

Motivating Students to Learn - Writing Mathematics Diaries

Level: Primary 1

Writing Mathematics diaries is an activity used to enhance students' motivation in learning Mathematics.

Description

- Students are invited to write their Mathematics ideas in their diaries.
- The diaries may consist of problem posing or a record of real-life experiences that correspond to ordinary lessons.
- Students are often invited to pose problems for their fellow classmates to solve or to present their Mathematics stories orally to the whole class.
- By allowing students to have diversified outcomes, the writing of Mathematics diaries can accommodate students with a wide range of academic abilities.

Implementation of the learning activity:

Embracing the belief of "**Not Giving Up On Any Students**" (一個都不能少), teachers of the two participating schools in the research project made efforts to:

- acknowledge and recognise the work of students by displaying it in the classroom.
- select the diaries related to their lessons and make them part of their lessons.
- organise students into groups to facilitate the sharing of diaries and peer learning.
- provide ample time for students to present their stories and to express their ideas orally.
- help students attribute their success to their efforts and stabilise their feelings of self-worth.

Below is an episode from the classroom learning and teaching process:

** “梁老師讓大家一起分享一些同學的數學日記。她將幾位同學的數學日記印在投影片上，然後邀請日記的作者站在教室前面，向大家講述他寫的數學故事，並請其他小朋友一起解題。

小朋友們很大膽，走到教室面前講自己的故事：「昨天，我和媽媽一起上街買雪糕，一共要買十一支雪糕，但店裡只有六支，那麼我們還要多買幾支呢？」話音剛落，就有好幾個同學脫口而出「五支」。梁老師讚揚他們算得好，並請一個同學出來，在投影片上畫上不足數量的雪糕。小朋友仔細認真地畫每一支雪糕，那種執著的神情是很多成年人所嚮往的。

梁老師又請另外一個小朋友將故事所表達的意思，用數學算式表示出來，並寫在投影片上。梁老師此舉成功地幫助學生在「非形式」與「形式」之間建立溝通的橋樑。

活動過程中，有一個同學記不起自己所寫的故事，其餘的同學爭先恐後地想幫他演繹他所畫的圖畫，其間充份展示小朋友們對數學學習的興趣以及互相幫助的熱情。”

** The classroom episode was extracted from an article jointly written by teachers of LKWFSL Wong Yiu Nam Primary School (AM) and the Chinese University of Hong Kong consultant team.

Impact on Students' learning:

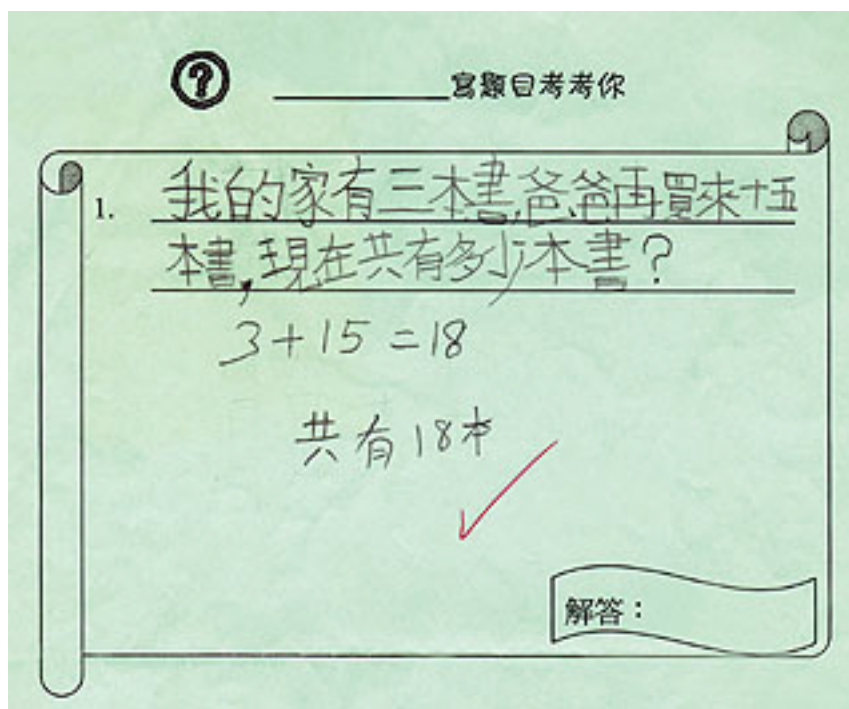
From the classroom episode described above, the impacts on students' learning are observed to be as follows:

- Students' **motivation to learn** is enhanced and maintained by taking an active role in the classroom. Taking initiative in writing their diaries helps to develop in students a sense of ownership and autonomy.
- Students, even the ones with weaker performance, can experience **pride and confidence** through the **continuous sharing of Mathematics diaries** with their peers and recognition by teachers and peers.
- By writing their Mathematics diaries, students **can apply their Mathematical concepts in a real-life context** and realise the practical relevance of the knowledge gained.
- **Peer assistance is fostered and students are encouraged to challenge** as well as to learn from each other.
- **Strengths and weaknesses of students are easily identified** so that teachers can shape their teaching practice to improve learning.

Students' Work

The following two examples of students' work from the learning activity illustrate how students pose problems and create their own pictures by using different shapes. ** Students' work was contributed by the CUHKFAA Thomas Cheung School and the LKWFSL Wong Yiu Nam Primary School (AM).

** Problem posed by one student and solved by his/her classmate.



** “一隻小鳥” was created by using different shapes.

