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**GLOBAL PERSPECTIVES AND RESEARCH**

**9239/01**

Paper 1 Written Examination

**October/November 2015**

**1 hour 30 minutes**

RESOURCE BOOKLET

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**READ THESE INSTRUCTIONS FIRST**

This Resource Booklet contains Documents 1 and 2 which you should use to answer the questions.

You should spend approximately 10 minutes reading the documents before attempting to answer the questions. This is allowed for within the time set for the examination.



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This document consists of **3** printed pages and **1** blank page.

The documents below consider issues related to the impact of the internet. Read them **both** in order to answer **all** the questions on the question paper.

**Document 1:** adapted from *Children using Touch-screen Technology*, an article by Tan Ly-ann published in the *South China Morning Post*, 2013. Tan Ly-ann is an educational journalist. She has also taught in Japan and Singapore.

Touch-screen devices have taken off since the release of the first iPad. It's unlikely that tablet makers had young children in mind when they developed the gadgets, but young children have gravitated to the new technology. A 2011 survey by US non-profit group Common Sense Media (an independent advisory group supporting parents) found that 39% of children aged 2–4 years and 52% aged 5–8 years have used a touch-screen for videos, games or other applications (apps). Experts are undecided as to what is the right thing to do, as scientific studies on how technology affects the development of young children take between three to five years to complete. In the meantime, the real experiment is unfolding in our homes.

The driving force for such early use of touch-screen technology is twofold. It used to be that young children had to learn how to type on a keyboard and to use a mouse or a joystick and then have mum or dad negotiate the operating system to use educational software. Apps on tablets, on the other hand, open directly into play mode.

Moreover, interactive apps provide immediate feedback, unlike television, which is a passive experience for young children. Lisa Guernsey, director of the Early Education Initiative at the New America Foundation says that in a well-designed app the child can control the action when they touch the screen. A good app encourages brain activity, unlike mindlessly sitting in front of the television. Yet, the notion that young children's learning experiences can start with screens doesn't fit with Guernsey's research that children below the age of two require social interaction as a foundation for learning. At that age, attachment and security are paramount. Only from 19 months onwards do pictures start to make sense to children as symbols. Parental interaction is therefore key to the effective use of touch-screen technology among young children.

However, in the right hands, the ability of such devices to hold our young children's attention can be a benefit. Touch-screen devices with helpful functions, such as talking software and multiple points of activity can help children with attention deficit hyperactivity disorder (ADHD). A study of young children with ADHD by Southeastern Oklahoma State University found that after a six-week trial using touch-screen iPads, students made around one year's progress in reading development.

Moreover, American education specialist Jennifer Stroud found that using touch-screen tablet apps to replace a passive activity like watching television, was more effective than having her daughter learn from flash cards or workbooks. Co-founder of a digital education portal, Mark Pemberton, had some reservations about his 10 month old son using the tablet for long stretches of time, but then after seeing how playing with educational apps almost intuitively helped him master the alphabet and identify shapes and objects around the house, Pemberton thinks that there is great potential in incorporating the material into young children's learning.

So, although digital media cannot replace the attachment and security young children need from their parents, it can be a benefit by introducing new words and ideas that can help them deal better with life in the real world.

**Document 2:** adapted from *The effects of iDevice use, little brains and neuroscience*, an article published on her own website by Jodie Gale, 2013. Jodie Gale is an experienced counsellor and psychotherapist in Australia.

Touch-screen devices, and before them TV and video games, have been of great interest to paediatric (children's) neuroscientists and researchers for many years.

One of the justifications for allowing early iDevice use is that children will learn their ABCs and 123s more quickly. However in their textbook about what to expect in the early years, Eisensberg, Murkoff and Hathaway write, 'While children who have had some number experience before school may enjoy a temporary advantage, studies show they don't retain it, as other children quickly catch up'. So, early use is only linked with temporary benefits.

More importantly, there are health costs that far outweigh these advantages. iDevice and internet use has been linked with disrupted sleep, inability to focus, lack of creativity, forgetfulness, impatience, loneliness, depression, anxiety, addiction, obsessive compulsive disorder, ADHD and autism. Kit Eaton from the *New York Times* writes, 'Inactivity associated with TV and computer watching is connected with developmental, mobility and health issues to do with diet, diabetes, and other issues. There are also psychological concerns related to depression, disengagement, poor social skills, and damage to a child's ability to empathize.'

Kevin Donnelly in *The Australian* states, 'The danger is that spending too much time on computer games, watching screens and surfing the net damages the way we process information and the way we think. Unlike printed texts that require you to focus on the words, concentrate, read carefully and sit quietly, TV and computer screens are full of colourful graphics, ever changing images, sounds and lots of movement.'

Many parents are noticing that their children enter a trance like state when they watch TV or play video games. Technology guru, Ben Worthen in his *Wall Street Journal* article looks at what happens when young children mindlessly use an iPad. He suggests that when playing with toys such as Lego building bricks, it is the child who makes the choice to end playing, however, with touch-screen apps, the game decides when play will end. It becomes increasingly difficult for children to stop playing because of the dopamine reward in the brain that they experience. Dopamine is the chemical associated with pleasure.

Many of the apps aimed at children, including the 'educational' ones, are designed to stimulate dopamine releases. These encourage children to keep playing by offering rewards or exciting visuals at unpredictable times. Altered levels of dopamine can cause a range of symptoms and issues such as Parkinson's disease, ADHD, psychosis, schizophrenia and addiction.

The early years of neurological brain development are formative. Why then, would we introduce at a young age the use of something that could potentially have long lasting effects and consequences on health and well-being?

If we want our children to grow healthy brains and have a solid sense of all round physical, emotional, psychological and spiritual health and well-being, their little brains need their primary relationships to be with human beings, not with iPads, iPods and iPhones!

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