

Our Hong Kong Foundation
The Application and Development of Artificial Intelligence (AI)
in Primary and Secondary Education

Our Hong Kong Foundation (“OHKF”) conducted a survey and stakeholder interviews with primary and secondary school principals, teachers, and students between July and December 2025. The purpose of the study is to understand the current usage, needs, and challenges faced by primary and secondary teachers and students regarding the use of AI in learning and teaching. By December 31, 2025, OHKF received 1,200 valid responses, where 833 respondents were students (71%) and 313 respondents were teachers (25%). Most participating schools were secondary schools (90%).

Part 1: Survey Results and Analysis

Observation 1: AI is deeply integrated into teaching and learning, with over 90% of teachers and students using AI tools.

1. AI usage rate among teachers is 91%; among students, it is even higher, reaching 95%.
2. AI tools used by teachers and students are predominantly internationally open-sourced platforms; only a small number of schools developed their own tools. Furthermore, the preference for AI tools reflects a generational difference. The most frequently used tools by teachers and students, in order, are as follows:
 - Teachers: Poe (87%), DeepSeek (57%), **Copilot (42%)**, Gemini (40%), Doubao (14%), and institution-developed tools (3%).
 - Students: DeepSeek (69%), **Doubao (67%)**, Poe (63%), Gemini (30%), Copilot (20%), school-developed tools (7%).
3. Primary purposes of using AI:
 - Teachers: Mainly for teaching assistance (57%) and handling administrative tasks (26%), followed by classroom interaction (9%), student assessment (6%), and student support (1%).
 - Students: Mainly for searching information (35%) and completing homework/project reports (29%), followed by summarizing textbook key points (18%), generating practice questions (7%), and extracurricular exploration (6%).

Observation 2: AI tools may pose potential risks to students' cognitive development and privacy.

1. Teachers are generally concerned that students' over-reliance on AI could undermine their development of key competencies:
 - Teachers are most worried that AI will affect students' problem-solving skills (71%) and critical thinking (63%), followed by creativity (59%), memory (43%), and communication skills (34%). Only 3% of teachers believe there are no negative effects.
 - 23% of surveyed students stated they would find it difficult to complete homework without AI assistance, while 39% are confident that they could complete homework independently.
2. Both teachers and students have concerns about personal privacy and data security when using AI tools:
 - Teachers: 54% are worried about the privacy issues posed by AI tools.
 - Students: 37% are concerned that AI tools might disclose their inputted questions and data to others, which is approximately 20% lower than teachers' level. Alarmingly, 16% of students explicitly stated they would input personal information into AI tools, indicating that some students' awareness of AI security risks needs to be strengthened.

Observation 3: Current teacher training may be insufficient to build effective AI skills among teachers and students

1. 83% of the surveyed teachers indicated that their schools provide internal AI-related training, 37% indicated the availability of courses from external training institutions, 34% indicated training provided by AI tool vendors, and 9% indicated training courses offered by tertiary institutions. Only 5% stated that their schools do not provide any training.
2. There is room for improvement in the self-assessed AI proficiency of both teachers and students. On a scale of 1 to 10, teachers rated their own AI proficiency at 5, while students rated theirs at 6.5.
3. Variation exists across subjects regarding whether teachers instruct students on using AI tools in the learning process:
 - Overall, 66% of teachers reported teaching students to use AI tools, while 34% did not.
 - The subjects where more teachers report teaching students to use AI tools are: Information and Communication Technology (89%), Languages (Chinese and English) (70%), and Science (including Physics, Chemistry, Biology) (70%).
 - The subjects where less teachers report teaching students to use AI tools are: Mathematics (44%), Visual Arts and Music (40%), and Chinese History and History (40%).
4. There is no unified, rigid standard on whether students should be taught to use AI or on the proportion of classroom time AI should occupy. The key is that teachers' decisions should be pedagogy-driven, ensuring that AI application could genuinely enhance student learning outcomes.

Part 2: Policy Directions

Based on observations from the survey, OHKF has outlined the following five policy directions to advance the application and development of Artificial Intelligence (AI) in primary and secondary education:

Direction 1: Develop an AI in Education Application Framework

- Internationally common open-sourced AI platforms are not inherently designed for education and offer insufficient protection for students.
- Hong Kong has not yet issued guidance on mitigating the risks associated with using AI in educational settings.
- When formulating an educational AI application framework, the Education Bureau (“EDB”) can refer to frameworks from Singapore, Finland, and the OECD. The goal should be to ensure the equity, safety, and accessibility of AI tools, supplemented with examples showing how AI applications must be pedagogy-driven and teachers can instruct students on the proper use of AI across different application scenarios.

Direction 2: Create a Territory-wide AI in Education learning resource platform.

- At present, schools independently introduce AI teaching tools or platforms, leading to student data being scattered across various systems and posing security risks. This also results in redundant purchases, subscriptions, or development of similar AI teaching tools across schools, causing resource wastage.
- Building on the Hong Kong Education City, and through consultations with principals and frontline teachers, a territory-wide AI learning resource platform could be constructed to assist schools in optimizing teaching strategies and maximizing resource utilization.

Direction 3: Construct a progressive AI literacy curriculum framework.

- Currently, AI literacy courses in Hong Kong are only offered at the junior secondary level. While the Enriched Module on Coding Education for upper primary level teaches algorithmic thinking, the content is primarily focused on programming and is not directly related to AI.
- EDB could introduce AI literacy curriculum starting from lower primary level, establishing an appropriate, step-by-step learning framework across different learning stages. This would help promote students' AI literacy and ethical awareness from a young age, while cultivating higher-order competencies such as critical thinking, problem-solving skills, and creativity.

Direction 4: Enhance teacher professional development for AI knowledge and pedagogical application

- The current AI application training in Hong Kong mainly targets science teachers, and most trainings are delivered through lectures or seminars, focusing on fundamental AI knowledge. These professional development trainings could be expanded to include all subject teachers across primary and secondary schools. Teachers completing the programmes will be required to share their teaching experiences at other schools. Additionally, the EDB could collaborate with industry partners to co-design "Digital Education Professional Development Programmes" to support teachers in integrating AI into teaching.
- 42% of teachers who have not applied AI in their teaching indicated they have insufficient time or resources to explore AI tools. EDB could collaborate with universities to train STEM students to become AI application teaching assistants. This would free up teachers' time, helping them explore the use of AI in teaching.

Direction 5: Strengthen pre-service teachers' AI training

- 34% of early career teachers (aged 20-29) have not taught students to use AI tools to support their learning process, suggesting potential gaps in pre-service training.
- Topics such as AI literacy and its pedagogical applications in teaching could be integrated into the mandatory curriculum for trainee teachers. This can be informed by existing models, such as the AI literacy courses within the Education University of Hong Kong's Postgraduate Diploma in Education (PGDE) and Bachelor of Education (BEd) programs, as well as Singapore's pre-service teacher training,