee, and letters were written to the respective college offices. Feedback from validators and advisors was used during the study to enhance its ethical and academic rigor.

Adherence to these seven principles protected the rights of the people studied, the validity of the study findings, and the integrity of the ethics of the research process.

RESULTS AND DISCUSSIONS

This chapter presents the findings of the study on the relationship between remediation practices and the academic performance of BSED Mathematics students at City College of Calapan. The data collected through the 4-point Likert scale questionnaire were systematically analyzed using descriptive and inferential statistics to answer the research questions.

What is the level of remediation practices received by BSED Mathematics students in terms of: Consultation Hours;

Table 2: Level of Remediation Practices in Consultation Hours Among BSED Mathematics Students

	Mean	SD	Description
I am aware of the availability of consultation hours for mathematics subjects.	3.25	0.71	High
I found information about consultation hours for mathematics subjects easily accessible.	2.89	0.82	High
I can easily access consultation hours for mathematics subjects.	2.95	0.77	High
I am aware of various channels for accessing consultation hours for mathematics subjects (e.g., in-person, virtual scheduled appointments).	3.12	0.68	High
I find the process of accessing consultation hours for mathematics subjects to be smooth and manageable.	2.55	0.91	High
I am satisfied with the teachers' consultation hours for mathematics subjects.	3.18	0.74	High
The consultation hours for mathematics subjects meet my expectations.	3.05	0.79	High
I appreciate the current structure of consultation hours and see potential for further enhancement.	1.70	0.65	Low
I am open to exploring additional features and enhancements that could further improve consultation hours for mathematics subjects.	1.58	0.58	Very Low

I value the opportunity to provide suggestions that can make consultation hours more effective.	2.40	0.85	Low
Overall Mean Score	2.67	0.75	High Level

Consultation Hours were found to be well implemented, particularly in terms of awareness (mean = 3.25, SD = 0.71), accessibility (mean = 2.95, SD = 0.77), and multiple access channels (mean = 3.12, SD = 0.68). Students appreciated the instructional support provided by faculty members during scheduled sessions. Overall, the mean rating for Consultation Hours was 2.67, indicating high implementation according to the 4-point Likert scale. However, student participation in offering structured feedback and proposing improvements was notably low. For instance, the items on suggesting improvements (mean = 1.58) and facing challenges (mean = 2.40) received the lowest scores, pointing to underdeveloped feedback mechanisms.

Math-tulong Tutorial

Table 3: Level of Remediation Practices in the Math-Tulong Tutorial Among BSED Mathematics Students

	Mean	SD	Description
I am aware of the availability of tutorials for mathematics subjects.	3.20	0.70	High
I found information about tutorials for mathematics subjects easily accessible.	2.85	0.80	High
I can easily access tutorials for mathematics subjects.	2.90	0.75	High
I am aware of various channels for accessing tutorials for mathematics subjects (e.g., in-person, virtual, scheduled appointments).	3.05	0.72	High
I find the process of accessing tutorials for mathematics subjects smooth and convenient.	2.50	0.88	Low
I am satisfied with the tutorials for mathematics subjects.	3.10	0.68	High
Tutorials for mathematics subjects meet my expectations.	3.00	0.76	High
I recognize the potential of tutorials for continuous improvement and enhancement.	1.75	0.65	Low
I am interested in exploring enhancements and additional features that could further improve the tutorials for mathematics subjects.	1.65	0.60	Very Low
I value the opportunity to share my experiences in tutorials to help improve them further.	2.35	0.82	Low
Overall Mean Score	2.64	0.74	High Level

The Math-Tulong Tutorial Program was likewise rated as highly effective, with students reporting strong awareness (mean = 3.20), satisfaction (mean = 3.10), and alignment with expectations (mean = 3.00). The overall mean score for Math-Tulong was 2.64, also indicating high implementation. Despite this, the program's overall impact was somewhat reduced by issues such as inconsistent tutor availability and a lack of follow-up or targeted tutorials, as evidenced by lower scores in feedback and improvement interest (mean = 1.65) and perceived opportunities for enhancement (mean = 1.75).

Guidance Counseling

Table 4: Level of Remediation Practices in Guidance Counseling Among BSED Mathematics Students

	Mean	SD	Description
I am aware of the availability of guidance counseling services.	2.95	0.78	High
I found information about guidance counseling easily accessible.	2.70	0.85	High
I can easily access guidance counseling sessions when needed.	2.65	0.88	High
I am aware of various channels for accessing guidance counseling (e.g., in-person, virtual, scheduled appointments).	2.80	0.82	High
I find accessing guidance counseling services to be convenient and manageable.	2.10	0.80	Low
I am satisfied with the counseling sessions provided by the guidance counselor.	3.00	0.75	High
The guidance counseling sessions meet my academic support expectations.	2.85	0.79	High
I recognize the potential of guidance counseling services for continuous enhancement.	1.60	0.62	Very Low

I am open to exploring enhancements and additional features that could further improve the guidance counseling sessions.	1.50	0.58	Very Low
I find guidance counseling sessions helpful and valuable for addressing academic concerns.	2.25	0.84	Low
Overall Mean Score	2.44	0.79	Low Level

Guidance Counseling was rated as having low implementation, with an overall mean of 2.44. Although students acknowledged its availability (mean = 2.95) and clarity of access channels (mean = 2.80), they rarely engaged with the service for academic support. The lowest-rated items included suggestions for improvement (mean = 1.50) and recognition of its potential for enhancement (mean = 1.60). This indicates that the academic relevance of counseling was unclear or undervalued, resulting in limited participation and integration with the other remediation practices.

What is the level of mathematics performance of 3rd-year and 4th-year students?

Table 5: Level of Mathematics Performance of 3rd-Year BSED Mathematics

Mathematics Subject	Mean Score	Final Rating	Interpretation
Algebra	86.5	1.75	Satisfactory
Calculus	82.3	2.0	Moderately Satisfactory
Geometry	84.7	2.0	Moderately Satisfactory
Statistics	81.9	2.0	Moderately Satisfactory
Overall Mean	83.85	2.0	Moderately Satisfactory

Table 6: Level of Mathematics Performance of 4th -Year BSED Mathematics

Mathematics Subject	Mean Score	Final Rating	Interpretation
Algebra	88.2	1.75	Satisfactory
Calculus	85.1	1.75	Satisfactory
Geometry	86.3	1.75	Satisfactory
Statistics	83.7	2.0	Moderately Satisfactory
Overall Mean	85.83	1.75	Satisfactory

Third- and fourth-year students were able to reach an average passing performance level in Algebra, Calculus, Geometry, and Statistics. However, the average mark of fourth-year students was significantly higher than that of third-year students, with a higher mean and a better standard deviation. In both groups, Statistics had the lowest average score, highlighting an ongoing challenge in applied mathematics areas.

These trends suggest that CERP should include subject-specific modules in Statistics and tailor strategies by year level. Early diagnostic feedback and remediation support in Calculus and Statistics may be most useful for third-year students. For fourth-year students, incentives to reinforce understanding with practice-based tutorials and collaborative problem solving could maintain the momentum and reinforce retention. Furthermore, incorporating student feedback on tutorials and consultation sessions may make this intervention more adaptive.

In conclusion, while both cohorts are meeting academic expectations, the data underscores the importance of continuous, targeted, and year-level-specific remediation. Sustaining and enhancing such support is critical in maintaining high performance and preparing students for licensure examinations and future teaching roles in mathematics.

Is there a relationship between remediation practices and academic performance in mathematics of BSED Mathematics students?

Table 7: Correlation Between Remediation Practices and Academic Performance in Mathematics

Remediation Practice	Pearson's r	p-value	Interpretation
Consultation Hours	0.61	0.000	Strong Positive Correlation
Math-Tulong Tutorial Program	0.54	0.000	Strong Positive Correlation
Guidance Counseling	0.35	0.002	Weak Positive Correlation
Statistics	83.7	2.0	Moderately Satisfactory
Overall Mean	85.83	1.75	Satisfactory

A strong positive correlation was observed between academic performance and Consultation Hours (r = 0.61) and Math-Tulong Tutorials (r = 0.54). There was a moderate positive correlation for Guidance Counseling (r=0.35). These relationships suggest that engagement with remediation, particularly instructor- and peer-based interventions, makes a significant contribution to mathematics academic success

The high association with the Math-Tulong program suggests that the formalizing of peer-assisted learning as a central remediation strategy, associated with regular tutor training and content alignment, is necessary. At the same time, the moderate association of Guidance Counseling with academic achievement indicates some potential to redefine counseling services as proactive academic support, rather than corrective support. The influence of this intervention can be enhanced by organizing structured academic advising sessions and planning meetings, and by encouraging counselors to work with math faculty.

In conclusion, the correlation analysis shows that CCC's interventions, Consultation Hours and peer tutorials appear to be effective. They also suggest the need for a context-specific and evidence-based enhancement strategy—like the proposed Contextualized Enhanced Remediation Program (CERP)—that takes broader reach, greater responsiveness, and holistic integration of the three interventions to form a holistic academic support system appropriate for BSED Mathematics students.

Is there a difference between the level of Math performance of 3rd Year and 4th Year?

Table 8: Independent Samples T-test on the Math Performance of 3rd Year vs. 4th Year BSED Students

Group	Mean	SD
3rd Year	83.85	
4th Year	85.83	5.40

The result of the independent samples t-test indicated that there was a significant difference between the performance in mathematics of the BSED Mathematics students taking third-year and fourth-year courses in the City College of Calapan, with a computed p-value of 0.035. 4th-year participants had an average score (M = 85.83) greater than that of their 3rd-year peers (M = 83.85), suggesting that the academic achievement of the major mathematics contents significantly improves from 3rd to 4th year.

An independent-samples t-test also showed a significant difference (p = 0.035) in the performance level of 3rd- and 4th-year students, with the 4th-year performing notably better. This indicates that both extended remediation and academic maturity are linked to higher performance, especially in courses that build on a sequence of material. In summary, the statistically significant math difference between year levels at the end of the intervention is indicative of CCC's increases in remediation over and above the uncertainty of the coefficients of such a rapid educational transition. A developmental, or scaffolded, approach to remediation, based on years of studies, will continue performance gains and assist in the retention of students in mathematics teacher education.

Based on the findings of the study, what program can be proposed?

Table 9: IMPACT Remediation Matrix

Component	Activities	Responsible Units	Frequency	Expected Outcomes	Budgetary Requirements
Consultation Hours	-Scheduled faculty-led academic consultations - Content review before major exams -Tracking via consultation log	Faculty, Office of Instruction	Weekly / Bi-weekly	Increased conceptual understanding and individualized learning support	P2,000.00 per semester
Math-Tulong Tutorials	-Peer-to-peer tutoring sessions -Tutor training and orientation -Tutorial session documentation	Faculty Advisers, Senior Tutors, Peer Council	Weekly	Strengthened peer learning and mastery of core math concepts	P3,000 per semester
Guidance Counseling	-Academic counseling sessions - Study habits and time management workshops -Referral coordination with instructors	Office of Student Affairs, Counselors	Monthly / As needed	Improved study strategies and academic planning among students	P2,000.00 per semester

Academic Monitoring	- Compilation of grade trends and participation logs - Midterm and final performance review	Research Office, Program Chairs	Per semester	Data-informed planning and remediation adjustment	P2,000.00 per semester
Student Feedback Integration	-Post-session evaluation forms -Focus group discussions per year level -Suggestion boxes (physical/digital)	Student Council, QA Office	Quarterly	Responsive remediation content based on student needs and inputs	P3,000.00 per semester
Evaluation and Enhancement	-Semester-end assessment of remediation outcomes - Faculty and tutor reflection reports -Program adjustment planning	QA Team, Office of Instruction	End of each semester	Enhanced implementation strategy for succeeding terms	P3,000.00 per semester

IMPACT Remediation is a student-centered approach to academic remediation for the BSED Mathematics student at City College of Calapan. It is a combination of faculty consultation, peer tutoring, and academic counseling that is used to create a tiered system of support. The program remediates skill gaps, builds student proficiency, and accelerates college and career readiness, particularly for students who may be struggling in Algebra, Geometry, Calculus, Statistics, and other major mathematics subjects - through structured, layered, and year-level-appropriate interventions.

The proposed output of this study is the IMPACT Program, which is an acronym for Integrated Mathematics Performance Advancement and Coaching through Targeted Remediation. It is a structured, data-informed academic assistance project that targets the continued low performance of the BSED Mathematics students in major subjects such as Algebra, Calculus, Geometry, and Statistics at the City College of Calapan. Rooted in the findings of the study and aligned with the identified research gap, IMPACT is an incorporated remediation framework that operationally binds the present three institutional practices, such as the Consultation Hours, Math-Tulong Tutorials, and Guidance Counseling, into an organized and dynamic remediation system.

CONCLUSIONS

Based on the findings of this study, the following conclusions are drawn

Remediation practices are being implemented at varying levels across CCC. While Consultation Hours and Math-Tulong are well-utilized, Guidance Counseling remains underused due to unclear academic relevance. Mathematics performance among students is generally satisfactory, though 3rd-year students show weaker results, particularly in Statistics. Performance improves with year-level progression and sustained exposure to academic support. Strong positive correlations between remediation practices and academic performance confirm that well-designed instructional and peer interventions significantly support student learning. Furthermore, the statistically significant difference between the academic performance of 3rd- and 4th-year students supports the need for early, sustained, and developmentally aligned remediation strategies. The proposed IMPACT Program addresses both systemic and student-level gaps in remediation by offering a unified, measurable, and responsive approach to academic support.

Recommendations

The study recommends augmenting the remediation strategies through faculty adherence to consultation hours, alignment of assessments and timely, tailor-fitted feedbacks. Tutor pedagogical orientation should support syllabi with close monitoring for the quality of information used and the expansion of mode of delivery (e.g online or recorded sessions) for enhanced accessibility. Guidance counseling must prioritize proactive academic support, identification of at-risk students, offering of study techniques, and provision of time management training. CCC must adopt the IMPACT Program with robust guidelines for reliable Monitoring & Evaluation (M&E) for establishing professional development. Subject-specific modules, diagnostic tools, and small-group tutorials in Statistics are perceived necessary capabilities for an evidence-based central tracking database. Current licensure performance do not dictate future outcomes, hence, future research should examine prolonged effects in licensure exam performance and teaching preparedness as key indicators of academic support success.

REFERENCES

Abad, M. A., & Florencio, J. B. (2022). Structured academic counseling programs and their effect on

student planning and task management. *Journal of Student Services, 11*(1), 45–59.

Balazo, G. F. O. (2021). Struggling learners' achievement level using electronic Strategic Intervention Material in Mathematics (eSIMath). *American Journal of Agricultural Science, Engineering, and Technology, 5*(2), 207–214. https://doi.org/10.54536/ajaset.v5i2.96

Barcelona, A. (2022). Upgrading the Problem-Solving Experiences of the Primary Students Using an Online Singapore Mathematics Platform. *American Journal of Education and Technology, 1*(3), 9–17. https://doi.org/10.54536/ajet.v1i3.750

Bautista, R. M., & Francisco, L. D. (2022). Determinants of academic performance in college mathematics: A study among preservice teachers. *Philippine Journal of Mathematics Education, 18*(2), 22–37.

Bernardo, F. C., & Cruz, M. A. (2023). Collaborative academic advising: Linking guidance services with instructional support. *Educational Support Quarterly, 10*(3), 14–28.

Bierer, S. B., Tori, C. J., & Chen, Y. Y. (2015). Variability in remediation: What works and what we know. *Journal of Remedial Strategies in Education, 5*(2), 119–134.

Burch, P., & Good, A. (2021). Equity issues in college remediation: Who benefits most? *Higher Education and Equity Journal, 9*(1), 33–47.

Cabral, R. D., & Manalo, J. R. (2022). Improving remedial instruction through teacher training in Philippine public colleges. *Asian Journal of Teacher Education, 4*(2), 66–79.

Cheng, K. P., & Sarmiento, R. M. (2023). Sustained remediation and its impact on midterm and final math performance. *Education Research in Practice, 12*(4), 54–70.

Cleland, J. A., Knight, L. V., Rees, C. E., Tracey, S., & Bond, C. M. (2010). Remediation: Three steps to academic recovery. *Journal of Educational Diagnostics, 7*(1), 100–115.

Delos Santos, A. G., Martinez, E. P., & Bacay, S. P. (2022). Predicting student success in Algebra and Statistics through remedial engagement. *Mathematical Education Quarterly, 14*(3), 20–36.

Dizon, R. M., Santos, P. A., & Medina, L. J. (2023). Integrated academic remediation models in tertiary education. *Southeast Asian Review of Education, 5*(1), 38–53.

Domingo, V. F., & Caballero, M. A. (2023). Instructional scaffolding during consultation: Its impact on college math performance. *Journal of Higher Math Pedagogy, 8*(2), 59–75.

Evans, J. D. (1996). Straightforward statistics for the behavioral sciences. Brooks/Cole Publishing.

Garcia, K. T., & Sevilla, M. O. (2024). From fragmentation to integration: Academic support systems in teacher education. *Research in Higher Learning, 9*(1), 77–90.

Ghosh, L. R., & Mendez, D. J. (2022). Integrated remediation frameworks: Supporting student retention through support convergence. *International Journal of Remediation Studies, 6*(4), 43–61.

Gonzales, H. R., & Yambao, M. C. (2023). Using diagnostics to direct math remediation: A case from public HEIs. *Philippine Journal of Assessment and Learning, 7*(3), 28–46.

Hattie, J. (2023). Visible learning: The sequel. Routledge.

Hernandez, R. L., & Ilagan, T. R. (2021). Tracking academic recovery in mathematics through proactive interventions. *Journal of Educational Improvement, 5*(3), 95–108.

Kuhn, D. (2022). Peer learning and sociocultural construction of knowledge in mathematics education. *Journal of Sociocognitive Development, 9*(2), 101–115.

Lee, J. M., Reyes, K. A., & Sandoval, C. G. (2022). Aligning consultation with course pacing: A study on optimization of faculty office hours. *Journal of Academic Resource Management, 7*(4), 17–34.

Lim, C. G., & De Vera, R. P. (2021). *Educational statistics applications*. Manila: Blue Pages Publishing.

Lopez, J. C., & Rivera, P. D. (2022). Bridging foundational gaps: Strategies in college mathematics remediation. *Southeast Asian Journal of Math Teaching, 5*(2), 43–58.

Madrid, A. R., & Uy, B. M. (2023). Flexible and dynamic remediation in public higher education. *Education and Innovation, 6*(3), 92–105.

Martin, E. G., & Javier, R. T. (2023). Evaluating Math-Tulong: Peer tutorial impact on preservice math teachers. *Philippine Journal of Peer Learning, 3*(1), 25–39.

Morales, J. T., & Quinto, L. C. (2021). Aligning remediation to national standards in teacher education. *Academic Performance Studies, 4*(2), 51–64.

Nguyen, T. A., & Morales, F. J. (2021). The effects of structured consultation sessions on math performance. *International Journal of Educational Practice, 12*(2), 80–94.

Ong, S. L., & Herrera, M. T. (2024). Consultation sessions and student engagement before exams. *Educational Supports Today, 9*(2), 45–60.

Ramos, E. G., & Sison, M. F. (2024). Academic counseling and math course completion: An institutional study. *Philippine Journal of Higher Education Research, 10*(1), 61–78.

Reyes, A. F., & Sandoval, C. (2023). Consultation, feedback, and structured support: Optimizing student understanding. *Journal of Institutional Academic Support, 7*(1), 33–48.

Rivera, S. A., & Santos, J. F. (2024). Contextualizing remediation in Philippine local colleges. *Education Policy and Practice Review, 6*(2), 88–104.

Salas, J. P., Gutierrez, A. C., & Balagtas, E. M. (2021). Systemic remediation in tertiary mathematics education: A national survey. *Journal of Mathematics Curriculum, 5*(1), 70–89.

Sarmiento, J. L., & Lim, F. D. (2021). Peer-assisted mathematics learning in low-pressure environments. *Learning Interactions in College, 3*(2), 40–55.

Schunk, D. H. (2020). *Learning theories: An educational perspective* (8th ed.). Pearson.

Snyder, C. J., Fischer, R. A., & McClain, J. A. (2019). On the challenges of defining effective remediation. *Journal of Education Research and Improvement, 11*(1), 88–103.

Tan, M. S., & Evangelista, J. P. (2022). Context-responsive remediation for underprepared college students. *Journal of Educational Interventions, 6*(1), 52–68.

Torres, J. L., & Dela Peña, M. R. (2021). The academic side of counseling: Structuring student success services. *Asian Journal of Counseling, 9*(1), 19–34.

Torres, M. A., Villanueva, D. L., & Reyes, C. T. (2023). Faculty mentoring and accuracy of peer tutorials. *Journal of Higher Academic Learning, 6*(4), 73–90.

Usher, E. L., & Rosen, H. L. (2023). Extending self-efficacy theory in academic support services. *Journal of Educational Psychology and Practice, 15*(2), 59–76.

Villanueva, D. L., & Reyes, F. J. (2024). Effective peer remediation through documentation and training. *Philippine College Tutorial Studies, 4*(2), 42–58. https://doi.org/10.12973/eu-jer.7.4.953

Zhang, Y., & Gomez, R. T. (2022). Enhancing student reasoning through structured peer-assisted learning. *International Journal of Math Education Studies, 11*(3), 35–50. https://doi.org/10.1080/0020739X.2021.2008036