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APRIL 2026
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2756-7729

THINK.PRESS.SOLVE.CHECKMATE YOUR CALCULATIONS!

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EXECUTIVE SUMMARY

Solving mathematical problems has always become a challenge to students. Lack of problem-solving skills and thinking strategically often causes them to rush through steps and make careless mistakes. In addition, having low self-confidence in using scientific calculators also can affect their accuracy and efficiency. Thus, inspired by the game of chess, **Think.Press.Solve.Checkmate Your Calculations!** workshop was initiated to help students increase their analytical and strategical thinking through their scientific calculator. Therefore, by incorporating the element in a chess game, this workshop focuses on the importance of thinking logically and strategically before performing calculations, which is like how chess players plan each of their moves. Overall, at the end of this workshop it was found out that students managed to strengthen their critical thinking, accuracy and confidence level in using their scientific calculators.

INTRODUCTION

This workshop was held on 7th November 2025 in Dewan Kuliah 200 UiTM Cawangan Negeri Sembilan (UiTMCNS) Kampus Kuala Pilah. The participants were pre-diploma and diploma students of UiTMCNS Kampus Kuala Pilah. It was jointly organized by Kelab Catur UiTMCNS and Faculty of Computer Science and Mathematics UiTMCNS Kampus Kuala Pilah. The main objective of this workshop was not just to teach calculator functions, but to reshape how students approach solving mathematical problems.

EVERY BUTTON HAS A PURPOSE

From the idea of **Think.Press.Solve**, participants learned how to structure their thinking skills, anticipate potential errors and ability to verify their answers systematically using scientific calculators. On the other hand, by adopting the **Checkmate Your Calculations!** purpose, chess elements were also implemented in this workshop.

In chess, every move is calculated. One sloppy movement can cause the change of the entire game outcome. Similarly, this also applies with solving calculations in mathematics. Instead of simply pressing the buttons on their scientific calculator, the students were guided to think critically before they press any button. By learning to pause, analyse and plan before executing each step, this ensures accuracy, efficiency and increase of the student's confidence in every calculation.

Besides that, students were shown demonstrations on the advanced features available in their scientific calculators as well as practical shortcuts for calculations. Both demonstrations can assist them to significantly improve their speed and accuracy in solving mathematical problems whether in class or during examinations (Figure 1). From the practical activities and problem-solving attempts from the students, they become more confidence and aware of the smarter ways to tackle mathematical questions using scientific calculators. Thus, by knowing the purpose of each button and strategically plan for their movement, this chess-inspired approach managed to foster the analytical and critical thinking skills of students.

Figure 1: Checkmating Calculations: A Speaker-to-Students Guidance of Think.Press.Solve workflow

RESULTS AND ACHIEVEMENTS

The workshop was attended by 38 participants from various diploma programmes in UiTMCNS Kampus Kuala Pilah. In Figure 2, there were 42.1% from Diploma in Microbiology, 28.9% from Diploma in Halal Management, 15.8% from Diploma in Food Technology and 10.5% from Diploma in Textile Technology. The rest of the participants were from the pre-diploma. Most of them enrolled in MAT133 Precalculus (71.1%) followed by MAT112 Business Mathematics (26.3%) as presented in Figure 2.

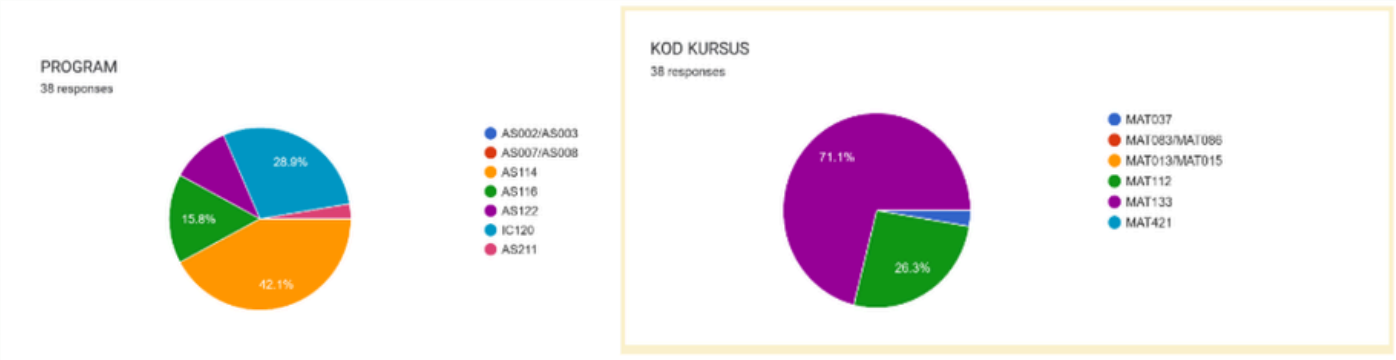

Figure 2: Percentage of Participant Programme and Course Code

The positive impact of the workshop reflected clearly from the response received which was measured through a 5-point-Likert Scale. More that 84% of the participants strongly agreed that this workshop has enhanced their understanding of the main functions of the scientific calculator. Moreover, they also agreed that it has improved their overall proficiency. There were 81.6% strongly agreed that they felt increase confident in getting accurate answers after completing the practical exercises. However, no neutral or negative feedback was acquired from the participants.

A change of students' mindset was observed as they began to approach the questions more calmly and strategically. They manage to evaluate their steps, applied correct functions and checked their results using scientific calculator. Thus, reflecting the skills of a chess player in any chess games.

CONCLUSION AND RECOMMENDATIONS

By the end of the workshop, not only they have improved calculator skills, but the participants become more confident and analytical in solving mathematical problems. This workshop also successfully demonstrated one needs to think carefully before calculating, just like chess players in their games. Thus, when strategy meets calculation, mathematics problems will not be too difficult to solve. It is hoped that this chess approach will continue in the future as it can help students build their analytical, logical and strategic thinking as well as increasing their confidence level.