GOSPEL, SOCIETY & Culture

INFORMATION AND COMMUNICATION TECHNOLOGY

Part 2:

Parenting (and grandparenting) in a Technology-Driven World

In our first paper we examined the secular view of ICT, in which technology is regarded as the solution to human problems and the means by which we transform our lives. In contrast to this secular view, a Biblical perspective enables us to recognise that ICT can be used for both good and evil. How then should we engage with the technology that surrounds and sometimes overwhelms us? In this paper we explore the impact of technology on developing minds, and offer advice on how to help our children use technology well.

The technological boom has changed the world of parenting. Parents must constantly adapt and adjust their parenting style according to the environment and culture in which their children are growing up. The technology that is available to children and teens today can be overwhelming for parents - especially when it comes to increased access to mobile devices - whether it's a notebook computer, smart phone, tablet, gaming console or something else. This mobile technology makes it easier for children and teens - and adults! - to fit whatever they want to access into their pockets, and therefore also makes it more difficult for parents to monitor their children's use of these 'gadgets'.

Technology can be both beneficial and harmful. On the one hand the Internet makes information immediately available providing opportunities to accelerate and deepen our children's knowledge of the world around them, and to allow experiential learning within virtual reality. On the other hand, the Internet does not always discern right from wrong, and in an instant can expose children to inappropriate and harmful content. For this reason, we might even regard the Internet as a hostile environment for children, akin to letting them roam the streets unsupervised.
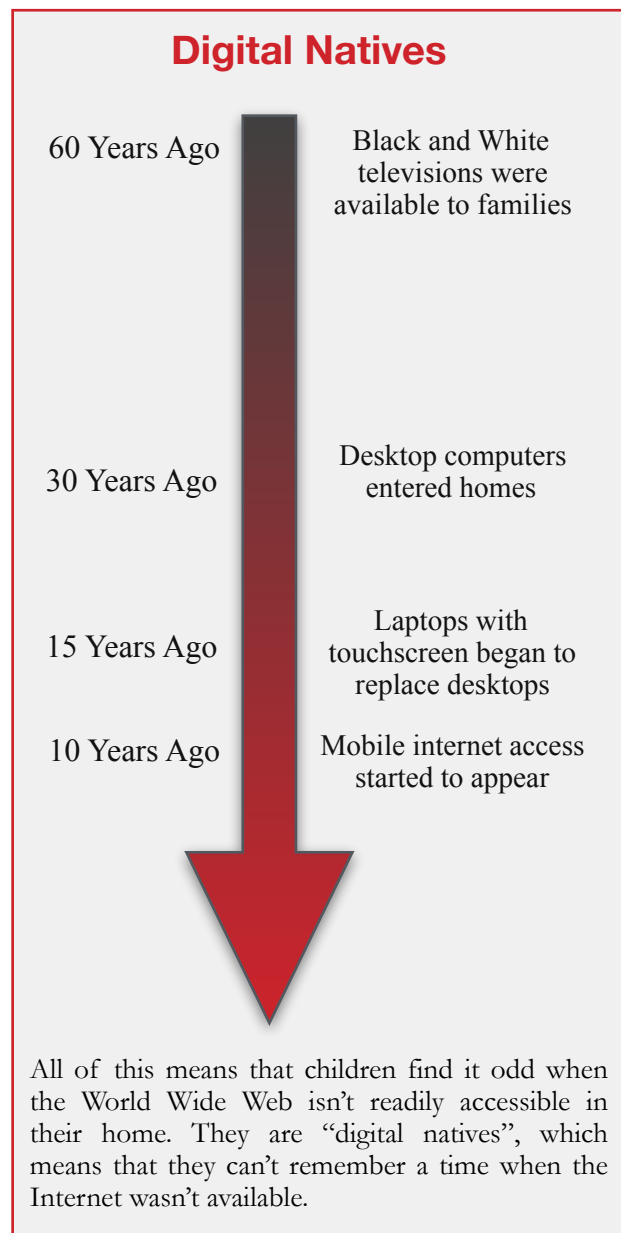
We cannot afford to be passive or naive about technology. Parents can choose to be intentional about how their family uses technology. It is possible for adults to implement ways of helping children and teens navigate the world of technology, first and foremost by modelling Christian behaviour in the way they themselves use ICT.

Be present with your kids

"Constant connectivity" seems inherent in today's lifestyle. We should be asking ourselves if this need to connect is affecting our relationship with our children. Dr Sherry Turkle, a clinical psychologist and MIT professor, interviewed 300 young people and 150 adults and found that children felt that their parents paid less attention to them than to their smartphones. This was especially so at mealtimes, in the car, during sporting events and sometimes even during bedtime stories.[1] While much parental concern about technology is focussed on children's use of it, Turkle says, 'it's now children who are complaining about their parents' habits.' This highlights the need for adults to learn to live with technology in a health way, putting texts, e-mail, and social networking in their rightful place. We need to show godly behaviour and self-control for the sake of our children and ourselves. The Bible says "Let no one despise your youth; instead, you should be an example to the believers in speech, in conduct, in love, in faith, in purity." (1 Tim 4:12)

It's important to set limits

There is a growing body of research which demonstrates that excessive exposure to technology can be harmful to children. A child's brain is still developing and is malleable. Internet addiction has been shown to lead to diminishing white matter pathways, leading to abnormal white matter structure in developing brains, and pruning of tracks responsible for executive function and impulse control.[2] Frequent exposure to technology actually wires the brain in a very different way! Child obesity, type 2 diabetes, development delays, coordination disorders, learning difficulties, anxiety, and depression are amongst disorders which are on the increase and are now causally related to overuse of technology.[3] Further analysis of the impact of technology on the developing child indicates that while the

Digital Natives

60 Years Ago	Black and White televisions were available to families
30 Years Ago	Desktop computers entered homes
15 Years Ago	Laptops with touchscreen began to replace desktops
10 Years Ago	Mobile internet access started to appear

All of this means that children find it odd when the World Wide Web isn't readily accessible in their home. They are "digital natives", which means that they can't remember a time when the Internet wasn't available.

vestibular, proprioceptive, tactile and attachment systems are under-stimulated, the visual and auditory sensory systems are in "overload".[4] Young children who are exposed to violence through watching TV and playing video games are in a high state of adrenalin and stress, because they are unable to distinguish reality from fantasy.[5] Children who overuse technology report a persistent hyper-vigilant sensory reaction that is still 'on alert' for the oncoming assault. While the long term effects of this chronic state of stress in the developing child are not yet known, we do know that chronic stress in adults results in a weakened immune system and a variety of serious diseases and disorders. This ought to be a warning to us.

On the other hand, face-to-face interactions between a parent and child are the building blocks of a child's emotional, social, and cognitive growth. Child psychologists affirm that 'for a child, being face-to-face with the parent adds a special quality to the interaction. It brings them closer, physically and emotionally, and makes the child feel that the parent is really with her'.[6] What this suggests is that it's important to prioritise technology free time every day. This important strategy not only encourages children to communicate and initiate, but it lets them know that parents are interested in what they say and do.

Teenage brain...still under construction

Medical technology has challenged our long-held assumptions on brain maturity– we realise now that the brain undergoes phenomenal changes in the teen years, and only begins resembling its adult form in the mid-20s. *Can this help better understand this contradictory phase of life?*

Even though most young people transition well into adulthood, it's important to understand that the risk factors for behavior in this life stage can have serious consequences. While teens are close to their life's optimum physical health, strength, and mental capacity, for some this can be a hazardous phase, with increasing rates of mortality, crime and alcohol abuse. Genes, and the social and environmental contexts in which a young person reaches adolescence, work together with a rapidly transforming brain to shape behaviour. The more we learn, the better we can understand the abilities and vulnerabilities of teens, and the significance of this stage of life for mental health.

The fact that so many changes are taking place in the teen brain is something for parents to keep in mind during the ups and downs of adolescence.

What have we learnt about the developing brain?

Regular brain scans of people from childhood to adulthood have resulted in major discoveries that challenge our previous assumptions:

1. *The peak volume of grey matter (outer layer of the cortex), responsible for thought and memory processes, occurs in adolescence not early childhood.*

In childhood the cortical gray matter increases and is then 'pruned away'. The 'pruning' makes the brain function more efficiently and is a normal part of brain development. Connections (synapses) "exercised" by experience survive and are strengthened, while others are pruned away. Until now, we have believed that the gray matter volume was highest in very early childhood. Research has now unexpectedly revealed that the peak volume of gray matter occurs during early adolescence, and the 'pruning' necessary to reach adult maturity continues into the early 20s. The mechanism for this increased gray matter is unclear, but it is clear that the brain is increasing in both volume and complexity (increasing connections).

2. *Parts of the cortex mature at different rates.* Areas involved in more basic functions, like processing visual information and coordinating movement, mature first, followed by the areas that perceive various emotions. Areas of the brain related to cognitive function, like planning and controlling impulses, are the last to mature – in the early 20s. This can explain why teens sometimes seem to go through a whole range of emotions without the ability to rationalize what they are feeling.

3. *Increasing connectivity related to emotional responses.* Increasing connectivity is related to increase in intellectual capacity. Several lines of evidence suggest that the brain circuitry involved in emotional responses is changing during the teen years. Functional brain imaging studies, for example, suggest that the responses of teens to emotionally loaded images and situations are heightened relative to younger children and adults. The brain changes underlying these patterns involve brain centres and signaling molecules that are part of a positive feedback

system that motivates behaviour. These age-related changes shape how much different parts of the brain are activated in response to experience, and in terms of behaviour, the urgency and intensity of emotional reactions.

4. *Teens and adults engage different parts of the brain for the same function.* The capacity of a person to learn will never be greater than during adolescence. In terms of sheer intellectual power, the teen brain is a match for that of an adult's. Studies however suggest that teens and adults perform mental tasks by engaging different parts of the brain to different extents during task requiring calculation and impulse control, or in reaction to emotional content.

5. *The significant brain changes require greater amounts of sleep.* As the teen brain changes, its ability to regulate sleep is diminished which accounts for the tendency of teens to stay up and be more alert later at night. Along with the obvious effects of sleep deprivation, such as fatigue and lack of attention, inadequate sleep is a powerful contributor to irritability and depression. Studies of children and adolescents have found that sleep deprivation can increase impulsive behaviour, and has even been correlated with the tendency to delinquency. Adequate sleep is central to physical and emotional health.

Evidence supports the view that parts of the brain involved in emotional responses are fully online in teens, or even more active than in adults, while the parts of the brain involved in keeping emotional, impulsive responses in control are still reaching maturity. This imbalance can explain the tendency to be attracted to novelty and gadgets, and to act on impulse without assessing risk.

While much is being learned about the teen brain, it is not yet possible to know to what extent a particular behaviour or ability is the result of brain structure or change in structure. Multiple factors affect the developmental changes in the brain, and science is trying hard to explain how experience and environment affect genetic expression controlling these processes. This is especially relevant, as increasingly mental illnesses are being understood to have roots in the processes involved in brain maturation.

It is important to note that while the teen brain is changing, this does not mean that it is inferior or not functioning optimally. It is different from a child's or an adult's, and these differences may be necessary to equip young people to transition from dependence to independence. The enormous capacity for learning at this age, an expanding social life, and a taste for exploration and testing the boundaries may all, to some extent, be necessary for normal maturation. Research on the brain serves to help adults understand the importance of creating an environment in which teens can explore and experiment while helping them avoid behavior that is destructive to themselves and others.
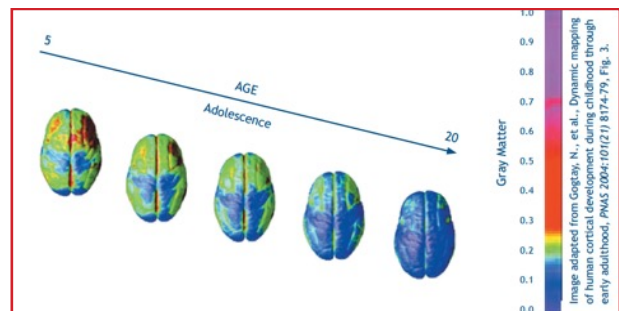
Keep up with the technology

We need to help our children and teens navigate their world. We can do this by being knowledgeable, involved, compassionate, and curious about how our children socialise, experience recreation, and get information through the latest technology. Technology advances at an unprecedented rate – we should expect that by the time we have become familiar with the 'current' technology, our teenager will have already moved on to something else. Facebook and Twitter? These are no longer the social media tools of choice for teens, but have been replaced by Snapchat and Instagram. Snapchat is fast growing and boasted 26 million US users at the end of 2013 being particularly popular with tweens and early teens.[7] In this landscape, things will always be changing - we need to keep up!

For the under-5s

- Don't make a habit of using technology to "babysit" little children.

- Limit screen time. Paediatricians recommend no screen time for children under 2. For older children, consider your child's nature and personality when deciding what that limit should be – as a guide, not more than 2 hours is suggested for this age group. When you do switch on, be discerning – decide in advance what's good to watch.

- Pay attention to your own behaviour (your children are watching, and learning!) —stay off the mobile phone and other devices when you should e.g. when you're driving.

- Plan to spend quality time with your children, and turn off the gadgets. Your kids need, want, and benefit from your full attention, and they will know when you're not giving it to them.

- Online social networking communities such as Facebook, Instagram and Snapchat are very popular, even among primary school children. Insist on abiding by the recommended age for these platforms. Many of these sites "require" users to be over 13 years of age, and the sites for younger kids (usually school-based and educational sites like Edmodo) do require parental consent to use. If your children use these sites, know whom they allow access to on their pages and make sure they know why you've set up limits on this access.

- Consider instituting a curfew for electronic devices. This is a useful boundary to set early on in guiding electronic use, and makes transitioning into the teen years easier.

For 6-10 year olds

- Be clear about your boundaries for use of mobile phones, computers, and other devices. Be alert to the fact that many children know (or can figure out) how to access electronic devices to play games etc. online.

- Content blockers and filters (like Covenant Eyes) are great tools to use with children. They are not perfect, but they enable parents to have more control over where they go and what they do online. A content blocker blocks sites with explicit material or limits a child's search to a predetermined set of sites. A content filter scans sites and images and blocks those that contain certain words, key phrases, or content.

- Supervise your child's use of the Internet. It's easier and more practical to monitor their usage if you have the family computer set up in a common space in your home. You can "watch from afar" or just regularly glance over to see what they're up to.

For 11-15 year olds

- At this age, remember that you are setting up guidelines that they will hopefully begin to 'own' as they get older. With this in mind, engage in conversations regarding electronic use with your teens. Get them to help you decide on what the guidelines should be. They are more likely to want to comply with the parameters set if they have helped to make them.

- If at all possible, keep computers, phones and tablets out of teens' bedrooms and in central family areas of your home. Have rules about when and where your children (and you) will use handheld communication devices. Suggestions include not using them at mealtimes, when visiting family or friends, or when in the middle of another conversation.

- Remember that not all adult sites post an industry rating that can be identified by a blocker, filter, or tracker software. It is therefore important to talk to children and teens about what to do when something inappropriate or scary pops up.

- Educate children and teens about the risks of making friends online. Let your children know that you will regularly check their email, mobile, and social network content (using parental monitoring software). If you see names you don't recognise, find out who they are and how your child knows them. Be sure you are where your kids are online: IM, Facebook, Twitter, etc. Have a policy that you and your child 'friend' each other. This is one way of showing your child you are there, too, and will provide a check and balance system by having an adult within arm's reach of their profile. This is important for kids of all ages, including teens.

- Make them aware of responsible social networking bearing in mind that teens will seek out social networking platforms that you are not aware of (e.g. the motivator for the current trend away from Facebook to Snapchat and Instagram). Remember to make a point of discouraging kids from gossiping, spreading rumours, bullying or damaging someone's reputation using texting or other tools. Talk to your kids, even if the issue hasn't directly impacted your community. "Have you heard of sexting?" "Tell me what you think it is." For the initial part of the conversation, it is important to first learn what your child's understanding is of the issue and then add to it an age appropriate explanation that are helpful, kind and also builds trust.

For 16-18 year olds

- At this age, it is important that expectations are discussed and agreed on together. Make sure that everyone is clear on what the expectations about the Internet is.

- Understand that regardless of the way you use technology, it's part of how young people today build their social networks and their community. Be sure that your teen understands the degree of public and private access that others have to their communications. Talk with them about what's inappropriate to share publicly, and why. Talk to your teens about 'sexting'.

- A lot of teens are simply curious, so do not let websites provide the only answers to their questions.

- Expect some teenage exploration. Also remember that there are multiple ways for them to access the Internet. Don't be surprised if your child has deliberately or accidentally seen porn online. Use Internet "incidents" as an opportunity to communicate.

- This is a good age to talk to your teen about accountability. Consider tracking software (like Covenant Eyes) for older teenagers rather than only content filtering and blocking software. This software tracks the sites your kids have visited, and tracks their path online. This tool gives young people more freedom to explore the Internet, but it also allows them to be accountable. Discuss this with your teen and agree on who they are comfortable being accountable to (it could be you or to someone else that that they choose). Let your teenagers know that you trust them. You may also want to make this a dual accountability relationship – where they are accountable for their internet use to you, and you to them.

- Remember that nothing can replace involvement and supervision by adults. Keep monitoring how your teen uses the media and technology on a regular basis without becoming an "Internet Cop" for this age group.

Resources

1. http://www.focusonthefamily.com/parenting/protecting_your_family/staying_on_top_of_your_teens_technology.aspx

2. http://www.covenanteyes.com

3. http://x3watch.com

Endnotes

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