Inspection Report
On Focus Inspection

King's College

School Address: 63A Bonham Road, Hong Kong

Review Period: 27, 29 May and 4 June 2026

Quality Assurance Division
Education Bureau
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Notes on the Focus Inspection Report

1. This report covers the current development of Mathematics Education Key Learning Area (KLA) in the school and the key Focus Inspection (FI) findings. Suggestions for improvement are also given for reference of the school.

2. The report is intended for the key stakeholders of the school, including members of the School Management Committee (SMC) and teachers.

3. The SMC should lead the school to follow up on the suggestions made in the report, in order to facilitate the improvement of Mathematics Education KLA and enhance its continuous development.

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1. Inspection Methodology

1.1 The focus inspection was conducted by Mr CHAN Ka-lok and Mr CHAN Kwok-wai in May and June 2026 to evaluate the development of the Mathematics Education KLA of the school.

1.2 The inspectors employed the following methods to understand the situation of the school:

- Scrutiny of documents and information provided by the school;
- Observation of eight lessons, taught by eight teachers;
- Meetings and interviews with the school management[1], panel chairpersons, STEAM co-ordinator, teacher-librarian, teachers; and
- Scrutiny of samples of students' work and assessment papers.

2. Learning and Teaching of Mathematics Key Learning Area

2.1 Student Performance

- Overall, students have a positive learning attitude towards mathematics. Most of them are able to apply their mathematical knowledge and skills to complete learning tasks. Students can handle problems in different mathematics topics. Among the various strands, they perform better in the Number and Algebra strand, such as handling problems related to solving equations and factorisation. They are relatively less competent in the Measure, Shape and Space strand, such as handling three-dimensional problems or proof of plane geometry questions. Inside the school, students participate in various mathematical activities and competitions. Students who are more able in mathematics take part in external competitions after undergoing training. Some of them perform well and receive prizes.
- In the past three years, the percentages of students attaining Level 2 or above and Level 4 or above in the Compulsory Part of Mathematics, the Extended Part of Mathematics (Calculus and Statistics) and the Extended Part of Mathematics (Algebra and Calculus) in the Hong Kong Diploma of Secondary Education (HKDSE) Examination were above the territory averages of day school students. Taking into account the S1 intake, the school performed as expected in the Compulsory Part of Mathematics in the HKDSE Examination in the past three years.

[1] The school management generally refers to the SMC, school head and deputy heads

2.2 Quality of Learning and Teaching

- The Mathematics panel has aligned its annual plan with the school's major concerns and its own development needs. Its objectives are generally clear and encompass key priorities such as enhancing learning and teaching effectiveness, promoting self-directed learning, fostering students' proper values and attitudes and adopting artificial intelligence (AI) and information technology to support students' learning of abstract mathematical concepts. However, its self-evaluation is still more implementation-focused than outcome-focused, with insufficient analysis of how far the intended objectives are reflected in students' performance. For example, pre-lesson learning animations are provided for each chapter at S2 level, together with mathematics reading materials and e-learning resources to support students' self-directed learning. The panel's success criteria mainly record the task completion rate, without further examining how they use the resources or whether their self-learning ability or mathematics reading ability has improved. Therefore, the panel still needs to enhance its self-evaluation effectiveness. It should refine its success criteria and assessment arrangements to focus more on students' learning outcomes. The panel should also strengthen the analysis of how students' performance relates to the subject-based objectives, such as stretching students' potential and self-directed learning ability, and use assessment data more systematically to review the impact of various measures on students' learning. This would further enhance the use of evaluation findings to inform planning and promote continuous improvement of the panel.

- Based on the central curriculum prepared by the Curriculum Development Council, the panel has planned the school's Mathematics curriculum to cover all Foundation and Non-foundation Topics, and has appropriately taught some Enrichment Topics. For example, S4 students are guided to explore and introduce the application of logarithmic functions in real-life contexts through a project activity, which helps develop their data analysis, mathematical justification and presentation skills. In the junior forms, the panel has appropriately arranged inquiry activities or project learning related to daily life. For example, a statistics project is arranged for S3 students to apply what they have learned in class to solve problems related to daily life such as pollution and health problems in Hong Kong, thereby developing their inquiry, problem-solving, communication and statistical skills. An interdisciplinary project co-organised with the Chinese History subject is arranged in S1, in which students gather and organise information to introduce the historical background and achievements of Chinese mathematicians, and present their findings in class. The arrangements are generally in line with the direction of the Inquiry and Investigation learning unit of the revised curriculum.

- The panel has appropriately integrated values education into the curriculum by selecting suitable learning units at different levels and setting out related arrangements clearly in the teaching schedule, which facilitates consistent

implementation. For example, in learning statistics in junior forms, teachers guide students to handle data ethically and discuss the proper use of statistical data, thereby strengthening their responsibility, integrity and information literacy. In learning simultaneous equations in S2, teachers also use *The Nine Chapters on the Mathematical Art* and related agricultural problems to help students appreciate the practical use of ancient Chinese mathematics and deepen their understanding of Chinese culture and achievements to enhance students' national identity.

- The panel has also made attempts to naturally incorporate national security education into selected learning topics, and the development directions are clear . For instance, in the topic on measures of central tendency, teachers use the local water supply system, with Dongjiang water and rainwater from local catchment areas as the context, to promote resource security. However, the learning activities are still only loosely connected to the substantive content of national security education, as the context of learning tasks is used mainly for calculation and the background of word-based questions. The arrangements help students more in raising awareness than developing a deeper understanding of their responsibility in safeguarding national security. Their effectiveness in helping students understand the relationship between national security, people's well-being and the nation's overall interests remains limited. The panel should further strengthen the design of learning activities and guiding questions so as to deepen students' understanding and sense of responsibility.
- Overall, while the panel has already infused values education and national education into the school curriculum to some extent, teachers' techniques in integrating the relevant key areas of national security education still need to be strengthened. The panel should further refine the connection between curriculum content and the relevant elements of values education and national security education, and design learning activities with appropriate levels of challenge to deepen students' understanding and enhance the overall effectiveness of these areas.
- In promoting self-directed learning, the panel has designed pre-lesson tasks on selected topics at different levels and supported students' preparation for lesson through videos, pre-reading materials and related tasks. Mathematics reading materials are also recommended to junior form students each term, covering topics such as paper-folding, history of mathematics, and calculations of area and volume. Some of the book contents are related to the curriculum, which enables students to extend their mathematical learning through reading. Students submit book reports to teachers for homework assessment. Sample reports show that some students can reflect on mathematical ideas encountered in reading and demonstrate an interest in learning mathematics. These arrangements have initially helped junior form students develop a reading habit. However, the current approach mainly records task completion, and does not systematically document how students monitor and adjust their learning process.

The impact is therefore more evident in habit formation than in the development of students' self-regulation skills. The panel should further integrate pre-lesson preparation, reading, self-assessment and follow-up tasks in a more systematic way to help students identify learning difficulties and select suitable learning materials, thereby strengthening their self-reflection and continuous improvement.

- The school's STEAM working group, comprising teachers from the Mathematics, Science and Computer Studies subjects, has aligned with the school's development plan by organising diversified STEAM learning activities, such as after-school STEAM activities and STEAM Fair. These activities, including STEAM hands-on workshops and mathematics quiz games, help enhance students' learning interest and broaden their learning experiences. This year, the panel also introduced a mathematical modelling activity for all S2 students, where students apply the knowledge of calculating the volume and total surface area of cylinders to solve real-life problems, with AI elements incorporated. The arrangement is well aligned and has helped enrich learning and teaching. At this stage, the work is more effective as an enrichment experience than as a systematic strategy for strengthening students' application of mathematics across levels. Building on this, the panel should further extend mathematical modelling elements from S2 to all junior forms and continue to embed them in STEAM or subject-based learning activities at different levels, so as to widen students' learning experiences and further develop their creativity and problem-solving skills. In addition, the panel could arrange more learning activities incorporating interdisciplinary elements, enabling students to integrate and apply knowledge across disciplines to solve real-life problems.

- The learning objectives of the lessons are generally clear. Teachers usually start the lessons by introducing the learning objectives or reviewing the learning content taught in the previous lessons with students. Teachers' presentations in the lessons are in general clear and well-structured. The lessons are mainly conducted through lecturing with questioning as well as illustrating concepts by examples and discussing the problems in worksheets. Individual teachers are able to make good use of daily life examples such as subject weightings in student report cards to introduce the concept of weighted mean, or aptly use dynamic statistics software for visualising the equality of areas under a histogram and its corresponding frequency polygon. Some teachers invite students to display their work on the board, but rarely make effective use of it to stimulate discussions of problem-solving strategies or deepen their conceptual understanding, thereby limiting peer learning.

- The classroom learning atmosphere is positive, and students are generally attentive and engaged in their learning. Most of them are able to apply what they have learnt in lessons to complete classwork. However, when students are invited to answer, some of them find it difficult to explain their answers in English confidently using proper mathematical language, for example confusing

the divisor and the dividend when expressing division of two numbers. To address this, teachers should provide more focused support in developing students' use of precise mathematical vocabulary in English during questioning and feedback in lessons.

- Questioning and feedback techniques of teachers should be enhanced. As observed in lessons, questions are mainly focused on checking students' answers or their understanding of basic mathematical knowledge such as the meaning of the thirtieth percentile. Individual teachers can ask reasoning questions, such as why vectors should be studied, but fewer teachers devise higher-order questions to further develop students' mathematical understanding. Teachers are able to provide immediate feedback on students' answers but seldom probe further into their reasoning or problem-solving strategies, and the feedback is often focused on confirming correct answers rather than addressing students' misconceptions or learning difficulties. Teachers should enhance their techniques on questioning and provide quality feedback with the aim of deepening students' understanding of mathematical concepts and fostering their higher-order thinking skills.

- The strategies for catering for learner diversity in lessons need to be strengthened. Teachers generally evaluate students' learning progress through questioning or observation, and offer individual support to less able students or those who raise queries. Some high-ability students who have completed the lesson tasks are often idle or attempt additional exercises on their own, while teachers rarely arrange extended learning tasks for them. Teachers should consider designing tiered worksheets for students with varied abilities, and also appropriately arrange mixed-ability group discussion or activities in lessons to better cater for students' learning diversity.

- The panel has adopted a flexible homework policy. Teachers assign different homework assignments according to their students' abilities to appropriately cater for their diverse needs. Homework, which is currently the main mode of formative assessment, consists mainly of routine written exercises covering both Foundation and Non-foundation topics, and is assigned to consolidate students' mathematical knowledge and skills. Samples of homework indicate that students generally can complete their assignments and make corrections based on teachers' feedback. Currently, homework assignments are mainly routine written exercises and their variety is limited. The panel should consider introducing different modes of formative assessments for students, such as inquiry-based projects or interactive e-assessments, so that teachers can evaluate students' mathematical abilities from multiple perspectives.

- Outside the classroom, the panel appropriately organises different activities for students to foster a positive environment for learning mathematics. For example, the inter-class mathematics competition is held for S1 students. Questions are related to the school curriculum, including significant figures, percentages and coordinate geometry, which help students consolidate their

learning in lessons and also develop their communication and collaboration skills. Mathematics Trail is organised for S2 students, with senior students invited to design mathematical puzzles, including perfect numbers, number sequences and block building. Students visit different classrooms to engage in mathematical problem-solving activities, which enhance their interest in mathematics and also develop their logical thinking and problem-solving skills. The panel also organises Sudoku and Rubik's Cube competitions to help cultivate students' reasoning skills and perseverance in problem-solving. Furthermore, statisticians from the Census and Statistics Department are invited to deliver a lecture, introducing S5 students who study the Extended Part to the applications of statistics in daily life, and thus broadening their mathematical learning.

- Assessment papers cover both Foundation and Non-foundation topics, with question types including multiple-choice questions, short questions and structured long questions. The level of difficulty is suited to students' abilities and learning needs, which aptly enables teachers to evaluate students' mathematical knowledge and skills. Junior form students are required to self-study designated topics within the curriculum, such as divisibility tests, the binary system, and solving systems of two linear equations using graphical methods, which are included in school examinations. The arrangement helps foster students' self-learning skills.

- After marking examinations, teachers prepare marker's reports and examination assessments. The marker's reports detail students' performance on each question, including the correct answer rate and common mistakes, which helps teachers understand the overall strengths and weaknesses of the student cohort. The examination assessment summarises students' general performance on the examination papers and also suggests follow-up measures. However, these suggestions mostly involve providing students with more practice on the relevant topics or reminding them to pay attention to problem-solving steps, without making full use of the assessment data to enhance the effectiveness of learning and teaching. The panel should further devise follow-up measures by using both external and internal assessment data to identify students' learning difficulties during internal sharing, such as collaborative planning sessions, and thus strengthen relevant learning and teaching strategies.

- The panel has organised professional sharing on mathematical modelling and arranged open lessons with peer lesson observation, with AI elements incorporated, which has promoted professional exchange and supported the development of learning and teaching. Teachers have generally been proactive in participating in external professional development on digital education and STEAM education, and some have completed training in mathematical modelling and shared their learning outcomes in panel meetings. These arrangements have helped strengthen the professional capacity of the Mathematics teaching team and broaden their pedagogical horizons.

3. Suggestions for Improvement

3.1 The panel needs to enhance its self-evaluation effectiveness, refine its success criteria and assessment arrangements, and focus more on students' learning outcomes. The panel should also strengthen the analysis of how students' performance relates to the school's major concerns, and use assessment data more systematically to review the impact of various measures on students' learning. This would further enhance the use of evaluation findings to inform planning and promote continuous improvement in learning and teaching.

3.2 The effectiveness of learning and teaching in the classroom should be enhanced. Teachers' techniques on questioning and providing quality feedback should be strengthened to deepen students' understanding of mathematical concepts and foster their higher-order thinking. Teachers should also formulate supporting strategies such as setting challenging tasks for high-ability students to extend their learning, designing tiered worksheets for students with varied abilities and also arranging mixed-group discussion or activities to cater for their learning diversity.