BOOSTING LANGUAGE LEARNING WITH MCII STRATEGY: A QUASI-EXPERIMENTAL STUDY ON SECONDARY STUDENTS

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ABSTRACT

Background and Purpose: Foreign language learning has long been a topic of research, with pedagogical challenges frequently examined. While self-regulation is recognized as critical to student motivation and success, the effectiveness of specific self-regulatory strategies in foreign language learning merits further investigation. This study sought to explore the impact of a self-regulatory strategy, mental contrasting with implementation intentions (MCII), on the foreign language learning performance of secondary students.

Methodology: This quasi-experimental study involved 47 fifth-grade students attending a foreign language course at a secondary school. Participants were assigned to an MCII group (n=27) or a comparison group (n=20). The MCII group received instruction on identifying goals, envisioning the best outcome, anticipating obstacles, and creating plans to overcome them. The comparison group received instruction on identifying goals and envisioning the best outcome. Grade point averages in the English course from the first and second semesters were used as pre-test and post-test measures. A general linear model was used to analyse the data.

Findings: MCII group performed significantly better in the foreign language course at the end of the semester than the comparison group, with a medium effect size ($\eta_p^2 = .11$). Participants in the MCII condition achieved higher GPA difference scores ($M= 8.15, SD = 10.05$) than those in the comparison condition ($M= 2.82, SD= 6.17$).
Contributions: MCII strategy fosters goal-directed behaviour, goal striving, and ultimately, goal achievement. Practitioners can create and use MCII forms tailored to students' grade levels to enhance their goal striving and achievement in foreign language learning.

Keywords: Foreign language learning, intervention, self-regulation, academic performance, quasi-experimental study.


1.0 INTRODUCTION
In education, it is widely recognized that self-regulation is critical to student motivation and academic success (Bandura, 1986; Zimmerman, 1989). Self-regulation, which encompasses the entire system of emotions, opinions, feelings, behaviors, and choices, enables individuals to be more successful in work and school life, happier in social relationships, and increase their well-being (Baumeister, 2018). It is equally a cornerstone for mastering foreign languages, which has been the topic of numerous studies (Adi Kasuma, 2017; Al Mubarak, 2017; Assalihe et al., 2019), requiring learners to adeptly navigate cognitive and emotional landscapes (Bursalı & Öz, 2018; Eken & Gündoğdu, 2021; Teng & Zhang, 2022). Self-regulatory process allows learners to set and achieve language learning goals, monitor progress, adapt strategies, regulate emotions, and persevere (Pintrich, 2000; Schunk & Zimmerman, 2023). A learner's success in a foreign language is thus significantly influenced by their self-regulatory strategies, which empower them to make informed decisions and gain practical experience in conducting and directing their learning.

As such, the role of self-regulation strategies in language learning cannot be overstated, influencing learners' achievements and proficiency (Bai & Wang, 2020). Research underscores this, as Bai and Wang (2020) found that students' self-efficacy significantly predicts the use of cognitive strategies, self-regulation, and English language learning achievements. Moreover, Kutuk et al. (2022) highlighted the positive relationship between self-efficacy and self-regulated learning strategies, leading to higher English test scores. Adding to this, Li (2019) emphasized the importance of metacognitive strategies such as self-planning, self-monitoring, and self-evaluating in second language learning, underscoring their indispensability for language acquisition success.
Building on these cognitive aspects, Wilang and Duy (2021) found significant associations between emotional self-regulation strategies and language experience, further affirming that emotional self-regulation strategies are intertwined with vocabulary strategies. Similarly, Tham and Lua (2022) identified a range of self-regulated learning strategies used by students, which included goal setting, planning, self-motivation, attention control, and self-evaluation during English learning. In a broader educational context, Zhang et al. (2020) discussed the theoretical foundation of game-based self-regulated language learning, highlighting the positive correlations between learner motivation, self-efficacy, autonomy, and the implementation of game-based learning and self-regulated learning. Eken and Gündoğdu (2021) provided empirical support for the relationship between language learning strategies and self-regulation skills.

The ability to self-regulate is paramount, as learners who adeptly use self-regulation strategies can plan, select appropriate cognitive and metacognitive approaches, and evaluate the outcomes of their learning (Sinclair, 2000). Hence, learners' commitment to goals and subsequent success is closely tied to their use of self-regulation strategies (Oettingen et al., 2001). Goal setting, an essential component of self-regulation, is not merely about aspirations; it's a systematic process that directly influences one's ability to succeed. Emphasized by Locke and Latham (2002), precise, challenging, and achievable goals establish a roadmap for success, maintaining motivation and focus. The methodology of setting these goals, as proposed by Oettingen et al. (2001), critically impacts goal achievement by influencing commitment, pursuit, and striving.

However, the process of goal setting is often fraught with challenges, due to varying desires and potential obstacles (Duckworth et al., 2011). It is here that mental contrasting emerges as a strategic method, effectively increasing commitment to goals by juxtaposing desired future outcomes with present obstacles (Oettingen et al., 2001). To further the likelihood of goal attainment, it is beneficial to employ implementation intentions, a strategy that specifies the when, where, and how of action-taking in the face of anticipated challenges (Gollwitzer, 1999; Sheeran et al., 2005). This approach counters the pitfall of merely fantasizing about positive outcomes, which can inadvertently hinder goal-directed behaviors (Oettingen, 2012; Oettingen & Mayer, 2002). Given the complexities of goal setting and pursuit, the introduction of Mental Contrasting (MC), Implementation Intentions (II), and Mental Contrasting with Implementation Intentions (MCII) are noteworthy advancements.
2.0 LITERATURE REVIEW

2.1 Mental Contrasting
Mental contrasting is a powerful self-regulatory problem-solving strategy that has been shown to facilitate intentional behavior change (Oettingen, 2012). The technique involves comparing and contrasting a desired positive future with the current negative reality, thus creating a cognitive link between the two (Oettingen, 2012). By imagining a positive future and then identifying the obstacle in the present that prevents it from becoming a reality, individuals become motivated to take action to overcome the obstacle and achieve their goal (Oettingen, 2012). This technique has been found to be effective across numerous areas of life, cultures, and age groups (Oettingen, 2012).

Research has demonstrated that mental contrasting can be used to facilitate interpersonal relationships and find common solutions (Kirk et al., 2011; Oettingen & Reininger, 2016), achieve educational goals (Oettingen et al., 2000, 2001), improve health-related situations (Adriaanse et al., 2013; Sheeran et al., 2013), and promote self-improvement (Oettingen et al., 2005). For instance, mental contrasting has been shown to increase the likelihood of engaging in health behaviors, such as exercise and healthy eating (Adriaanse et al., 2013), and to improve academic performance by increasing motivation and persistence (Oettingen et al., 2000, 2001).

Given its effectiveness and versatility, mental contrasting has the potential to be a valuable tool for individuals seeking to make positive changes in their lives. Therefore, it is important for researchers to continue investigating and exploring the potential of this strategy in various contexts.

2.2 Implementation Intentions
Research has shown that mental contrasting can help individuals become more committed to achieving their goals. However, even individuals who are highly committed to their goals may not engage in the necessary behaviors to achieve them due to various factors (Stadler et al., 2010). To overcome obstacles and promote goal striving, Gollwitzer and Sheeran's (2006) meta-analysis study found that establishing a plan is crucial, regardless of the life domain. In addition to goal setting, implementing a self-regulatory strategy called implementation intention has been found to have a significant positive effect on goal achievement. This strategy involves creating a mental link between the expected obstacle (situation Y) and the intended countermeasure (planned behavior Z), allowing for immediate responses to negative scenarios when they occur (Oettingen & Gollwitzer, 2010). The effectiveness of implementation
intentions lies in creating a mental image of the expected negative scenario, which keeps the scenario active and easily accessible in the mind (Gollwitzer, 1999).

Implementation intentions have been used effectively in various areas, such as increasing mathematics achievement (Duckworth et al., 2013), initiating goals that involve unpleasant goal-directed behaviors (Orbell et al., 1997; Oettingen et al., 2000), improving eating habits (Stadler et al., 2010), and increasing willpower (Gollwitzer et al., 2010). Therefore, the strategy of implementation intentions for self-regulation is a promising approach for individuals to achieve their goals, particularly when faced with obstacles.

2.3 Mental Contrasting with Implementation Intentions
MCII stands for "Mental Contrasting with Implementation Intentions," a comprehensive and empirically supported self-regulation strategy aimed at enhancing goal pursuit and attainment. As stated before, mental contrasting involves juxtaposing thoughts of desired future outcomes with reflections on present obstacles. This process is grounded in the cognitive juxtaposition that creates a sense of urgency and commitment to the goal. Implementation intentions are "if-then" plans that transform this commitment into specific, actionable behaviors when certain cues are encountered, turning goal-directed behaviors into near-automatic responses. Mental contrasting and implementation intentions are strategies that, when used alone, facilitate goal attainment by increasing goal striving and goal commitment. However, when these strategies are integrated into MCII, they produce a synergistic effect that reinforces the psychological and practical aspects of goal attainment. The results of research studies suggest that using these strategies together promotes goal attainment more effectively than using either strategy alone (Duckworth & Carlson, 2013; Gollwitzer et al., 2018). The theoretical foundation of MCII is rooted in self-regulation and motivational psychology. It explains how mental contrasting effectively mobilizes cognitive resources by enhancing the mental association between future outcomes and present realities, while implementation intentions create a strategic automaticity in behavior. This dual approach transforms intentions into persistent goal-directed actions, making MCII a dynamic self-regulatory strategy that has proven to be effective across various behavioral domains. MCII is a self-regulatory strategy that not only sequentially identifies the goal and plans to overcome obstacles but also embeds these within a cognitive and behavioral framework designed for action. Intervention studies using MCII have shown that using these strategies is cost-effective and time-saving (Duckworth et al., 2013; Gawrilow et al., 2013; Velasquez-Sheehy, 2015), making it a pragmatic choice for both individuals and institutions. Additionally, individuals increase their motivation toward their goals, which is underpinned by
the empirically demonstrated reinforcement loop between enhanced goal commitment and action orientation (Duckworth et al., 2011; Martenstyn & Grant, 2022). Many studies in various life domains have shown that MCII strategies are not only more effective than mere mental contrasting or mere implementation intentions but also more effective than other various types of interventions. This effectiveness can be attributed to the unique cognitive and motivational mechanisms activated by MCII, which include the heightened emotional response that increases the perceived importance of the goal and the urgency to act towards it (Adriaanse et al., 2010; Kirk et al., 2013; Abdulla & Woods, 2021; Oettingen et al., 2015). This technique has been found effective across various domains, signaling its universal applicability and cross-cultural relevance. Its effectiveness includes improving self-regulation in schoolchildren at risk for ADHD (Gawrilow et al., 2013), enhancing goal attainment in individuals with mild to moderate depression (Fritzsche et al., 2016), and promoting sustainable food consumption (Loy et al., 2016). It also improves self-discipline in adolescents (Duckworth et al., 2011) and helps in managing time more effectively (Oettingen et al., 2015). MCII is also a useful strategy for health behavior change, with a systematic review indicating a small to moderate effect size on changing health behavior in the short term (Cross and Sheffield, 2019). Moreover, the versatility of MCII as a strategy that is equally effective in different cultures and age groups enhances its value significantly (Marquardt et al., 2017; Sailer et al., 2015). In conclusion, MCII is a well-established method that leverages the power of mental imagery and concrete planning to facilitate goal achievement and behavioral change, providing a scientifically solid strategy for educators, clinicians, and individuals aiming for personal development. A study conducted with health professionals showed that stress reduction is possible with MCII (Gollwitzer et al., 2018). In addition, MCII has been shown to be an effective strategy for speaking Chinese as an intervention to reduce anxiety about learning a foreign language (Chien, 2020). Beyond reducing negative emotions, MCII is also commonly used in studies to increase positive emotions. These include emotions such as well-being (Liau et al., 2018), grit (Sending, 2014), academic engagement (Stan, 2016), and resilience (Duckworth et al., 2011), which are fundamental for educational success and personal well-being. MCII is a promising strategy for both managing negative emotions and enhancing positive emotions, important for comprehensive mental health. These impressive properties led to the use of the MCII strategy in this study to improve learning success in foreign language acquisition, signifying its potential as a transformative tool in educational settings and beyond.

Since the current study was an educational intervention study, it was thought that applying a different strategy to the control group, as suggested by Fraenkel et al. (2012) rather
than not applying any intervention, would be appropriate. Therefore, a comparison group was created to demonstrate how the absence of elements of current obstacles and plans to overcome them—which ensure the effectiveness of the MCII in setting realistic and challenging but achievable goals—affect foreign language learning, i.e., when one still sets goals but only thinks about the positive outcome of achieving the goal. Thus, a positive thinking group was formed as a comparison group. Figure 1 shows the content that the MCII group and the comparison group were asked to express.

![Image of MCII Group and Comparison Group](image-url)

**Figure 1:** The content that the MCII group and the comparison group were asked to express

This study is significant in several ways. First, the literature emphasizes that only focusing and expressing on the most important outcome of goal achievement (setting a goal and thinking about the desired positive future/fantasy) prevents goal-directed behaviors from being initiated, let alone contributing to the realization of the goal (Oettingen, 2012; Oettingen & Mayer, 2002). In the current study, it was possible to examine and compare the effects of positive thinking in a new context (in a new country and with fifth-graders). Second, the application of MCII strategy in different fields, including education, is not older than two decades. Therefore, studying the effectiveness of MCII strategy in different fields will contribute to the literature on the use of this strategy. Third, the MCII strategy, which has been used in the literature to indicate the importance of both positive and negative emotions in language learning, has been used in intervention studies with positive results for both emotion groups. Therefore, it is important to consider such a strong strategy based on the literature. Fourth, the use of the MCII strategy is very limited in certain cultural contexts, and studying its impact in the current culture will contribute to the relevant literature. Because of these advantages, it was decided to use the MCII strategy as an intervention program in this study. It is expected that the children in the
MCII group would perform better academically in the foreign language learning than the children in the positive thinking comparison group.

The following research question was aimed to be answered:

- Is there a significant difference in academic performance between the MCII strategy experimental group and the positive thinking comparison group in the fifth-grade foreign language course?

3.0 RESEARCH DESIGN

Ethics committee approval and informed consent of participants and their parents were obtained before the study.

3.1 Study Design

This study used a quasi-experimental pretest-posttest design because participants were not randomly assigned to groups (Creswell, 2012). Instead, participants were assigned to the MCII or comparison group through their classroom (Class A – MCII group; Class B – Comparison group). Participants' grade point averages in the first semester English course were used as the pretest, and their grade point averages in the second semester after the intervention were used as the posttest. Since it is not easy to ensure randomization in social sciences, convenient sampling was used (Creswell, 2012).

3.2 Participants

The study group consisted of fifth-grade volunteer students attending a foreign language course with the same teacher at a secondary school (n= 47). There were 27 students (9 female, 18 male) in the MCII group (Class A) and 20 students (8 female, 12 male) (Class B) in the comparison group.

3.3 Study Context and Procedures

The present study was conducted in the 2nd semester of the academic year 2021-2022. Secondary education in public schools is taught in 2 semesters. Students receive 3 hours of foreign language instruction per week. In the semester in which this study was conducted, there were 18 weeks of classes.

In the second half of the semester (second 9 weeks), excluding exam weeks and holidays, six weeks remained during which the MCII and comparison group activities could be
implemented. The application of the forms was carried out between 04/04/2022 and 06/06/2022. In this process, the activity forms were applied 6 times for each group. Class A has classes on Mondays and Class B on Thursdays. As application weeks, these 6 weeks were chosen in which both classes learned the same subject and one group's class did not coincide with a vacation. During these six intervention weeks, students completed the activity forms specific to their assigned condition (MCII or comparison) as part of their regular instruction. In the first half of the semester and in the off-weeks during the second half when activity forms were not being used, both the experimental and comparison groups received business-as-usual instruction. The MCII and comparison activities were thus implemented as a supplement to, rather than a replacement for, standard course instruction.

The activity sheets were created by an instructional technology specialist using the Canva graphic design platform based on the developmental characteristics of fifth-grade students in a secondary school and the textbooks and worksheets they currently use. The teacher who would implement the intervention was presented with the visual design of the prepared activity sheets, titles, and content of the texts for approval. The teacher, as an expert in both the subject matter and the developmental needs of 5th grade students, reviewed the activity forms to ensure they were appropriate for the target age group.

After the teacher deemed the activity forms suitable, they were shown to a 5th grade student who was not involved in the study. The purpose of this step was to gain initial insights into the user experience and to see if the instructions and questions were clear from a student's perspective. However, it should be noted that the primary goal was not to conduct an expert design review, as this had already been accomplished through the teacher's evaluation. Following positive feedbacks from both teacher and fifth grade student on the visual design, clarity of sentences, and questions, two types of activity sheets were printed on A4 paper (See Figure 2).
The teacher taught both groups how to fill out the activity sheets. In the experimental group, i.e., the MCII group, students clearly stated their weekly goal, the most important outcome if they would achieve that goal, the current obstacle to achieving the goal, and the plan to overcome that obstacle. In the comparison group, students only clearly stated their weekly goal and wrote down what the most important outcome would be if they achieved that goal. That is, in the comparison group, unlike the experimental group, students did not indicate what obstacle currently stood in the way of achieving the goal and how they planned to overcome it.

In the weekly implementations, the teacher verified that students correctly completed the Goal-Outcome-Obstacle-Plan (MCII group) or Goal-Outcome (Comparison group) textboxes on the activity sheet, and if necessary, the teacher assisted students in completing these boxes according to their own individual goals.

3.4 Measures
Data were collected using a questionnaire and grade point average (GPA) differences in foreign language class. The questionnaire consisted of two main sections. The first section gathered demographic information, including gender, age, and full name of the participants. The second section contained two items designed to measure participants' perceived importance of the
English course and their expectations for achieving their learning goals in the course. These items were based on previous MCII studies (Gollwitzer et al., 2011; Oettingen & Wittchen, 2013; Valshtein et al., 2020) but adapted to the context of this study. The first item assessed the importance of achieving English learning goals on a 6-point scale (1 = Not at all important, 6 = Extremely important). Participants were asked, "How important is it for you to achieve your English course learning goals?" The second item measured participants' expectancy for achieving their English learning goals, also on a 6-point scale (1 = Not at all possible, 6 = Extremely possible). Participants were asked, "How possible do you think it is for you to achieve your English course learning goals?" For both items, participants were instructed to read the questions carefully, make predictions about their thoughts on the English course, and ensure that their predictions reflected reality as accurately as possible. The GPA difference was determined by subtracting the first semester (before the intervention) grades from the second semester (after the intervention) grades for each participant. The GPA itself was determined based on three performance grades: quizzes (15%), homework (10%), and participation (5%), as well as two exams: the midterm exam (30%) and the final exam (40%). Quizzes assessed mastery of language skills and content every two weeks, while homework involved weekly reading, writing, listening, and speaking exercises. Participation scores reflected students' active engagement in classroom activities and discussions. The midterm and final exams provided comprehensive assessments of language skills covered in the first half and throughout the entire semester, respectively.

3.5 Data Analysis

Baseline characteristics of expectancy-value, and importance in foreign language learning were compared using independent-samples T-tests analyses.

General linear model (GLM) was performed to compare GPA differences (dependent variable) between MCII and comparison intervention groups (independent variable) with covariates of expectancy-value and importance. The validity of the results of GLM is tested with the assumptions of randomization, independence, normality. As convenient sampling was used, to eliminate its limitations, the extent to which the sample represents the population is possible by describing both groups as much as possible (Wilkinson, 1999). These descriptions are made under the title of study context and participants. Since the MCII intervention group and comparison group members are different, the independence assumption is satisfied. Skewness and Kurtosis values and histograms were checked for normality assumption. Skewness and Kurtosis values are below 1 and histograms for both groups are bell-shaped.
Although the number of participants in the current study is relatively small, it fulfills Creswell's suggestion of having at least 15 people in each group. Since the necessary assumptions for the tests were met, parametric tests were preferred over nonparametric tests even though the sample size was relatively small.

4.0 ANALYSIS AND DISCUSSION

4.1 Analysis

Before the intervention application, GPA, expectancy-value, importance, and school motivation measurements of two groups were compared in order to determine whether there were differences between the groups. Participants in the MCII and comparison groups did not differ in baseline GPA (MCII $M = 69.29$, $SD = 21.63$; Comparison $M = 76.00$, $SD = 11.71$; $t(42) = -1.364$, $p = .11$), baseline expectancy-value (MCII $M = 4.74$, $SD = 1.23$; Comparison $M = 4.55$, $SD = .95$; $t(45) = .579$, $p = .57$), baseline importance (MCII $M = 5.22$, $SD = .75$; Comparison $M = 5.05$, $SD = .89$; $t(45) = .720$, $p = .48$). This indicates that the groups were initially comparable, and any observed differences in academic performance after the intervention might be attributed to the effectiveness of the MCII strategy rather than pre-existing group differences.

A GLM was estimated with GPA difference as the dependent variable, intervention as the fixed factor and expectancy-value, and importance as the covariates. There were no significant main effects for expectancy-value and importance, both $F$s < 1.15, $p$s > .29. I observed a main effect of intervention type, with the GPA differences of the children in the MCII group significantly higher than the children in the comparison group $F(1, 43) = 5.45$, $p < .024$, $\eta^2_p = .11$, with participants in the MCII condition achieving higher GPA difference scores ($M = 8.15$, $SD = 10.05$) than in the comparison condition ($M = 2.82$, $SD = 6.17$). The analysis revealed no significant main effects for the covariates expectancy-value and importance, suggesting that these factors did not significantly contribute to the observed differences in GPA between the two groups. However, a significant main effect of intervention type was found, indicating that the GPA differences of the children in the MCII group were significantly higher than those of the children in the comparison group. The effect size (partial eta squared, $\eta^2_p$) of 0.11 suggests that the intervention type had a medium-sized effect on the GPA differences. Specifically, participants in the MCII condition achieved, on average, a GPA difference score of 8.15 points ($SD = 10.05$) between the first and second semesters, while participants in the comparison condition achieved an average GPA difference score of 2.82 points ($SD = 6.17$). These results demonstrate that the MCII intervention had a statistically
significant and medium-sized effect on improving academic performance in foreign language learning compared to the comparison condition, as measured by the difference in GPA between the first and second semesters.

4.2 Discussion

The purpose of the present study is to investigate the effectiveness of the use of MCII strategy in foreign language learning in the academic achievement of fifth graders in foreign language course. Fifth graders who reported their goal-outcome-obstacle-plan on the MCII intervention form before foreign language classes improved their grades at the end of the school year significantly more than students in the comparison group who reported their goal-outcome on the positive thinking intervention form. A research study comparing mental contrasting and positive thinking in terms of foreign language acquisition in two separate studies in Germany and the United States also demonstrated the effectiveness of the mental contrasting strategy over positive thinking (Gollwitzer et al., 2011). The mental contrasting strategy includes the elements of goal-outcome-obstacle. The MCII strategy, on the other hand, adds a plan element in addition to these elements. Gollwitzer and Sheeran (2006) claimed that planning how to overcome the defined obstacles has a positive effect on goal commitment, goal striving, and goal achievement. A recent study highlighted the effectiveness of the MCII strategy in reducing bedtime procrastination, showing that while both MCII and positive thinking increased commitment immediately following the intervention, MCII was significantly more effective in sustaining this commitment long-term. Participants in the MCII condition reported greater and more persistent commitment than those who used positive thinking (Valshtein et al., 2020). The reason for this is that making plans prepares individuals for what proactive behaviors they will engage in when confronted with the obstacle. The positive thinking group elaborated the goal and outcome elements in the activity form. In literature, it was claimed that simply naming the goal and imagining the positive outcome of achieving the goal can create the feeling of having achieved the goal, and therefore this feeling can be an obstacle to goal achievement (Duckworth et al., 2013; Lee et al., 2021). Moreover, the momentary feeling of having achieved the dreamed future brings disappointment, dissatisfaction and anger in the long run (Oettingen & Mayer, 2002). Therefore, although it is important for individuals to imagine the positive outcome of achieving their goals, this alone is not sufficient. In addition, the obstacles to the realization of this dream should also be clearly identified and the necessary plans should be created for proactive behavior.
A study of the effectiveness of the MCII strategy in course completion in massive open online courses (MOOCs) found that the strategy made a significant difference in completion rates in individualistic societies but not in collectivistic societies (Kizilce & Kohen, 2017). The current study extends this understanding to a collectivist context, although the implications of these results are tempered by the small sample size. The country where the study was conducted belongs to the collectivist societies category, and in the current study, the MCII strategy significantly increased students' final grades compared to the comparison group, with a medium effect size. However, the degree to which these findings can be extrapolated to the wider collectivist context requires further investigation with a larger cohort.

The impact of the sample size is particularly relevant when considering the complexity of language learning, which involves a variety of cognitive and emotional processes that may not be fully captured within the scope of this study's sample. In Kizilce & Kohen's (2017) study, the self-regulation strategy was implemented by volunteer participants via a technological device prior to the start of the online course without the involvement of an instructor or researcher. While doing something by oneself is common in individualistic societies, human interaction is important in collectivistic societies. Cerón et al. (2021) further elaborate on this by highlighting the role of technological interventions in Massive Online Open Courses (MOOCs), which are increasingly utilized across diverse cultural settings. Their research emphasizes the importance of designing these technologies to accommodate varying cultural norms and values that influence self-regulated learning. For instance, in collectivistic societies, where community and group cohesion are valued, MOOC platforms might benefit from incorporating features that promote collaborative learning and peer interactions, thereby aligning with the societal emphasis on collective engagement and support. Therefore, the involvement of a facilitator, a practitioner, in the implementation of this strategy may increase the success of the intervention. As the results of the current study indicate, the involvement of the teacher as a facilitator in the implementation of the MCII strategy improved the academic achievement of the fifth graders. Still, the role of the facilitator should be further examined across different educational settings and with different samples to confirm the findings. Implementing this strategy with a supervisor or guide could positively alter its effectiveness in collectivist societies. In the present study, the results of this teacher-guided application support this claim.

Anxiety about learning a foreign language is considered one of the strongest negative predictors of learning performance (Altunel, 2019; Daymiel et al., 2022; Horwitz, 2001). In the present study, the fact that the academic performance of participants in the MCII group
increased significantly compared to participants in the comparison group could mean that foreign language anxiety decreased. In a previous study consistent with this assumption, participants found that the MCII strategy effectively reduced foreign language learning anxiety (Chien, 2020). The current study’s results are encouraging but must be viewed as preliminary until supported by further research with more participants.

In order to increase self-confidence in language learning, gathering positive beliefs about it is considered a key factor (Aslan & Thompson, 2021; Nguyen et al., 2022). The use of this strategy may have been effective not only in reducing negative emotions but also in increasing positive emotions. Studies on positive emotions, which are considered important for language learning (Wang et al., 2021), well-being (Liau et al., 2018), grit (Sending, 2014), academic engagement (Stan, 2016), and resilience (Duckworth et al., 2011), have shown that the MCII strategy is effective in promoting these emotions. The significant increase in the MCII group's success in the current study suggests a relationship between the MCII strategy and positive emotional states, but replication is necessary to draw firmer conclusions about these associations.

This study has sought to explore the effectiveness of the Mental Contrasting with Implementation Intentions (MCII) strategy on foreign language learning among secondary students and has taken measures to ensure initial comparability between the two groups. Despite these efforts, there are several limitations to consider when interpreting the results:

The purpose of the present study is to investigate the effectiveness of the use of MCII strategy in foreign language learning in the academic achievement of fifth graders in foreign language course. Given the relatively small sample size, caution must be exercised when interpreting these results, as this limits the statistical power of the study to detect differences. Moreover, the sample size may affect the generalizability of the findings to a broader population. These findings suggest a robust effect, but the small number of participants in the study means that these results should be replicated in larger samples to confirm their validity. The impact of the sample size is particularly relevant when considering the complexity of language learning, which involves a variety of cognitive and emotional processes that may not be fully captured within the scope of this study's sample. The current study's results are encouraging but must be viewed as preliminary until supported by further research with more participants.

Baseline comparisons were conducted on GPA, expectancy-value, importance, and school motivation, with no significant differences found between the MCII and comparison groups. This suggests a level of initial comparability in these aspects. However, due to the
quasi-experimental nature of the study, other unmeasured variables or inherent differences between the groups might still exist that could influence the results.

Furthermore, the study's reliance on GPA as the sole measure of improvement may not fully capture the effectiveness of the MCII intervention, particularly considering the limited instructional hours. While GPA provides a comprehensive assessment of students' academic performance, it may not be sensitive to more nuanced changes in language proficiency or specific language skills. Moreover, the relatively short duration of the intervention (six weeks) and the limited weekly instructional time (three hours per week) may have constrained the potential impact of the MCII strategy on students' language learning outcomes. Future research could benefit from employing a wider range of language proficiency measures, such as standardized language tests, oral proficiency interviews, or writing assessments, to gain a more comprehensive understanding of the intervention's effectiveness. Additionally, longer intervention periods and more intensive instructional hours could be explored to determine the optimal conditions for maximizing the benefits of the MCII strategy in foreign language learning contexts.

The intervention was administered by the same teacher for both of the participating classes. While this helps to maintain consistency in delivery, it could introduce instructor-related effects that might confound the intervention’s impact.

Grades in foreign language courses for both groups improved from the first to the second semester, but the improvement was significant only in the MCII group. It is important to consider the potential impact of a common educational trend where teachers may assign higher grades at the end of the year. This inclination towards more generous grading could have inflated the observed improvements in GPA, thus the results should be interpreted with this potential grading bias in mind.

In recognizing these limitations, the study has taken important steps to enhance the internal validity of the findings. However, caution should be exercised in interpreting the results, and the limitations should be viewed as opportunities for future research to build upon the initial evidence provided here. Further studies with random assignment, more diverse samples, and multiple measures of language proficiency would be beneficial in confirming the findings and understanding the broader applicability of the MCII strategy in language education.
5.0 CONCLUSION

The present study demonstrates the effectiveness of the MCII strategy in enhancing foreign language learning performance among fifth-grade students in a secondary school setting. By employing a quasi-experimental design, this research provides empirical evidence supporting the use of MCII as a self-regulatory strategy to improve academic achievement in foreign language courses. The findings suggest that students who engaged in the MCII intervention significantly outperformed their peers in the comparison group, highlighting the importance of incorporating self-regulatory strategies into language learning curricula.

The MCII strategy was devised by an instructional technology expert, and the teacher was trained to guide students in using the form during the application weeks. The teacher's role in supporting students and ensuring the proper use of each element (goal-outcome-obstacle-plan) was crucial for the successful implementation of the MCII strategy in this age group.

As a relatively new self-regulatory strategy, MCII has been studied in various settings. However, this study is the first to investigate its effectiveness in foreign language learning among fifth-graders in Turkiye, emphasizing the need for further research in different cultures, age groups, and educational contexts. The results suggest that MCII is an effective strategy for increasing academic performance in foreign language learning, and practitioners can create and apply MCII forms based on students' grade levels to improve their goal striving and achievement.

Future studies can build upon this research by conducting more detailed analyses of how students' anxiety levels and positive emotions, such as academic engagement, resilience, and well-being, change after the intervention, using interviews with students and teachers. Additionally, the effectiveness of the MCII strategy can be examined with larger samples of students from different types of schools, grade levels, and courses to further validate its impact on learning outcomes.

In conclusion, this study contributes to the growing body of research on self-regulatory strategies in educational contexts, particularly in the domain of foreign language learning. The findings have practical implications for educators, who can develop and implement MCII interventions tailored to their students' needs and grade levels.

REFERENCES


