

# Improvement Plan: Cam Payne Elementary School

## Goal:

**MTH:** All students will be proficient in Math. *This goal was settled because the data suggested the percentages of students meeting state mathematics standards were only around 30% in 2015, 2016, and 2017, which were slightly below state average (around 34% over three years). Moreover, there were 6-8% gap when they were compared to closest 30 schools.*

Improve or Implement (district wide initiative such as: improving student engagement, strengthen the use of formative data in our PLC, implement Professional Learning Communities, implement a positive behavior system, etc.)

## Objective: (Recommended to write a Tier 1 objective for ALL students)

(60%) of (all students) will demonstrate a proficiency in (all standards) in (Math) by (March 22, 2019 as measured by (state level assessment) (currently MEAP/MME).

## Strategy Name:

**MTH1:** Effective Instruction

*How will the strategy work?*

Teachers will use effective instruction in the classroom which consists of four key elements:

- **Structured Teaching:** teacher will make their teaching more structured.
- **Implicit Questioning:** teacher will make their question more explicit and open to students.
- **Quality Group Cooperation:** teacher will promote learning through quality group cooperation.
- **Deliberate Practice:** teacher will help students to improve their ability on problem solving ability through deliberate practice.

*State the research used to support this strategy:*

There are many studies suggested that effective instruction is strongly related to student achievement. For example, Kroesbergen & Van Luit (2002) suggested, compared to guided instruction, the structured instruction is more effective in improving student achievement. In terms of questioning, Parks (2010) stated that “implicit questions seemed to privilege some children, particularly those who shared the language and cultural practices of the teacher, whereas explicit questions allowed a wider variety of children to participate competently in the mathematics classroom” (p. 1871). Marzano, R., Pickering, D. J., & Pollock, J. E. (2001) summarized ten important research-based strategies of classroom instruction that works for improving student achievement: identifying similarities and differences, summarizing and note taking, reinforcing effort and provide recognition, homework and practice, nonlinguistic representations, cooperative learning, setting objectives and providing feedback, generating and testing hypotheses, and advance organizers. Among them, cooperative learning has a statistical positive influence on student achievement with an average effective size  $ES=.73$ . As for deliberate practice, many scholars such as Grenny et al. (2013) and Duckworth (2016) has emphasized its importance.

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## **Activity Name: Structured Instruction**

MTH 1.1 Structured Instruction

Activity Type:

Professional Training

Activity Description:

Teachers will be trained on structured instruction which emphasizes cognitive structure of students. Different types of lessons should be identified, and the different instruction should be developed based on the lessons types. A Chinese math professor said there are three main types of lessons:

- Knowledge formation lessons
  - Lessons for understanding concept
  - Lessons for understanding operation
  - Lessons for finding out patterns
- Knowledge consolidate lessons
  - Lesson practice lesson
  - Unit practice lesson
- Knowledge review lessons
  - Knowledge broadening and deepening
  - Knowledge system review
  - Problem solving for special questions

Teachers who are teaching the same grade will be asked to gather together to talk these lessons and form a basic model for all those types of lessons.

Dates: March 23, 2018- March 23, 2019

Responsible Staff: position not name

**Resources:** Title II Part A      \$\$\$      (if applicable)

## **Activity Name: Explicit Questions**

MTH 1.2 Explicit and Open Questions

Activity Type:

Professional Training

Activity Description:

Teachers will be trained on how to ask open and explicit questions. There are four requirements for an open and explicit question: first, every question should be open to all the students rather than some students who performs better in math; second, all the questions should be designed based on students cognitive level and structure; third, design different questions in a lesson; fourth, avoid “yes or no” question and try to questioning in a “what and how” way.

Dates: March 23, 2018- March 23, 2019

Responsible Staff: position not name

**Resources:** General Fund      \$\$\$      (if applicable)

## **Activity Name: Quality Group Cooperation**

MTH 1.3 Quality Group Cooperation

Activity Type:

Getting Started

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## *Activity Description:*

Quality group cooperation requires teachers focus more on a composite of a group. In most situation, some students who performs better or more active dominate the whole process of group cooperation, which is not beneficial for improving the achievements of students falling behind. Quality group cooperation requires each member in a group is clear on him/her role. Besides, quality group cooperation pays a lot of attention on teachers' feedback. In most situation, teachers ask students to talk an issue in a group, however, they fail to collect information from each group, and fail to provide specific feedback to them. A quality group cooperation require teacher to collect data from teachers which should be used to modify his/her teaching.

*Dates: March 23, 2018- March 23, 2019*

*Responsible Staff: position not name*

## **Activity Name: Deliberate Practice**

MTH 1.3 Deliberate Practice

*Activity Type:*

Getting Started

## *Activity Description:*

A deliberate practice requires “(a) a clearly defined stretch goal, (b) full concentration and effort, (c) immediate and informative feedback, and (d) repetition with reflection and refinement” (Duckworth, 2016, p. 137). Exercises should be designed and assigned based on different purposes. Before class, the teachers could assign some small story tasks/exercise to help students get a familiar with the topic and be well prepared to the topics. In class, after teaching, the teachers could assign some basic questions to students to practice what they just learned, and those questions will be helpful for teachers to diagnose and monitor his/her teaching. Based on students' feedback, teachers need to find out which concepts that students are still confused with and why students have problems with these questions. Then, they need to give them an informative feedback.

After class, teachers need to assign some homework to student which consists of two main parts: some questions have easy to moderate difficulty which designed for all students and for the purpose of reviewing, while some questions have a higher-level difficulty which could broaden and deepen students' thinking.

*Dates: March 23, 2018- March 23, 2019*

*Responsible Staff: position not name*