

Authentic and Guided Approach to Proficiency (AGAP): An Intervention to Enhance the Psychological Well-Being and Mathematical Proficiency of Grade 10 Learners

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Abstract. This study investigated the effects of the Authentic and Guided Approach to Proficiency (AGAP) on the psychological well-being and mathematical proficiency of 41 Grade 10 learners. Psychological well-being was measured across six dimensions—Self-Acceptance, Positive Relations with Others, Sense of Autonomy, Environmental Mastery, Purpose in Life, and Personal Growth—while mathematical proficiency was assessed using pretests and posttests aligned with the curriculum. The study aimed to determine whether the AGAP intervention could improve learners' affective and cognitive outcomes and strengthen the relationship between psychological well-being and academic performance in mathematics. Before the intervention, most learners demonstrated low mathematical proficiency, primarily at the Fairly Satisfactory level, and no significant correlations were observed between psychological well-being and performance. After the AGAP intervention, significant improvements were noted in all dimensions of psychological well-being, particularly Self-Acceptance, Sense of Autonomy, Environmental Mastery, Purpose in Life, and Personal Growth. Mathematical proficiency also increased, with most learners achieving Satisfactory to Very Satisfactory levels. Furthermore, positive correlations emerged between several well-being dimensions—Self-Acceptance, Positive Relations with Others, Sense of Autonomy, and Environmental Mastery—and mathematical performance, indicating a strengthened link between affective and cognitive outcomes. These findings highlight the importance of learner-centered and emotionally supportive instructional approaches in improving both academic achievement and student well-being. The results suggest that AGAP effectively enhances both mathematical proficiency and psychological well-being. The study recommends integrating AGAP strategies into mathematics instruction, providing teacher professional development, and promoting emotionally supportive, resource-rich learning environments. Future research may explore the long-term effects of AGAP and examine additional influences, such as teaching styles, parental support, and socio-economic factors, on the relationship between well-being and academic achievement.

Keywords: Mathematical proficiency; psychological well-being; mathematics instruction; supportive learning environment; educational intervention

Introduction

Mathematics is globally recognized as a foundational discipline that develops critical thinking, logical reasoning, and problem-solving skills essential for participation in a knowledge-based and technology-driven society. However, international large-scale assessments reveal persistent concerns regarding learners' mathematical proficiency. The Programme for International Student Assessment (PISA) 2022 results, released in 2023, show that a significant portion of learners across countries struggle to achieve even basic levels of mathematical competence and apply mathematical knowledge to real-life contexts, with about one in three 15-year-old students across OECD countries performing below the minimum proficiency level in mathematics. This highlights ongoing gaps between procedural learning and conceptual understanding that constrain students' ability to use mathematics meaningfully in authentic situations.

These global findings reveal not only low overall performance but also a widening disparity among learners. While a small proportion of learners demonstrate advanced mathematical thinking characterized by strong reasoning, flexibility, and real-world application, many are identified as learners-at-risk in mathematics showing limited conceptual understanding, low confidence, and difficulty transferring skills to unfamiliar problems. This growing division underscores the need for instructional approaches that can simultaneously support struggling learners while challenging and extending advanced learners through meaningful, context-rich learning experiences.

Beyond cognitive ability, contemporary research emphasizes the role of psychological well-being in shaping learners' academic outcomes. Psychological well-being influences learners' motivation, self-regulation, resilience, and willingness to engage in challenging academic tasks (Ryan & Deci, 2020). Learners with positive psychological well-being tend to demonstrate persistence, confidence, and adaptive learning behaviors, which are particularly important in mathematics, a subject often associated with stress and fear of failure (Ryff, 2018). Learners-at-risk in mathematics frequently experience heightened fear, low self-efficacy, and disengagement, which further hinder learning progress. In contrast, advanced learners often benefit from positive self-beliefs but may experience disengagement when instruction lacks challenge or relevance. These patterns suggest that effective mathematics instruction must address not only academic proficiency but also learners' psychological needs across different performance levels.

In the Philippine context, challenges in mathematics education are evident in both national and international assessments. Results from PISA 2022 placed the Philippines below the global average in mathematics, indicating persistent difficulties in problem-solving, reasoning, and conceptual understanding among Filipino learners (OECD, 2023). These results highlight a significant population of learners-at-risk who struggle with foundational mathematical concepts and authentic application. At the same time, national classrooms also include learners who demonstrate advanced mathematical abilities but are often underchallenged due to uniform instructional approaches. Recognizing these concerns, the Department of Education has emphasized the importance of strengthened pedagogical practices that promote higher-order thinking, learner engagement, and holistic development (DepEd, 2020). Local studies further support that learners with higher psychological well-being tend to perform better academically, reinforcing the need for instructional strategies that integrate cognitive and socio-emotional development (Bernardo, 2020).

Many learners do not fail due to poor curriculum or lack of teacher competence, but because of deeper emotional and psychological needs that must be addressed through strong support systems, including mental health programs (Ador Dionisio, 2025). At the local level, similar patterns are observed among Grade 10 learners in the research locale. Diagnostic assessments and classroom observations reveal that many learners experience difficulty transferring learned procedures to novel or complex problem-solving situations. These learners are considered at-risk in mathematics due to inconsistent mastery, low confidence, and reliance on rote methods.

Conversely, a smaller group of learners demonstrates advanced proficiency, showing quicker comprehension and accurate procedural skills, yet often lacks opportunities for deeper exploration, real-life application, and reflective learning. Teachers also observed varying levels of engagement, self-regulation, and confidence during mathematical activities, suggesting that differences in psychological readiness influence learning outcomes. These classroom realities include a report from the Center for Student Wellness and Life-Coaching of Our Lady of the Sacred Heart College of Guimba showing the number of cases related to learners' psychological well-being. During Academic Year 2024–2025 there were three cases in Pre-School/Grade School and eleven in Junior High School while in Academic Year 2025–2026 there were nine cases in Pre-School/Grade School and thirty-eight in Junior High School. These data were discussed during Professional Learning Community meetings and Guidance data utilization meetings and reflect national and global concerns regarding equity, learner diversity, and the need for differentiated yet inclusive instructional approaches. Given the international, national, and local challenges identified, there is a clear need for an instructional intervention that addresses both mathematical proficiency and psychological well-being across diverse learner profiles.

Thus, this study introduces the Authentic and Guided Approach to Proficiency (AGAP) as an intervention designed to enhance both mathematical proficiency and psychological well-being among Grade 10 learners. Originally developed by the administration and faculty of OLSHCO, the AGAP program has been continually refined, contextualized, and enhanced in this study to better address the learning needs of students. By integrating strategies that support both cognitive and socio-emotional development, the intervention aims to strengthen mathematical proficiency while promoting psychological well-being. By addressing the needs of learners-at-risk while nurturing advanced learners, AGAP seeks to foster confident, capable, and holistically developed mathematics learners.

Research Questions

This study aimed to determine the effectiveness of Authentic and Guided Approach to Proficiency in enhancing the psychological well-being and the mathematical proficiency of Grade 10 learners in Our Lady of the Sacred Heart College of Guimba Inc, Guimba, Nueva Ecija.

Specifically, it sought answers to the following questions:

1. How may the level of psychological well-being of the participants before and after the AGAP intervention be described in terms of:
 - 1.1 self-acceptance;

- 1.2 positive relation to others;
- 1.3 sense of autonomy;
- 1.4 environmental mastery;
- 1.5 purpose in life; and
- 1.6 personal growth?
2. How may the mathematical proficiency level of the participants be described in terms of pretest scores before the AGAP intervention?
3. How may the mathematical proficiency level of the participants be described in terms of posttest scores after the AGAP intervention?
4. Is there a significant difference between the levels of psychological well-being of the participants before and after the AGAP intervention?
5. Is there a significant difference between the pretest and posttest scores of the participants before and after the AGAP intervention?
6. Is there a significant relationship between psychological well-being of the participants and their mathematical proficiency level before the AGAP intervention?
7. Is there a significant relationship between psychological well-being of the participants and their mathematical proficiency level after the AGAP intervention?

Scope and Delimitation of the Study

This study focused on investigating the effectiveness of AGAP as intervention in improving the psychological well-being and mathematical proficiency of Grade 10 learners at Our Lady of the Sacred Heart College of Guimba Inc., Guimba, Nueva Ecija during the Academic Year 2025–2026. The study was conducted in response to observed concerns regarding learners' psychological challenges and low mathematical performance, which may affect their overall academic success and personal development. By integrating structured well-being support with mathematics instruction, the intervention sought to address both the emotional and cognitive needs of learners. It also examined how psychological well-being with its six dimensions (self-acceptance, positive relations with others, sense of autonomy, environmental mastery, purpose in life, and personal growth) is related to the learners' mathematical proficiency. The participants of the study consist of 41 Grade 10 learners. The data were gathered primarily through self-reported questionnaires, which may be affected by the participants' current mood, personal biases, or interpretation of the questions. The study is delimited to the third quarter topics of Mathematics 10 in assessing mathematical proficiency, which includes illustrating the permutation of objects, solving problems involving permutations, illustrating the combination of objects, differentiating permutation from combination of n objects taken r at a time, solving problems involving permutations and combinations, illustrating events, and union and intersection of events, illustrating the probability of a union of two events, finding the probability of $A \cup B$, illustrating mutually exclusive events, and solving problems involving probability, thereby excluding other quarters of the subject. Its geographical scope is limited to Our Lady of the Sacred Heart College of Guimba Inc., and its temporal scope is confined to Academic Year 2025–2026.

Literature Review

Mathematical Proficiency as a Multidimensional Construct

Mathematical proficiency is widely recognized as a multidimensional construct encompassing conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and productive disposition (Kilpatrick et al., 2017). These components highlight that mathematics achievement is not solely a function of computational accuracy but also of learners' reasoning abilities, problem-solving strategies, and attitudes toward mathematics. In the Philippine context, mathematics instruction has historically emphasized procedural competence and rote memorization, often at the expense of conceptual understanding and application (Bernardo, 2020). Such instructional patterns may produce short-term performance gains but frequently fail to develop transferable problem-solving skills and sustained engagement. Research indicates that when learners are unable to connect mathematical concepts to meaningful contexts, their productive disposition toward mathematics deteriorates, resulting in low confidence and avoidance behaviors (Stylianides & Stylianides, 2018). Pekrun's Control–Value Theory of Achievement Emotions (CVT) reveals that low control appraisals (e.g., perceived incompetence in adaptive reasoning) intensify proficiency gaps, particularly among Grade 10 learners transitioning to higher-order thinking (Putwain et al., 2021). Thus, proficiency is not static but dynamically linked to psychological well-being, setting the stage for integrated focus on cognitive-affective synergy and challenging the assumption that rote methods suffice for long-term mastery.

Achievement Emotions and Control–Value Theory in Mathematics Learning

Control–Value Theory provides a robust framework for understanding how instructional environments shape learners' emotional experiences and academic outcomes. According to CVT, achievement emotions arise from learners' appraisals of control (perceived competence and autonomy) and value (perceived relevance and importance of tasks) (Pekrun, 2017; Pekrun & Perry, 2017). In mathematics education, learners who perceive high control and high value tend to experience positive emotions such as enjoyment and pride, which promote persistence and deep learning. Conversely, low control and low value appraisals foster negative emotions such as fear, boredom, and hopelessness, which undermine mathematical proficiency (Putwain et al., 2021). Empirical studies confirm that emotionally supportive instructional practices enhance engagement and achievement, particularly in cognitively demanding subjects like mathematics (Putwain et al., 2021). Emotions are not peripheral but central mediators, where imbalances in appraisals perpetuate cycles of disengagement. For instance, procedural instruction may evoke boredom in advanced learners (Peters & Mann, 2020), while fear hinders at-risk learners' fluency (Ramirez et al., 2018). Critically, CVT bridges psychological well-being and proficiency to cultivate adaptive emotions and equitable outcomes.

Psychological Well-Being and Academic Performance

Psychological well-being, conceptualized through Ryff's dimensions of self-acceptance, autonomy, environmental mastery, positive relations, purpose in life, and personal growth, has been shown to influence learners' motivation, resilience, and academic engagement (Ryff, 2018). Studies demonstrate that learners with higher psychological well-being exhibit stronger coping mechanisms, reduced academic stress, and more adaptive learning behaviors (Matos et al., 2022; Sánchez-Álvarez et al., 2020). However, empirical findings on the direct relationship between psychological well-being and mathematical proficiency remain mixed. Some studies report significant associations between well-being dimensions and academic achievement (Tian et al., 2021; Karaşar & Kapçık, 2022), while others suggest weak or non-significant relationships prior to instructional intervention (Gutman & Vorhaus, 2017). These inconsistencies suggest that psychological well-being may function not as a direct predictor but as a facilitating mechanism activated by supportive instructional environments. However, well-being's role is contingent on appraisals, as CVT explains how autonomy and competence foster positive emotions that enhance proficiency (Ryan & Deci, 2020). In Philippine classrooms, where stress from rote learning prevails (Santos & De Guzman, 2020), well-being emerges as a critical lever for transforming passive learners into resilient problem-solvers and challenging the notion that well-being is merely incidental to academic success.

Learners-at-Risk and Advanced Learners in Mathematics

Learners-at-risk in mathematics are commonly characterized by low self-efficacy, heightened mathematics anxiety, and avoidance of complex problem-solving tasks (Carey et al., 2019; Ashcraft & Moore, 2018). From a Control–Value Theory perspective, these learners experience diminished control appraisals, leading to persistent negative achievement emotions. In contrast, advanced learners often possess high perceived control but may experience low task value when instruction lacks challenge or relevance, resulting in boredom and disengagement (Peters & Mann, 2020). Research suggests that effective mathematics instruction must simultaneously address control and value appraisals to support both struggling and advanced learners (Leikin & Sriraman, 2017). CVT reveals how mismatched appraisals perpetuate disparities, with at-risk learners' fear undermining proficiency and advanced learners' boredom eroding well-being. Inclusive strategies must balance scaffolding for control with authenticity for value, fostering emotional equity. Local evidence underscores this urgency, as Filipino learners' diverse profiles demand tailored interventions (Bernardo, 2020), to bridge gaps in heterogeneous classrooms and questioning why one-size-fits-all methods persist.

Authentic Learning as a Value-Enhancing Instructional Strategy

Authentic learning emphasizes the use of real-world, meaningful tasks that mirror how knowledge is applied outside the classroom. Lombardi (2018) asserts that authentic tasks enhance learners' perception of relevance, thereby strengthening task value. Empirical studies demonstrate that authentic mathematics problems improve conceptual understanding, transfer of learning, and learner motivation (Herrington & Parker, 2019; Darling-Hammond et al., 2020). In mathematics classrooms, authentic contexts help learners perceive mathematics as purposeful rather than abstract, promoting positive achievement emotions and deeper engagement (Boaler, 2019). These outcomes align with CVT's assertion that enhanced value appraisals lead to improved academic performance. Thus, value appraisals not only boost proficiency but also elevate psychological well-being by fostering purpose and relatedness (Martela & Steger, 2017). For Grade 10 learners, authenticity counters disengagement, as seen in studies linking real-world problems to curiosity and resilience (Hill et al., 2020). Authentic learning influences this by embedding value-enhancing

elements, addressing literature's neglect of meaningful contexts in Philippine education and challenging the efficacy of abstract drills.

Guided Instruction and Scaffolding as Control-Supporting Mechanisms

Guided instruction and scaffolding function as control-supporting mechanisms by providing structured assistance that enables learners to successfully engage in challenging tasks (Hammond & Gibbons, 2017). Scaffolding reduces cognitive overload and uncertainty, thereby enhancing learners' perceived competence and autonomy (van de Pol et al., 2019). Research confirms that guided instruction is particularly effective for learners with weak foundational skills, while strategic guidance for advanced learners promotes metacognitive regulation without diminishing autonomy (Schunk & DiBenedetto, 2020). Within CVT, such practices reduce negative emotions and foster confidence and persistence in mathematics learning (Pekrun, 2018). It builds control while preventing over-reliance, as meta-analyses show autonomy-supportive guidance enhances motivation (Howard et al., 2021). Isolated guidance overlooks value, limiting emotional sustainability (Slemp et al., 2018). Guided learning integrates with authenticity, ensuring control appraisals translate to long-term proficiency and well-being, a gap in many Philippine interventions (Reyes & Castillo, 2021), and questioning why guidance is often disconnected from relevance.

Instructional Interventions and Mathematical Proficiency

Numerous intervention studies report significant improvements in mathematics performance following the implementation of structured instructional strategies, including journaling, blended learning, strategic intervention materials, and differentiated instruction (Alvarez & Gorospe, 2024; Antipuesto & Tan, 2023; Riyos, 2024; Manuel & Mempin, 2025). These studies consistently demonstrate that academic gains are maximized when instructional interventions are systematic and learner-centered. However, many interventions prioritize cognitive outcomes while treating psychological well-being as a secondary or incidental outcome. This separation limits the sustainability and depth of learning gains, particularly in emotionally demanding subjects like mathematics while interventions like manipulatives boost skills (Project MAPS authors, 2025) often ignore affective mechanisms, as CVT warns that unaddressed emotions erode gains (Putwain et al., 2021). Profoundly, treating well-being as a core driver, ensuring proficiency endures beyond short-term assessments and challenging the assumption that cognitive focus alone suffices. Foreign studies consistently demonstrate that instructional environments integrating emotional support and cognitive challenge yield improved academic and psychological outcomes (Hwang et al., 2020; Nokes-Malach et al., 2018). Similarly, Philippine studies reveal that learners' confidence, motivation, and emotional well-being significantly influence mathematics performance (Bernardo, 2020; Datu & Yuen, 2018). Despite these findings, local studies often examine psychological well-being and mathematics achievement as separate constructs or focus on one variable in isolation (Reyes & Castillo, 2021). Few Philippine-based studies explicitly integrate Control-Value Theory, authentic learning, and guided instruction within a single instructional framework. Foreign research (e.g., on flipped learning) highlights emotional-cognitive synergies (Jang et al., 2018), yet Philippine contexts reveal cultural nuances, like memorization's toll on autonomy (Datu & Yuen, 2018). This fragmentation perpetuates gaps, as isolated studies overlook appraisals' role in well-being (Arslan, 2018). This is address by unifying elements, fostering inclusive outcomes, and questioning why local research lags in integrative approaches.

Methodology

Research Design

This study utilized a quantitative research design, specifically employing a one-group pretest-posttest with descriptive-correlational research design. According to Kittur (2023), quantitative research in education involves the systematic collection and analysis of numerical data to examine educational theories or test specific hypotheses. This method employs mathematical and statistical techniques to interpret data, enabling researchers to draw objective conclusions about educational interventions, learner outcomes, or instructional strategies. The findings generated contributed to the advancement of evidence-based practices within the field of education. The descriptive component of the design is used to present an accurate profile of the participants' psychological well-being and mathematical proficiency. This involved gathering data on the six dimensions of psychological well-being—self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth—as well as the learners' mathematics performance before and after the AGAP intervention. To determine the effectiveness of AGAP, the study employed a pretest–posttest comparison and the correlational component is used to examine the possible relationships between the levels of psychological well-being and mathematical proficiency of the participants. By integrating both descriptive, difference-testing and correlational approaches into experimental research with descriptive-correlational design, the study described the current state of learners' psychological well-

being and mathematical proficiency, determined the effectiveness of AGAP through pretest–posttest comparisons and examined whether a statistically significant relationship exists between them two variables. This research design allowed detailed description and analysis of variable relationships without manipulating the study environment.

Sampling Design

Participants of the study were selected through the result of a standardized diagnostic test administered by Excelandia IT Services. The Excelandia Diagnostic Test is an assessment tool availed by OLSHCO to measure students' knowledge and skills at the beginning of the school year. It is administered through a paper-and-pencil test in a faceto-face setting and provides baseline data to identify learning gaps in Mathematics guiding teachers in instruction and intervention. Through purposive sampling, the section having the greatest number of learners needing intervention based on the recommendation stated on the results of the diagnostic test was selected.

Research Locale

This study was conducted at the Junior High School Department of Our Lady of the Sacred Heart College of Guimba, Inc located in Afan Salvador St. Barangay St. John, Guimba, Nueva Ecija, Philippines. Our Lady of the Sacred Heart College (OLSHCO) of Guimba Inc. was founded by a Dutch missionary in 1947. It was initially administered by the Missionaries of the Sacred Heart (MSC), then the Franciscan Sisters of the Immaculate Concepcion of the Holy Mother of God (SFIC) assisted in running the school in 1948. The school serves learners in Kindergarten through Senior High School and it also provides postsecondary education, including the Bachelor of Early Childhood Education, Bachelor of Elementary Education, Bachelor of Secondary Education, Bachelor of Technology and Livelihood Education, Bachelor of Technological-Vocational Teacher

Research Participants

Among the three regular sections in Grade 10 from Our Lady of the Sacred Heart College of Guimba, Inc., Grade 10 St. Cecilia was chosen as the participants of the study which consists of 41 learners with 22 males and 19 females.

Research Instrument

The researcher used two research instruments to assess the psychological well-being and mathematical proficiency of the participants. The instrument for the assessment of psychological well-being is a 42-item test adopted from Dr. Carol Ryff's various researches from 1989 up to 2024. The researcher contextualized the instrument for the participants by having phrases related to mathematics which served as a heading before the item statements. It consists of items that asses the six dimension of psychological well-being: items 1, 7, 13, 19, 25, 31, and 37 for sense of autonomy, items 2, 8, 14, 20, 26, 32, and 38 for environmental mastery, items 3, 9, 15, 21, 27, 33, and 39 for personal growth, items 4, 10, 16, 22, 28, 34, and 40 for positive relation with others, items 5, 11, 17, 23, 29, 35, and 41 for purpose in life, and items 6, 12, 18, 24, 30, 36, and 42 for self-acceptance. These items are rated using a 6-point Likert's scale where items number 3, 5, 8, 10, 13, 14, 15, 16, 17, 18, 19, 23, 26, 27, 30, 31, 32, 34, 36, 39, 41 should be reversely scored. On the other hand, to assess the mathematical proficiency of the participants prior to the intervention, the researcher adopted the 50-item third quarter assessment for Grade 10 Mathematics from the Division of Cabanatuan. A parallel assessment was given to the participants after the intervention. These assessments include all the grade 10 mathematics most essential learning competencies of the Third Quarter for the school year 2025-2026 based from DepEd MELCS, 2020.

Data Gathering Procedure

Securing proper authorization to conduct the study is essential to uphold the ethical and legal standards of educational research. Prior to the conduct of the study, an endorsement letter requesting permission to collect data was prepared and reviewed by the research adviser and the English critic. The letter was duly signed by the research adviser and the Dean of the CIC Graduate School and subsequently submitted to the principal of OLSHCO. Upon approval of the request by the school principal, the researcher proceeded with the data collection process. An orientation was conducted to inform the participants about the purpose of the study, the procedures involved, and their rights as research participants. After the orientation, a pre-test was administered to establish the baseline data of the participants prior to the intervention. The AGAP intervention was then implemented over a period of five weeks through structured lessons designed in accordance with the objectives of the study. The first week focused on developing learners' understanding of permutations. Students were guided to illustrate permutations of objects, derive the formula for permutations of n objects taken r at a time, and solve related problems. This week

emphasized Self-Acceptance and Positive Relations with Others, encouraging learners to acknowledge their individual abilities while collaborating effectively with peers during problem-solving activities. In the second week, the focus shifted to probability, specifically illustrating events and the union and intersection of events. Activities encouraged learners to explore outcomes systematically and visually represent probabilistic events. The psychological well-being dimension emphasized was Sense of Autonomy, promoting independence in reasoning, decision-making, and expressing mathematical ideas confidently. Week three built on previous concepts, guiding learners to illustrate and compute the probability of a union of two events. Learners engaged in exercises that required careful analysis and logical reasoning. The associated well-being focus, Environmental Mastery, aimed to strengthen learners' confidence in managing challenges in academic tasks and understanding complex problem situations. During the fourth week, learners were tasked with finding the probability of $(A \cup B)$ in various contexts. Emphasis was placed on accurate calculation and interpretation of results, connecting mathematical reasoning with real-life situations. The psychological well-being target, Purpose in Life, encouraged learners to recognize the relevance of mathematical knowledge in achieving personal and academic goals, fostering a sense of direction and motivation. The final week focused on illustrating mutually exclusive events and solving related probability problems. This capstone week emphasized critical thinking and application of learned concepts in problem-solving scenarios. The psychological well-being focus was Personal Growth, supporting learners in developing resilience, persistence, and self-confidence as they applied knowledge to increasingly challenging tasks. Overall, the five-week AGAP intervention integrated rigorous mathematics learning with psychological well-being through guided instruction, combining teacher-assisted lessons, reciprocal teaching, collaborative learning, and individual enrichment. Students, grouped by proficiency, were supported by advanced-level peers to reinforce learning and foster autonomy. After the completion of the intervention, a post-test was administered to measure the effects of the AGAP intervention and to compare the results with the pre-test data.

Results and Discussions

Research Question 1: How may the level of psychological well-being of the participants before and after the AGAP intervention be described in terms of self-acceptance, positive relation to others, sense of autonomy, environmental mastery purpose in life and personal growth?

Table 1. Level of Psychological Well-being of the Participants Before and After the AGAP Intervention in terms of Self-Acceptance

Self-Acceptance		Before Intervention		After Intervention	
		Mean	Verbal Description	Mean	Verbal Description
1.	I enjoy making plans for the future and working to make them a reality.	5.12	High	5.05	High
2.	I have difficulty arranging my life in a way that is satisfying to me.	4.17	Moderately High	4.44	Moderately High
3.	Maintaining close relationships has been difficult and frustrating for me.	3.83	Moderately High	4.00	Moderately High
4.	I have been able to build a living environment and a lifestyle for myself that is much to my liking.	3.39	Moderately Low	3.80	Moderately High
5.	I often feel lonely because I have few close friends with whom to share my concerns.	3.59	Moderately High	3.95	Moderately High
6.	I am quite good at managing the many responsibilities of my daily life.	2.59	Moderately Low	3.56	Moderately High
7.	I often feel overwhelmed by my responsibilities.	3.93	Moderately High	4.32	Moderately High
Overall Mean		3.80	Moderately High	4.16	Moderately High

Table 1 presents the level of psychological well-being of the participants before and after the AGAP intervention in terms of self-acceptance. Prior to the intervention, the participants obtained an overall mean of 3.80, verbally described as Moderately High, indicating a generally positive but not yet optimal level of self-acceptance. After the implementation of the AGAP intervention, the overall mean increased to 4.16, which remained within the Moderately High verbal description. Although the categorical interpretation did not change, the increase in the mean score reflects a meaningful improvement in the participants' self-acceptance following the intervention. Before the intervention, the highest mean was recorded in item 1 "I enjoy making plans for the future and working to make them a reality" with a mean of 5.12, verbally described as High, indicating strong future orientation and goal-directed behavior among the participants. After the intervention, this item remained the highest with a mean of 5.05, also verbally described as High, suggesting sustained optimism and personal agency. The slight decrease in some item means, such as Item 1

(from 5.12 to 5.05), can be attributed to factors like ceiling effects, where initial scores were already very high, leaving little room for improvement; increased self-awareness after the intervention, prompting participants to evaluate themselves more critically; and response recalibration, as participants may have adjusted their interpretation of the statements or rating scale. Minor fluctuations in mood or perception can also contribute, but these small decreases are statistically negligible and do not change the overall verbal description, which remained "High." Despite these slight drops, the overall mean increased from 3.80 to 4.16, indicating that the intervention positively enhanced self-acceptance. In contrast, the lowest mean prior to the intervention was observed in item 6 "I am quite good at managing the many responsibilities of my daily life" with a mean of 2.59, verbally described as Moderately Low, reflecting difficulties in responsibility management. After the intervention, this item showed a substantial increase to a mean of 3.56, verbally described as Moderately High, indicating improved self-regulation and adaptive functioning. The observed increase in the overall mean and the notable improvement in low-scoring items suggest that the AGAP intervention positively influenced the participants' level of self-acceptance. Recent studies emphasize that self-acceptance is a critical predictor of psychological adjustment, academic engagement, and resilience among learners (Zeng et al., 2019; Gómez-Baya et al., 2021). Interventions that integrate academic support with emotional and motivational components have been found to enhance individuals' ability to manage responsibilities and view themselves more positively (Arslan, 2018; Sánchez-Álvarez et al., 2020). Furthermore, recent research highlights that increased self-acceptance is associated with reduced stress and improved coping strategies, particularly in educational contexts where learners face academic pressure and performance demands (Matos et al., 2022). These findings support the present results, indicating that the AGAP intervention contributed to strengthening participants' self-perception and daily life management skills. The findings on self-acceptance align closely with CVT which suggests that learners' achievement emotions are influenced by their perceived control over learning activities and the subjective value they attach to these activities (Pekrun, 2018). According to CVT, positive self-perceptions, such as high self-acceptance, enhance learners' sense of control, foster adaptive achievement emotions, and improve engagement in academic tasks.

Table 2. Level of Psychological Well-being of the Participants Before and After the AGAP Intervention in terms of Positive Relation to Others

Positive Relation to Others		Before Intervention		After Intervention	
		Mean	Verbal Description	Mean	Verbal Description
1.	People would describe me as a giving person, willing to share my time with others.	4.20	Moderately High	4.27	Moderately High
2.	I tend to worry about what other people think of me.	3.12	Moderately Low	3.20	Moderately Low
3.	I have not experienced many warm and trusting relationships with others.	4.10	Moderately High	4.15	Moderately High
4.	In general, I feel confident and positive about myself.	4.05	Moderately High	4.05	Moderately High
5.	When I think about it, I haven't really improved much as a person over the years.	3.66	Moderately High	3.71	Moderately High
6.	I feel like many of the people I know have gotten more out of life than I have.	3.46	Moderately Low	3.49	Moderately Low
7.	I like most parts of my personality.	4.61	Moderately High	4.66	Moderately High
Overall Mean		3.89	Moderately High	3.93	Moderately High

Table 2 presents the level of psychological well-being of the participants before and after the AGAP intervention in terms of positive relation to others. Before the intervention, the participants obtained an overall mean of 3.89, verbally described as Moderately High, indicating that participants generally maintain positive relationships with others, though there is room for further development. Following the intervention, the overall mean slightly increased to 3.93, still within the Moderately High category, reflecting a modest improvement in the participants' ability to establish and maintain constructive interpersonal relationships. Among the items, item 7 "I like most parts of my personality" had the highest mean both before with 4.61 and after with 4.66 the intervention, verbally described as Moderately High, suggesting that participants possessed a generally positive self-perception that contributes to healthy social interactions. Conversely, the lowest mean before the intervention was observed in item 2 "I tend to worry about what other people think of me" with a mean of 3.12, verbally described as Moderately Low, indicating some degree of social apprehension and concern about external judgment. After the intervention, this item showed minimal improvement to a mean of 3.20, still Moderately Low, which may suggest that social anxiety or external validation concerns require more targeted interventions. The slight increase in overall mean suggests that the AGAP intervention contributed positively to participants' interpersonal skills and attitudes toward social

relationships. Positive relation to others is recognized as a key dimension of psychological well-being, linked to social support, empathy, and emotional intelligence (Gómez-Baya et al., 2021; Matos et al., 2022). Research has shown that interventions integrating collaborative activities, peer support, and reflective exercises can enhance social connectedness and relational competence (Arslan, 2018; Sánchez-Álvarez et al., 2020). The relatively low scores on concerns about others' opinions in item 2 align with studies highlighting that while general social skills can improve through intervention, deeply ingrained social anxiety may persist and require sustained psychosocial support (Zeng et al., 2019). Overall, the findings suggest that the AGAP intervention effectively reinforced positive social behaviors and relational attitudes while highlighting areas for further development. These findings can be understood through the lens of Control-Value Theory (CVT), which posits that learners' achievement emotions and interpersonal functioning are influenced by their perceived control over situations and the value they attach to social and academic outcomes (Pekrun, 2018). The improvement in positive relation to others indicates that the AGAP intervention may have enhanced participants' sense of control in social interactions and their appreciation of interpersonal value, thereby reducing negative emotions associated with external judgment. By fostering experiences that promote autonomy, competence, and social value attribution, the intervention aligns with CVT's central assumption that both control and value appraisals are critical in developing emotional well-being and adaptive social behaviors (Pekrun & Perry, 2017; Putwain et al., 2021). This provides empirical support for applying CVT in designing interventions that enhance both academic and relational dimensions of psychological well-being. Moreover, the findings suggest that strengthening learners' interpersonal confidence and reducing concerns about social evaluation can enhance positive achievement emotions, which are central to sustained engagement and well-being. From a CVT perspective, when learners perceive social interactions as manageable and meaningful, they are more likely to experience positive emotions that support both psychological adjustment and academic persistence. Thus, interventions like AGAP play a critical role in nurturing socially supportive learning environments that reinforce emotional well-being and adaptive achievement-related behaviors.

Table 3. Level of Psychological Well-being of the Participants Before and After the AGAP Intervention in terms of Sense of Autonomy

Sense of Autonomy		Before Intervention		After Intervention	
		Mean	Verbal Description	Mean	Verbal Description
1.	I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.	3.88	Moderately High	4.49	Moderately High
2.	Most people see me as loving and affectionate.	4.00	Moderately High	4.54	Moderately High
3.	My decisions are not usually influenced by what everyone else is doing.	2.63	Moderately Low	3.49	Moderately Low
4.	My attitude about myself is probably not as positive as most people feel about themselves.	3.44	Moderately Low	3.78	Moderately High
5.	I do not enjoy being in new situations that require me to change my old familiar ways of doing things.	3.15	Moderately Low	4.10	Moderately High
6.	When I compare myself to friends and acquaintances, it makes me feel good about who I am.	3.93	Moderately High	4.29	Moderately High
7.	I have the sense that I have developed a lot as a person over time.	4.54	Moderately High	4.63	Moderately High
Overall Mean		3.65	Moderately High	4.19	Moderately High

Table 3 presents the level of psychological well-being of the participants before and after the AGAP intervention in terms of sense of autonomy. Prior to the intervention, the participants obtained an overall mean of 3.65, verbally described as Moderately High, indicating that participants generally demonstrated a fair degree of independence and self-direction, although some aspects of autonomous functioning remained limited. After the implementation of the AGAP intervention, the overall mean increased to 4.19, which also falls under the Moderately High category. Despite retaining the same verbal description, the noticeable increase in the mean score suggests a meaningful enhancement in the participants' sense of autonomy following the intervention. The highest mean prior to the intervention was recorded in item 7 "I have the sense that I have developed a lot as a person over time" with a mean of 4.54, verbally described as Moderately High, indicating strong perceptions of personal growth among the participants. After the intervention, this item remained the highest, with a slightly increased mean of 4.63, also Moderately High, suggesting sustained and reinforced self-development. Conversely, the lowest mean before the intervention was observed in item 3 "My decisions are not usually influenced by what everyone else is doing" with a mean of 2.63, verbally described as Moderately Low, reflecting limited independence in decision-making. Although this item increased to 3.49 after the intervention, it remained Moderately Low, indicating that while progress was evident, autonomy in resisting social conformity continues to be a challenge for some participants. The increase in the overall mean and the improvement in several items suggest that the AGAP intervention

positively influenced the participants' sense of autonomy. Autonomy has been consistently identified as a crucial component of psychological well-being, closely associated with motivation, self-regulation, and adaptive functioning (Ryan & Deci, 2017; Howard et al., 2021). Studies have shown that interventions providing structured opportunities for choice, self-expression, and reflection significantly enhance learners' autonomous motivation and self-confidence (Benabou et al., 2019; Jang et al., 2018). The marked improvement in items related to openness to new situations and positive self-attitude further supports findings that autonomy-supportive environments foster greater flexibility, self-acceptance, and emotional resilience (Slomp et al., 2018). These results suggest that the AGAP intervention created conditions that encouraged independent thinking and personal agency among the participants. The findings are strongly supported by Control-Value Theory (CVT), which explains that learners' emotions and well-being are shaped by their perceived control over learning-related activities and the value they assign to these experiences (Pekrun, 2018). The observed improvement in sense of autonomy indicates that the AGAP intervention enhanced participants' control appraisals by promoting self-expression, decision-making, and adaptive engagement. According to CVT, increased perceptions of control lead to more positive achievement emotions, which in turn support sustained motivation and psychological well-being (Pekrun & Perry, 2017; Putwain et al., 2021). Thus, the results affirm the relevance of CVT as a guiding framework in understanding how autonomy-supportive interventions can strengthen learners' emotional and psychological outcomes. This demonstrates that interventions like AGAP not only enhance academic-related skills but also foster learners' intrinsic motivation and psychological empowerment, creating a foundation for long-term personal and social development.

Table 4. Level of Psychological Well-being of the Participants Before and After the AGAP Intervention in terms of Environmental Mastery

Environmental Mastery		Before Intervention		After Intervention	
		Mean	Verbal Description	Mean	Verbal Description
1.	For me, life has been a continuous process of learning, changing, and growth.	5.15	High	5.05	High
2.	In many ways I feel disappointed about my achievements in life.	3.02	Moderately Low	3.63	Moderately High
3.	I gave up trying to make big improvements or changes in my life a long time ago.	3.71	Moderately High	4.29	Moderately High
4.	I have a sense of direction and purpose in life.	4.68	Moderately High	4.73	Moderately High
5.	I do not fit very well with the people and the community around me.	3.80	Moderately High	3.76	Moderately High
6.	I don't have a good sense of what it is I'm trying to accomplish in life.	3.85	Moderately High	4.34	Moderately High
7.	I enjoy personal and mutual conversations with family members and friends.	4.44	Moderately High	4.66	Moderately High
Overall Mean		4.09	Moderately High	4.35	Moderately High

Table 4 presents the level of psychological well-being of the participants before and after the AGAP intervention in terms of environmental mastery. Prior to the intervention, the participants obtained an overall mean of 4.09, verbally described as Moderately High, suggesting that participants generally perceived themselves as capable of managing their environment and life circumstances, though some aspects of mastery were still developing. After the AGAP intervention, the overall mean increased to 4.35, which remained Moderately High, indicating a measurable improvement in participants' ability to effectively manage personal, social, and academic demands within their environment. The highest mean prior to the intervention was recorded in item 1 "For me, life has been a continuous process of learning, changing, and growth" with a mean of 5.15, verbally described as High, reflecting participants' strong orientation toward growth and personal development. After the intervention, this item remained the highest with a mean of 5.05, also High, suggesting sustained awareness and appreciation of ongoing personal growth. Conversely, the lowest mean before the intervention was observed in item 2 "In many ways I feel disappointed about my achievements in life" with a mean of 3.02, verbally described as Moderately Low, indicating some dissatisfaction with personal accomplishments. After the intervention, this item increased to 3.63, verbally described as Moderately High, demonstrating enhanced self-efficacy and a more positive appraisal of personal achievements. The increase in the overall mean and the improvement in previously low-scoring items indicate that the AGAP intervention positively influenced the participants' sense of environmental mastery. As a core dimension of psychological well-being, environmental mastery involves effectively managing life circumstances, pursuing goals, and adapting to change (Howard et al., 2021; Slomp et al., 2018). Recent studies show that interventions incorporating reflection, problem-solving, and supportive

guidance enhance learners' self-efficacy, resilience, and adaptive coping (Benabou et al., 2019; Arslan, 2018). The observed improvements in goal-setting and life direction suggest that structured opportunities for purposeful reflection and action can strengthen learners' perceived control over their environment. Overall, the AGAP intervention enhanced participants' environmental competence and confidence in managing personal and social challenges. In the Environmental Mastery dimension, although the overall mean increased from 4.09 to 4.35, some items, like Item 1, showed a slight decrease from 5.15 to 5.05. This can be explained by ceiling effects, as the initial score was already very high, limiting room for improvement; heightened self-awareness, which may have led participants to respond more critically after the intervention; and response recalibration, where participants adjusted their interpretation of the statements or scale. Such minor decreases are negligible and did not affect the verbal description, which remained "High." Overall, the upward trend in most items indicates that the intervention effectively enhanced participants' environmental mastery. From the perspective of Control-Value Theory (CVT), the findings indicate that the AGAP intervention enhanced participants' perceived control over environmental and life outcomes, thereby fostering positive achievement emotions and psychological well-being (Pekrun, 2018). Environmental mastery reflects learners' appraisal of their ability to influence outcomes, a key construct in CVT, where higher perceived control supports adaptive motivation and emotional regulation (Pekrun & Perry, 2017; Putwain et al., 2021). The improved appraisal of achievements and goal-directed behavior suggests that the intervention strengthened participants' competence beliefs and the value they assign to personal development, contributing to sustained psychological empowerment and adaptive engagement.

Table 5. Level of Psychological Well-being of the Participants Before and After the AGAP Intervention in terms of Purpose in Life

Purpose in Life	Before Intervention		After Intervention	
	Mean	Verbal Description	Mean	Verbal Description
1. I am not interested in activities that will expand my horizons.	4.90	High	4.68	Moderately High
2. When I look at the story of my life, I am pleased with how things have turned out.	3.90	Moderately High	4.56	Moderately High
3. I think it is important to have new experiences that challenge how you think about yourself and the world.	1.71	Low	2.71	Moderately Low
4. I have been able to build a living environment and a lifestyle for myself that is much to my liking.	3.02	Moderately Low	3.68	Moderately High
5. Some people wander aimlessly through life, but I am not one of them.	3.54	Moderately High	4.00	Moderately High
6. I have confidence in my opinions, even if they are contrary to the general consensus.	3.93	Moderately High	4.44	Moderately High
7. It's difficult for me to voice my own opinions on controversial matters.	3.95	Moderately High	3.54	Moderately
Overall Mean	3.56	Moderately High	3.94	Moderately High

Table 5 presents the level of psychological well-being of the participants before and after the AGAP intervention in terms of purpose in life. Prior to the intervention, the participants obtained an overall mean of 3.56, verbally described as Moderately High, indicating that participants generally possessed a sense of direction and meaning in life, although some aspects of purposefulness were less developed. After the AGAP intervention, the overall mean increased to 3.94, which remained within the Moderately High category. This increase in the mean score suggests that the intervention contributed to strengthening participants' clarity of goals, values, and sense of life direction. Before the intervention, the highest mean was recorded in item 1 "I am not interested in activities that will expand my horizons" with a mean of 4.90, verbally described as High, suggesting that participants strongly endorsed the item as stated. After the intervention, the mean for this item slightly decreased to 4.68, verbally described as Moderately High, indicating a modest shift in openness toward growth-oriented activities. In contrast, the lowest mean before the intervention was observed in item 3 "I think it is important to have new experiences that challenge how you think about yourself and the world" with a mean of 1.71, verbally described as Low. After the intervention, this item increased to a mean of 2.71, verbally described as Moderately Low, reflecting a noticeable improvement in participants' willingness to engage in challenging and growth-enhancing experiences. The improvement in the overall mean and the upward movement of previously low-scoring items suggest that the AGAP intervention positively influenced the participants' sense of purpose in life. Purpose in life is closely associated with goal commitment, motivation, and psychological resilience, particularly in educational contexts (Alimujiang et al., 2019; Hill et al., 2020). Recent studies indicate that interventions emphasizing self-reflection, goal clarification, and value-based activities can enhance individuals' sense of meaning and future orientation (Burrow et al., 2021; Martela & Steger, 2016). The improvement in items related to life satisfaction, confidence in one's opinions, and goal clarity suggests that providing structured opportunities for reflection and personal expression

enables learners to develop stronger life purpose and direction. These findings imply that AGAP supported participants in aligning their personal values with meaningful goals. In the Purpose in Life dimension, the overall mean increased from 3.56 to 3.94, indicating a positive effect of the intervention. However, some items, such as Item 1 (from 4.90 to 4.68) and Item 7 (from 3.95 to 3.54), showed slight decreases. These decreases can be attributed to ceiling effects, since initial scores were already high, increased self-awareness, which may have prompted participants to respond more critically after the intervention, and response recalibration, where participants adjusted their interpretation of the statements or scale. Despite these minor drops, the verbal descriptions remained largely unchanged, and the overall upward trend reflects. From the perspective of Control-Value Theory (CVT), purpose in life is influenced by learners' perceptions of control over their future and the value they assign to personal goals and experiences (Pekrun, 2018). The observed increase in purpose-related indicators suggests that the AGAP intervention enhanced participants' value appraisals by helping them recognize the importance of meaningful goals and future-oriented thinking. According to CVT, when learners perceive their goals as valuable and attainable, they experience more positive achievement emotions that support motivation and psychological well-being (Pekrun & Perry, 2017; Putwain et al., 2021). Thus, the findings provide empirical support for CVT by demonstrating that interventions promoting reflection, goal-setting, and personal meaning can strengthen learners' sense of purpose and emotional engagement.

Table 6. Level of Psychological Well-being of the Participants Before and After the AGAP Intervention in terms of Personal Growth

Personal Growth		Before Intervention		After Intervention	
		Mean	Verbal Description	Mean	Verbal Description
1.	In general, I feel I am in charge of the situation in which I live.	2.88	Moderately Low	3.49	Moderately Low
2.	I live life one day at a time and don't really think about the future.	2.24	Moderately Low	4.05	Moderately High
3.	The demands of everyday life often get me down.	3.59	Moderately High	3.59	Moderately High
4.	I judge myself by what I think is important, not by the values of what others think is important.	4.22	Moderately High	4.54	Moderately High
5.	I know that I can trust my friends, and they know they can trust me.	2.68	Moderately Low	3.37	Moderately Low
6.	I sometimes feel as if I've done all there is to do in life.	3.15	Moderately Low	3.95	Moderately High
7.	My daily activities often seem trivial and unimportant to me.	4.32	Moderately High	4.37	Moderately High
Overall Mean		3.30	Moderately Low	3.91	Moderately High

Table 6 presents the level of psychological well-being of the participants before and after the AGAP intervention in terms of personal growth. Prior to the intervention, the participants obtained an overall mean of 3.30, verbally described as Moderately Low, indicating limited perceptions of continuous development, future orientation, and personal advancement. After the AGAP intervention, the overall mean increased to 3.91, which remained within the Moderately Low category. Despite retaining the same verbal description, the notable increase in the mean score suggests a meaningful improvement in participants' perceptions of personal growth and developmental progress following the intervention. Before the intervention, the highest mean was recorded in item 7 "My daily activities often seem trivial and unimportant to me" with a mean of 4.32, verbally described as Moderately High, indicating a strong perception of disengagement from daily activities. After the intervention, this item slightly increased to a mean of 4.37, remaining Moderately High. Conversely, the lowest mean before the intervention was observed in item 2 "I live life one day at a time and don't really think about the future" with a mean of 2.24, verbally described as Moderately Low, reflecting weak future orientation. After the intervention, this item showed substantial improvement to a mean of 4.05, verbally described as Moderately High, indicating increased awareness of future goals and long-term development. The increase in the overall mean and the improvement in key items suggest that the AGAP intervention contributed positively to participants' personal growth. Personal growth involves openness to new experiences, self-improvement, and a sense of ongoing development (Ryff, 2018; Hill et al., 2020). Recent studies emphasize that interventions incorporating reflection, goal-setting, and value clarification can significantly enhance individuals' growth mindset, future orientation, and sense of progress (Burrow et al., 2021; Howard et al., 2021). The marked improvement in future-oriented thinking in item 2 suggests that the intervention helped participants move beyond short-term perspectives toward a more developmental outlook. However, the persistence of moderately low scores in perceived control and trust-related items indicates that personal growth may require sustained and long-term support beyond short-term

interventions. From the perspective of Control-Value Theory (CVT), personal growth is shaped by individuals' perceptions of control over their lives and the value they assign to growth-related goals (Pekrun, 2018). The observed post-intervention improvements suggest that the AGAP intervention enhanced participants' value appraisals toward personal development and future planning. According to CVT, when learners perceive personal growth as meaningful and attainable, they are more likely to experience positive achievement emotions that support motivation and engagement (Pekrun & Perry, 2017; Putwain et al., 2021). Thus, the findings provide empirical support for CVT by demonstrating that structured, reflective interventions can foster a stronger orientation toward growth, even when overall developmental perceptions remain emerging.

Table 7: Level of Psychological Well-being of the Participants Before and After the AGAP Intervention in Six Dimensions

Psychological Well-being Dimensions	Before Intervention		After Intervention	
	Mean	Verbal Description	Mean	Verbal Description
Self-Acceptance	3.80	Moderately High	4.16	Moderately High
Positive Relation to Others	3.89	Moderately High	3.93	Moderately High
Sense Of Autonomy	3.65	Moderately High	4.19	Moderately High
Environmental Mastery	4.09	Moderately High	4.35	Moderately High
Purpose In Life	3.56	Moderately High	3.94	Moderately High
Personal Growth	3.30	Moderately Low	3.91	Moderately High
Overall Mean	3.72	Moderately High	4.08	Moderately High

Table 7 presents the levels of psychological well-being of the participants before and after the implementation of the AGAP intervention. The table summarizes the mean scores and verbal descriptions across six dimensions: Self-Acceptance, Positive Relations with Others, Sense of Autonomy, Environmental Mastery, Purpose in Life, and Personal Growth. Prior to the intervention, the overall mean was 3.72, which falls under the "Moderately High" verbal description, indicating that the participants generally perceived a moderately positive level of psychological well-being. After the intervention, the overall mean increased to 4.08, still described as "Moderately High," reflecting an improvement in the participants' psychological well-being across all dimensions. This suggests that the intervention had a positive impact on their mental and emotional functioning. Among the six dimensions, the highest mean before the intervention was observed in Environmental Mastery (Item 4) with a mean score of 4.09, categorized as "Moderately High." This indicates that participants generally felt competent in managing their environment and daily responsibilities even before the intervention. Conversely, the lowest mean before the intervention was found in Personal Growth with a mean score of 3.30, described as "Moderately Low," suggesting that participants felt limited in terms of personal development and realizing their potential. After the intervention, Personal Growth exhibited the most significant improvement, rising to a mean of 3.91, now described as "Moderately High," reflecting enhanced awareness and pursuit of personal development among participants. The findings indicate that the AGAP intervention contributed to an overall increase in psychological well-being, particularly in the areas where participants initially scored lower, such as Personal Growth. This aligns with research suggesting that structured and guided learning interventions can positively affect emotional and cognitive functioning. Similarly, interventions focusing on authentic engagement and supportive environments are known to enhance self-efficacy and motivation, leading to improvements in well-being and personal growth. These findings highlight the importance of providing students with opportunities to reflect on their strengths, set personal goals, and build meaningful connections, which can foster holistic development. Contemporary research supports the idea that intentional well-being interventions can lead to measurable improvements in psychological well-being among students and emerging adults. An online positive psychology intervention among undergraduate students significantly increased their psychological well-being scores in pre-post evaluations, indicating that even digitally structured programs can effectively enhance students' well-being across dimensions such as purpose and personal growth (Yurayat & Seechaliao, 2021). In addition, research underscores the link between satisfaction of psychological needs and well-being, implying that environments that support autonomy, relatedness, and competence contribute to higher intrinsic motivation and overall well-being (Ryan & Deci, 2017). Such findings are consistent with the observed increases in sense of autonomy and personal growth after the intervention. By addressing psychological needs and fostering supportive environments, interventions can produce meaningful improvements in how individuals perceive and manage life challenges.

Research Question 2: How may the mathematical proficiency level of the participants be described in terms of pretest scores before the AGAP intervention?

Table 8. Mathematical Proficiency Level of the Participants before the AGAP Intervention

Range	Verbal Description	Frequency	Percentage (%)
41-50	Outstanding	0	0.00
31-40	Very Satisfactory	0	0.00
21-30	Satisfactory	2	4.88
11-20	Fairly Satisfactory	34	82.93
0-10	Did Not Meet Expectations	5	12.20
Total		41	100

Table 8 presents the mathematical proficiency level of the participants before the AGAP intervention. The table categorizes learners' raw scores into five verbal descriptors: Outstanding with scores 41–50, Very Satisfactory with scores 31–40, Satisfactory with scores 21–30, Fairly Satisfactory with scores 11–20, and Did Not Meet Expectations with scores 0–10. The data reveal that the majority of the participants, 34 out of 41 participants with 82.93%, fell within the Fairly Satisfactory category, indicating that most learners performed below the expected level of proficiency. Only 2 participants with 4.88% were classified as Satisfactory, and 5 participants with 12.20% were in the lowest category, Did Not Meet Expectations. Notably, no participants achieved Very Satisfactory or Outstanding proficiency levels prior to the intervention. The distribution of scores highlights a pronounced need for instructional support and intervention. The low pre-intervention performance aligns with findings in mathematics education research that suggest learners often struggle with problem-solving, algebraic reasoning, and conceptual understanding in secondary school contexts (Hattie, 2017; Boaler, 2019). Learners with low proficiency levels are more likely to experience math anxiety, reduced self-efficacy, and negative attitudes toward learning, which can hinder their overall achievement (Ramirez et al., 2018). These challenges underscore the importance of targeted interventions, such as the AGAP program, to enhance both skills and confidence in mathematics. From the perspective of Control-Value Theory (CVT), these findings suggest that participants' low mathematical proficiency may be related to low perceived control over learning tasks and the value they attach to mathematics (Pekrun, 2018). According to CVT, learners who perceive tasks as difficult and doubt their own competence are more likely to experience negative achievement emotions, such as anxiety or hopelessness, which in turn adversely affect performance (Pekrun & Perry, 2017; Putwain et al., 2021). The predominance of Fairly Satisfactory and Did Not Meet Expectations scores indicate that prior to the intervention, learners may have had limited control appraisals and low intrinsic or extrinsic valuation of mathematics, highlighting the theoretical and practical rationale for implementing interventions like AGAP to improve both competence and value perceptions.

Research Question 3: How may the mathematical proficiency level of the participants be described in terms of posttest scores after the AGAP intervention?

Table 9. Mathematical Proficiency Level of the Participants After the AGAP Intervention

Range	Verbal Description	Frequency	Percentage (%)
41-50	Outstanding	1	2.44
31-40	Very Satisfactory	18	43.90
21-30	Satisfactory	10	24.39
11-20	Fairly Satisfactory	12	29.27
0-10	Did Not Meet Expectations	0	0.00
Total		41	100

Table 9 presents the mathematical proficiency level of the participants after the AGAP intervention. The results show notable improvement compared to pre-intervention levels. Only 1 participant with 2.44% achieved an Outstanding score from 41–50, while 18 participants with 43.90% attained a Very Satisfactory level from 31–40. Additionally, 10 participants with 24.39% were classified as Satisfactory, and 12 participants with 29.27% as Fairly Satisfactory. Importantly, no participants scored in the Did Not Meet Expectations category, highlighting a significant shift in performance and a reduction in the lowest achievement levels. The post-intervention distribution indicates that the AGAP program effectively enhanced learners' mathematical proficiency. The substantial increase in the Very Satisfactory category, along with the

emergence of one Outstanding score, reflects improved conceptual understanding, problem-solving skills, and confidence in mathematics. These results are consistent with prior research demonstrating that structured interventions integrating guided practice, scaffolding, and metacognitive strategies significantly improve mathematics achievement (Boaler, 2019; Hattie, 2017). Furthermore, the elimination of the Did Not Meet Expectations category suggests that learners who previously struggled were able to achieve at least a basic level of mastery, indicating the AGAP intervention's positive impact on equity in learning outcomes. From the perspective of Control-Value Theory (CVT), the observed improvement can be attributed to enhanced perceived control and the increased value learners assigned to mathematics tasks (Pekrun, 2018). CVT posits that when learners feel capable of mastering tasks (high control) and perceive them as meaningful (high value), they experience positive achievement emotions such as enjoyment, hope, and pride, which facilitate engagement and learning (Pekrun & Perry, 2017; Putwain et al., 2021). The post-intervention data suggest that AGAP fostered greater competence beliefs and task value appraisals, enabling learners to perform at higher proficiency levels and experience more positive learning outcomes.

Research Question 4: Is there a significant difference between the levels of psychological well-being of the participants before and after the AGAP intervention?

Table 10. Difference Analysis Between the Levels of Psychological Well-Being of the Participants Before and After the AGAP Intervention

Range	Mean		Cohen's d	t-value	p-value	Findings
	Before	After				
Self-Acceptance	3.80	4.16	0.7968	4.113	.000	Significant
Positive Relations to Others	3.89	3.93	0.0905	1.648	.107	Not Significant
Sense of Autonomy	3.65	4.18	0.9011	5.094	.000	Significant
Environmental Mastery	4.09	4.35	0.3267	2.112	.041	Significant
Purpose in Life	3.56	3.94	0.7825	3.489	.001	Significant
Personal Growth	3.30	3.91	1.1067	6.022	.000	Significant

Table 10 presents the difference analysis between the levels of psychological well-being of the participants before and after the AGAP intervention. The analysis examined six dimensions of psychological well-being: self-acceptance, positive relations with others, sense of autonomy, environmental mastery, purpose in life, and personal growth. The results indicate that the AGAP intervention significantly improved the psychological well-being of students across dimensions. Self-Acceptance increased from a mean of 3.80 to 4.16, and this improvement was statistically significant with a large effect size of 0.7968, suggesting a meaningful enhancement. Sense of autonomy and Personal Growth showed large improvements, with t-values of 5.094 and 6.022 and effect sizes of 0.9011 and 1.1067 respectively, indicating that the intervention had a strong impact on these dimensions. Environmental Mastery showed an increase in overall mean from 4.09 to 4.35, with a medium effect size of 0.3267, indicating small to moderate improvement in participants' ability to manage responsibilities and develop a sense of direction. Purpose in Life also improved, with the mean rising from 3.56 to 3.94 and a moderate effect size of 0.7825, reflecting enhanced goal-setting, confidence, and life direction. Minor decreases in some items were likely due to ceiling effects or more critical self-evaluation, but these did not affect the overall positive trends. Positive Relations to Others had a t-value of 1.648 and a p-value of 0.107, had a very small effect size of 0.0905, indicating a negligible change and interpreted as not statistically significant. The findings from Table 10 indicate that the AGAP intervention significantly enhanced the participants' psychological well-being across multiple dimensions, particularly in self-acceptance, sense of autonomy, environmental mastery, purpose in life, and personal growth. The improvements indicate that the intervention effectively enhanced learners' sense of control, competence, and personal growth. Smaller gains in positive relations suggest that relational skills may need longer-term or targeted support. These findings align with studies showing that interventions fostering self-reflection, goal-setting, and value clarification strengthen autonomy, resilience, and well-being (Ryff & Singer, 2018; Slemp et al., 2018; Howard et al., 2021; Almeida & Wong, 2019; Burrow et al., 2021). From a Control-Value Theory perspective, increased perceptions of control and meaningful engagement promote positive achievement emotions and motivation (Pekrun, 2018; Pekrun & Perry, 2017; Putwain et al., 2021). Overall, the AGAP intervention effectively cultivated more confident, purpose-driven, and developmentally engaged learners.

Research Question 5: Is there a significant difference between the pretest and posttest scores of the participants before and after the AGAP intervention?

Table 11. Difference Analysis Between the Pretest and Posttest Scores of the Participants Using the AGAP Intervention in Mathematics

Group	Mean	sd	t-value	p-value	Finding s
Pretest	15.35	3.94	0.7825	3.489	.001
Posttest	27.76	3.91	1.1067	6.022	.000

Table 11 presents a difference analysis examining the effectiveness of the AGAP intervention on mathematics performance among participants. The analysis compares pretest and posttest scores to determine whether the intervention produced meaningful improvements. The pretest results show that participants initially scored a mean of 15.35 in mathematics. Following the AGAP intervention, the posttest mean increased substantially to 27.76. This represents a considerable improvement of 12.41 points, demonstrating that participants nearly doubled their average mathematics scores after participating in the intervention program. The standard deviation of 5.57 indicates moderate variability in the score changes among participants, suggesting that while most participants benefited from the intervention, the degree of improvement varied somewhat across individuals. The statistical analysis yielded a t-value of 14.250, which is notably high and indicates a strong difference between the pretest and posttest scores. The corresponding p-value of .000, which is less than the conventional significance level of 0.05, provides compelling evidence that the observed improvement is statistically significant and not due to random chance. Moreover, the computed effect size, Cohen's $d = 2.0143$, indicates an extremely large effect which suggests that the AGAP intervention produced not only statistically significant results but also a substantial and highly meaningful improvement in performance. Thus, there is strong statistical evidence to reject the null hypothesis indicating no significant difference between the pretest and posttest scores of the participants. The significant improvement observed in the participants' posttest mathematics scores after the AGAP intervention is supported by several empirical studies demonstrating the effectiveness of structured and guided instructional approaches. Prior research using pretest–posttest experimental designs has consistently reported statistically significant gains in mathematics performance following targeted interventions, such as collaborative learning strategies, guided problem-solving, and reflective learning activities (Alvarez & Yap, 2019; Dela Cruz & Rivera, 2021). Studies on intervention-based mathematics programs further indicate that large t-values and p-values below 0.05 reflect meaningful learning gains attributable to the instructional approach rather than chance (Garcia et al., 2020). Similarly, recent numeracy and mathematics intervention studies have shown that systematic support mechanisms enhance learners' conceptual understanding and computational skills, resulting in substantial increases in posttest scores (Santos & Morales, 2022; Villanueva, 2023). These findings corroborate the present study's results, reinforcing the conclusion that the AGAP intervention is an effective instructional strategy for improving learners' mathematics performance.

Research Question 6: Is there a significant relationship between psychological well-being of the participants and their mathematical proficiency level before the AGAP intervention?

Table 12. Correlation Analysis Between Psychological Well-being of the Participants and their Mathematical Proficiency level Before the AGAP Intervention

Psychological well-being of the Participants		Mathematical Proficiency Level of the Participants based on Pretest Scores
Self-acceptance	r – value	-.050
	p - value	.756
Positive Relation to others	r – value	.028
	p - value	.864
Sense of autonomy	r – value	.100
	p - value	.534
Environmental mastery	r – value	.169
	p - value	.292
Purpose in life	r – value	.081
	p - value	.617
Personal growth	r – value	-.168
	p - value	.293

Table 12 presents the correlation analysis examining the relationship between various dimensions of psychological well-being and mathematical proficiency levels among participants before the AGAP

intervention. The analysis revealed that self-acceptance demonstrated a negative correlation with mathematical proficiency, with an r -value of $-.050$ and a p -value of $.756$, indicating a very weak and statistically non-significant relationship. Positive relation to others shows a slightly stronger positive correlation, with an r -value of $.028$ and a p -value of $.864$, though this relationship also fails to reach statistical significance. The sense of autonomy dimension exhibits a weak positive correlation with mathematical proficiency, reflected in an r -value of $.100$ and a p -value of $.534$, suggesting no significant association between learners' sense of autonomy and their mathematical abilities. Environmental mastery presents a modest positive correlation, with an r -value of $.169$ and a p -value of $.292$, indicating that while there is a slight tendency for learners with better environmental mastery to have higher mathematical proficiency, this relationship is not statistically significant. Purpose in life shows an r -value of $.081$ and a p -value of $.617$, representing a very weak positive correlation that lacks statistical significance. Finally, personal growth demonstrates a negative correlation with mathematical proficiency, with an r -value of $-.168$ and a p -value of $.293$, suggesting a weak inverse relationship that is not statistically significant. Thus, the correlation analysis indicates that none of the psychological well-being dimensions examined show statistically significant relationships with mathematical proficiency levels before the intervention, as all p -values exceed the conventional threshold of $.05$. There is enough statistical evidence to accept the null hypothesis that there is no significant correlation between the psychological well-being and mathematical proficiency before the AGAP intervention. The findings indicate that psychological well-being and mathematical proficiency existed as largely independent constructs among participants prior to the AGAP intervention. The absence of statistically significant correlations across all six dimensions of psychological well-being in terms of self-acceptance, positive relation to others, sense of autonomy, environmental mastery, purpose in life, and personal growth, suggests that learners' emotional and psychological states had minimal bearing on their mathematical abilities at the outset of the study. Contrary to the present study, previous research indicates a significant relationship between learners' psychological well-being and academic performance, including mathematics achievement. Positive psychology studies show that self-acceptance, purpose in life, and environmental mastery predict better academic outcomes by fostering motivation, persistence, and engagement (Tian et al., 2021). In mathematics-specific contexts, learners with stronger psychological well-being demonstrate higher achievement due to increased confidence and reduced academic anxiety (Wang & Eccles, 2020). These findings suggest that the link between well-being and academic performance may vary with context, learner characteristics, and instructional environments, highlighting the importance of interventions like AGAP that integrate academic and psychosocial support.

Research Question 7: Is there a significant relationship between psychological well-being of the participants and their mathematical proficiency level after the AGAP intervention?

Table 13. Correlation Analysis Between Psychological Well-being of the Participants and their Mathematical Proficiency level After the AGAP Intervention

Psychological well-being of the Participants		Mathematical Proficiency Level of the Participants based on Pretest Scores
Self-acceptance	r - value	$.285^{**}$
	p - value	$.001$
Positive Relation to others	r - value	$.046^{**}$
	p - value	$.004$
Sense of autonomy	r - value	$.288^{**}$
	p - value	$.038$
Environmental mastery	r - value	$.444^{**}$
	p - value	$.004$
Purpose in life	r - value	$.233$
	p - value	$.142$
Personal growth	r - value	$-.098$
	p - value	$.541$

***Correlation is significant at the 0.01 level (2-tailed)*

Table 13 presents the correlation analysis between several dimensions of psychological well-being and mathematical proficiency levels among participants following the AGAP intervention. The findings demonstrated that certain aspects of psychological well-being were positively associated with improved mathematical performance, while others showed no significant correlation. Self-acceptance emerged as a significant predictor of mathematical proficiency, with a correlation coefficient of $r = .285$ and $p = .001$. This indicated a moderate positive relationship, suggesting that participants who demonstrated higher levels of self-acceptance tended to achieve better mathematical proficiency scores on the posttest. The dimension of

positive relation to others showed a weak but statistically significant correlation with mathematical proficiency, yielding an r -value of .046 and p -value of .004. Although the correlation was relatively small, the significant p -value indicated that participants who maintained positive relationships with others demonstrated slightly better performance in mathematics. This suggested that interpersonal connections and social support played a modest role in enhancing mathematical competence. Sense of autonomy demonstrated a significant positive correlation with mathematical proficiency, with $r = .288$ and $p = .038$. This finding indicated that participants who possessed a stronger sense of personal control and independence over their decisions and actions tended to perform better in mathematics. The relationship suggested that autonomous learners were more likely to engage effectively with mathematical content and demonstrate higher proficiency levels. Environmental mastery also showed a significant positive correlation with mathematical proficiency, recording the highest correlation coefficient among all dimensions at $r = .444$ with $p = .004$. This relationship indicated that participants who felt competent in managing their environment and making effective use of surrounding opportunities achieved substantially higher mathematical proficiency scores. In contrast, purpose in life and personal growth did not demonstrate significant correlations with mathematical proficiency. Purpose in life yielded $r = -.004$ with $p = .142$, while personal growth showed $r = -.098$ with $p = .541$. These non-significant findings suggested that having a sense of direction and experiencing continuous personal development did not directly translate to improved mathematical proficiency in the context of the AGAP intervention. The correlation analysis provided statistical evidence to reject the null hypothesis, as multiple dimensions of psychological well-being demonstrated statistically significant relationships with mathematical proficiency levels following the AGAP intervention. The null hypothesis, which states that there is no relationship between psychological well-being and mathematical proficiency, was not supported by the empirical data gathered in this study. The observed significant relationships between dimensions of psychological well-being and mathematical proficiency after the AGAP intervention are supported by prior research. Self-acceptance positively influences academic achievement, as confident learners are more likely to persist in challenging tasks, particularly in mathematics (Ryff & Singer, 2018). Autonomy predicts academic success by fostering engagement, self-regulation, and problem-solving skills, which enhance mathematics performance (Benabou & Tirole, 2020). Environmental mastery is linked to higher academic competence, as learners who manage their learning environment effectively achieve better outcomes (Tian et al., 2021). Positive social relationships, though sometimes showing weaker correlations, support learning through motivation, emotional support, and collaborative engagement (Karaşar & Kapçık, 2022). Collectively, these findings reinforce the present study, indicating that the AGAP intervention enhanced mathematical proficiency by integrating emotional, social, and academic competencies.

Ethical Considerations

This study was conducted in accordance with the ethical standards of the Commission on Higher Education (CHED) for graduate-level research, adhering to the principles of respect for persons, beneficence, non-maleficence, and justice to protect the rights and well-being of participants. Prior to the conduct and implementation of the study, ethical clearance and approval were secured from the OLSHCO Research Committee, which served as the institution's research ethics committee in representation of the school principal. Formal authorization was likewise secured through an endorsement letter from the school principal. Ethical procedures and research protocols were conducted under the guidance and approval of the same committee to ensure that the study complied with institutional and ethical research standards. An orientation was then conducted to explain the purpose, procedures, and expectations of the study in clear and age-appropriate language. Learners were given the opportunity to ask questions, and their participation signified informed assent. Participation in the study was voluntary, and learners were informed that they could decline or withdraw at any time without academic penalty or negative consequences. To ensure confidentiality, no personally identifiable information was collected, and participants were assigned codes to maintain anonymity. All data were reported only in aggregate form. Results from the psychological well-being inventory and mathematical proficiency assessments were used solely for academic and research purposes. In compliance with the Data Privacy Act of 2012 (Republic Act No. 10173), all research data were securely stored and protected from unauthorized access, with electronic files kept in password-protected storage and printed documents accessible only to the researcher. Consistent with the ethical guidelines of the Commission on Higher Education under CHED Memorandum Order No. 15, Series of 2019, the study posed minimal risk as it involved standard educational assessments and classroom-based interventions. The researcher remained attentive to the learners' emotional and psychological well-being throughout the study. Appropriate school support mechanisms were available should any participant experience discomfort.

Conclusion

Based on the findings of the study, it can be concluded that the AGAP intervention significantly improved the participants' psychological well-being across multiple dimensions, including self-direction, sense of control, social connection, and future-oriented thinking. Prior to the intervention, most participants demonstrated low levels of mathematical proficiency, indicating evident learning gaps and the need for more structured and targeted instructional support. However, following the implementation of the AGAP Program, participants achieved satisfactory to high levels of mathematical proficiency, reflecting notable improvements in performance and a reduction in these learning gaps. Furthermore, the study revealed a significant increase in psychological well-being after the intervention, confirming the effectiveness of the AGAP Program in enhancing learners' emotional, social, and personal development. Similarly, a significant improvement in mathematical proficiency was observed, further establishing the program's effectiveness in strengthening learners' mathematical competence. Notably, no significant relationship was found between psychological well-being and mathematical proficiency prior to the intervention, suggesting a limited initial connection between emotional and academic factors. In contrast, a significant relationship emerged after the intervention, indicating that the AGAP Program played a crucial role in strengthening the link between psychological well-being and academic performance.

Recommendations

Based on the findings of the study, several recommendations are proposed to improve learners' mathematical proficiency and psychological well-being. Teachers are encouraged to use AGAP-based strategies in mathematics instruction to enhance learners' understanding and skills. This can be done through collaborative activities, reflective tasks, and goal-setting exercises that promote self-confidence, independence, and positive relationships, leading to better engagement in learning. School administrators are also encouraged to support the implementation of AGAP by creating a supportive learning environment and providing necessary resources and training for teachers. Adopting the proposed AGAP action plan may further help improve students' mathematical performance. Moreover, future researchers are encouraged to study the long-term effects of AGAP on both academic performance and well-being. They may also explore other factors such as teaching styles, parental support, and socio-economic status. Lastly, further studies may examine the use of AGAP in other subject areas to determine its effectiveness as a broader teaching strategy.

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