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Education Infrastructure Division  
Education Bureau  
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**Response to the Public Consultation on the Third Strategy on Information Technology in Education**

On behalf of Cisco, I am pleased to participate in the Government's consultation on the Third Strategy for Information Technology in Education by providing our collective thoughts on the draft paper.

Education is a topic very close to our hearts, and Cisco firmly believes that 'Education and the Internet are the two great equalisers in life', enabling and empowering all who seek to gain from them, regardless of socio-economic background, location, age or other factors.

Cisco is actively engaged in the education sector in Hong Kong as well as around the world. It is clear that technology is profoundly changing the way teaching and learning is achieved. Thanks to the collaborative possibilities of the Internet, knowledge is imparted not only from teacher to student, but also through collaboration among peers and self-learning. Today's youth are technology veterans and it is the responsibility of policymakers, educators and parents to embrace the potential of technology in education to ensure that our children realise their full potential.

We provide our input to the Third Strategy Paper on Information Technology in Education with the hope that some of our learning and experience would be of value to the Education Bureau in shaping strategy and tactics going forward. Our ultimate goal is that this information can assist the Hong Kong SAR Government to set the global standard in enabling a community of students, teachers and parents that naturally embraces a seamless online-offline educational system.

Thank you for the opportunity to share our insights. Please feel free to contact me personally if I can be of any further assistance.

Yours faithfully

A handwritten signature in black ink that reads "Charleston Sin". The signature is written in a cursive, slightly slanted style.

Charleston Sin  
General Manager, Hong Kong and Macau



## **Realising the full potential of IT in education**

Cisco welcomes this opportunity to submit its views on the HKSAR Government's Third Strategy for Information Technology in Education Consultation. Cisco has long been an active member of Hong Kong's education landscape and a strong advocate not only of IT education to improve IT skill levels, but also of utilising IT in all areas of education.

Cisco has been actively involved in the Hong Kong education sector since our establishment in 1994. The Cisco Networking Academy, set up in 1998, trains more than 3,000 students in Hong Kong every year. We also regularly support government programs to help nurture future IT talents in Hong Kong, and systematically organise seminars and talks for IT teachers. We hope to offer useful and practical insight gained from our involvement in these education support initiatives, which would be of value to the Government as it implements its strategy going forward.

This consultation is being conducted in an environment where the foundation of IT infrastructure in schools has mostly been laid and the majority of schools are broadband-enabled. The focus must now shift to the 'software' – a term which embraces not only the roll-out of pedagogical software applications but also the empowerment of teachers and students so that they can best utilise the infrastructure to enhance teaching and learning.

Cisco advocates the theme of the current strategy: "Right technology at the Right Time for the Right Task".

## **Education: undergoing a paradigm shift**

This is the era of Web 2.0 where the traditional Internet, mobile and video applications all blend seamlessly to provide mobile multimedia content – and collaborative creativity driven by youth worldwide. Web 2.0 provides profound possibilities for an education revolution. Firstly, it has the potential to bring academic matter to life in ways never experienced before. From history to biology, mobile multimedia can bring subject matter to life and engage students' interest. Secondly, it is now possible to offer a 360-degree learning environment – not only top-down instruction from teacher to student but also lateral learning – learning with and from peers.

## **Need for sustained and strategic investment**

Investment in putting "IT into education" needs to be sustainable and effective, with priority placed on both employing appropriate technology and infrastructure support, and facilitating the right skill set and mindset of the various stakeholders. We have therefore divided our overall recommendations into two parts – Infrastructure and IT Support, and Human Factors.



## Infrastructure and IT Support

- **Enhancement of existing infrastructure**
  - Many of Hong Kong's schools have IT equipment that was installed at the turn of the millennium, some of which is outdated. However, deployment of Web 2.0-type applications and multimedia tools on outdated networks can result in sub-optimal experiences and may even impact adoption rates. Thus we recommend that the Government earmark funds to **review and upgrade or redesign existing school IT infrastructure and networks on an ongoing basis** to keep up with technological and teaching developments.
  - We recommend that Hong Kong enhance the speed of **Wi-Fi** build up in schools. A well-managed and high quality Wi-Fi network enables “anytime anywhere” learning that capitalises on the **Web 2.0** promise. Certain schools can be designated as pilot schools, which create best practice examples for other schools.
  - **Security** provisions should be enhanced so as to protect youth from unsavoury influences on the Internet. Training should also be given to parents, teachers and students themselves so that they know how to guard against online dangers.
- **Establishment of a special advisory body to look after school IT infrastructure**
  - The current practice in many schools is to have an IT co-ordinator who is very often a full-time teacher, supported by a technical engineer. However, networks are today so complex that it may not be possible for a non-full time expert to maintain them. In the corporate world, CIOs are core to the strategic development of the organisation. Current government resources may not allow every school to appoint a CIO. Cisco recommends the establishment of an independent advisory body including government and private sector IT experts specialising in education to regularly review and provide advice to all local schools on IT infrastructure. The advisory body, sitting under the relevant government department, can work closely with existing education bodies such as HKEdcity and the Curriculum Development Council to oversee the rollout of appropriate school IT infrastructure and applications.
- **Curriculum based e-learning content**
  - Government should invest sufficient resources in the development of suitable curriculum-based learning content online or on site. Teaching and learning can be truly enhanced through the provision of the right learning applications, and IT will be raised to a new platform beyond interactive whiteboards or presentation software.



- An important prerequisite for development of e-learning on a cost effective basis is a **unified wireless and networking environment across schools in Hong Kong**. This will allow for cross-school deployment of applications, as well as easier training and uptake.
- **Focus on software:** Emphasis needs to be placed on the development of relevant software applications including tools for teaching, as well as practical applications that would make day-to-day school life easier for pupils. For example, applications such as e-schoolbags and online assignments can “ease the burden” on students in more ways than one.

We also recommend close **collaboration between government and the private sector** to identify best practice, focus areas for development and to encourage young talent in the e-learning area.

### **Human Factors – Skill Set vs. Mindset**

Progress in adopting IT as a core teaching tool could be affected by teachers lacking skill and time, and possibly also confidence. These reasons can be classified into skill set and mindset related issues. In the short term, government and the private sector can work together to provide training and the necessary skills to address the skill set issue. However, over the long term government, parents and school management should modify mindsets and deploy IT to empower all the stakeholders in the education system.

#### • **Skill Set**

- **IT learning as lifelong learning:** Learning is a lifelong process – this maxim is especially true in the fast-changing world of IT. A sustained and ongoing training program, combining online and offline teaching techniques, should be offered to teachers to upgrade their skills. In cooperation with several partners, Cisco has recently launched a major IT skills training program for teachers of all secondary schools in Hong Kong. We suggest the government continues to leverage the private sector’s expertise so that teachers possess the most up-to-date IT skills.
- **Let young people drive the trend:** A typical secondary school student today has been online for over 10 years and instinctively understands and practices Internet-driven collaboration and interaction. However, educators must provide the tools and guidance needed for youth to realise their full potential in these areas. Government can also facilitate this effort, by **encouraging peer to peer collaboration** through incentive programs and contests. For example, Cisco has encouraged young talent through the sponsorship of the Government’s Youth Portal competition, as well as its Youth Ambassadors initiative whereby promising young talent is groomed to share skills and knowledge with underprivileged children.

#### • **Mindset**



- **More than interactive whiteboards:** For most effective use of IT in education, a fundamental change in mindset is required in many ways. The current practice consists largely of using slide presentations and interactive whiteboards. IT in education goes beyond these superficial teaching tools to impact the very role of teachers themselves. In the collaborative world of Web 2.0, teachers become facilitators in the learning process. All this is possible only if teachers wholeheartedly embrace IT as a factor that will make learning far more effective.
- **IT pilot schools and sharing of best practices:** The government has designated over 20 schools in Hong Kong as "Centres of Excellence" --- schools which exhibit best progress in the adoption of IT to enhance teaching and learning. These schools are well-trained and receptive to digitized content. Cisco has worked with an IT pilot school to set up a "wireless learning centre" which can share best practice with others seeking to explore the benefits of wireless learning.
- **Parental involvement:** Parents, too, need to understand the potential of IT and the Internet in their children's development. Instead of restricting children to go online, parents should provide guidance on the right practices and tools. In the past, the focus has been to teach parents IT skills. Now, the focus should be to encourage parents to understand the trends – including latest online game and social networking applications – rather than just school Internet learning tools.

## Conclusion

Cisco is a core part of Hong Kong's business landscape and is passionate about helping stimulate the SAR's IT skills and knowledge in the second wave of the Internet age, which is driven by Web 2.0 and online collaboration. Hong Kong is one of the world's most networked markets with strong Internet and broadband penetration, and visionary leadership in the provision of Wi-Fi facilities. Hence there is a tremendous opportunity for the SAR to lead the region, and indeed the world, in the use of IT to help maximise the potential of our next generation.

We hope to contribute our expertise and knowledge so that our next generation will continue to enjoy the benefits of the connected human network through the effective and positive use of technology.