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# Online Responses towards the Impact of Hand Held Devices on Children's Social and Emotional Development

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**Abstract:** This paper used responses from an online discussion forum to investigate people's opinions towards the use of hand held devices for young children and their impact on children's social and emotional development. Critical discourse analysis (CDA) was used as analysis methods in three-dimension framework via micro, meso and macro multi-level interpretations. Although online response showed different opinions towards the impact of hand held devices, all the 125 online responses agreed that young children should not overuse the devices, and they should have both technology time as well as non-technology time to meet development needs. Educators and parents, who are interested in the areas of whether or not young children should be exposed to and use hand held devices, will find this paper useful.

**Keywords:** digital technology, hand held devices, online responses, young children, social and emotional development

## 1. Introduction

Within the field of early childhood a recent change that has influenced the manner in which children play and learn has been the advent of emergent digital technologies. Within the new digital age, parents and educators have access to and are allowing children to be exposed to a wider variety of technological devices, such as hand held devices, to enhance and build on children's experiences and develop their own pedagogical practices (Colker, 2011). Hand held devices, such as tables, iPads and mobile phones refer to those portable devices which are used for communication and entertainment purpose such as gaming, media and internet access (Balakrishnan et al., 2016). There are a perceived number of benefits of the technological devices for children, but not all educators and parents are welcoming of the integration of digital technology and there is debate over the place of digital technology in the lives of young children (Blackwell et al., 2013; Daugherty et al., 2014; Zaranis et al., 2013). Furthermore, there is an undercurrent that technological devices, particularly those hand held devices are drastically altering the landscape of childhood to its detriment (Plowman, McPake & Stephen, 2010).

The study of child development is integral to understanding the developmental capacities and potential of young children. For ease of discussion, development is often broken into categories, these being: social and emotional, physical and cognitive domains of development (Dodge, Colker & Heroman, 2002). Each an intertwining domain allows for a broad understanding of how children learn, develop and grow (Deewr, 2009). This paper is focused on children's social and emotional development, which is a broad domain of development that covers how children feel about themselves and others (Dowling, 2014). It captures children's play, work and attachment experiences (Parke & Gauvain, 2009). Allen and Marotz (2010, p. 41) explain that children's 'gender roles, temperament, independence, morality, trust, acceptance of rules, and social expectations' are important components of social and emotional development. Longitudinal research shows correlation between children's social and emotional developmental characteristics (e.g. temperament, self-control, and resilience) and long-term social and emotional benefits into young adulthood and beyond (Rudasill et al., 2010; Schoppe-Sullivan et al., 2009). Early childhood is seen as a time for children to develop the social and emotional skills needed for transition to school (Berk, 2013). The importance of social and emotional development on long-term positive learning outcomes for children is well documented (Brown, Winsor & Blake, 2012).

There is research that has identified the potential positive effects of technology on children's social and emotional development within the field of education for children (Lee, 2015; NAEYC & Fred Rogers Centre, 2012; Zaranis et al., 2013). Dowling (2014, p.33) states that 'although mobile phones and screen technology are now more available to young children a lack of personal contact is certainly not evident in early years settings… Children chatter as they work and play'. In the study by Yelland, Gilbert and Turner (2014) with kindergarteners, the use of iPads in a play-based setting highlighted improved self-regulation and persistence whilst engaged with the touch screen technology. They also detailed that children who had difficulty sustaining concentration normally had no problems whilst engaged with the iPad.

Conversely, there is an undercurrent of believe that hand held devices adversely effects pre-schoolers' social and emotional development (Armstrong, Donohue & Highfield, 2015; Brown et al., 2012; Tokmak, 2013). Opponents of the use of digital technology within childhood point to a number of factors for non-use. The social environment with embedment of technology is not achieved easily. Digital technologies are feared to be addictive and socially isolating, minimising time spent with families and peers, inhibiting language development resulting in poor communication skills that are needed for school and beyond, fostering negative social and emotional outcomes, for example, tantrum, fear and anxious behaviour, aggressive and disruptive behaviour, as well as taking time away from children's imagination and engagement with books (Bower, 2013; Brown et al., 2012; Finegan & Austin, 2002; McCarrick & Li, 2007; Plowman & McPake, 2013; Plowman & Stephen, 2003; Rosenfeld, 2015; Schewartz, 2011; Struppert, Guo & Waniganayake, 2010; Yelland, 2011). Overuse of digital technologies could cause developmental issues in young children (Woods & Miano, 2012).

Although many studies have been conducted using digital technologies effectively in educational environments so that their negative potential is averted and their positive potential is promoted, it was never showed whether the stakeholders, such as parents, educators, medical practitioners as well as technicians had knowledge about the impact of hand held devices on children's social and emotional development and its related behavioural outcomes. This study therefore, is to analyse open online responses to reflect the current attitudes and beliefs from the key stakeholders towards the impact of hand held devices.

## 2. Methods

The Internet is an "alternative medium for voice amplification by those often without access to or control of mainstream media" (Tamatea, 2010, p. 984). The online responses from the bulletin board or chat groups may not represent the general public opinions towards the use of hand-held devices in children's learning. However, the Internet-sourced data provides a map upon which various opinions and attitudes can be located and compared from different perspectives and concerns. There are a lot of research papers written based upon the analysis of online data, such as Tamatea (2008; 2010) and Geng and Disney (2014).

An author posted an article on an online discussion platform about the use of handheld devices should be banned for children. One hundred and twenty-five readers who had access to Internet and the online discussion contributed to the discussion of agreeing or disagreeing with the author's opinion and the possible background of their responses. The online data was entered by different people around the world from February to May, 2014 and highlighted the nature of the present discussion in relation to the children's use of digital technology that is available online.

Using similar analysing methods – critical discourse analysis (CDA) in Geng and Disney (2014), this report analysed different online responses towards children's use of hand-held devices. CDA is based upon both linguistic theory and social theory. Linguist theory elaborated by Ainsworth and Hardy (2004), Henderson (2005), and Wodak (2001) is supporting CDA through a three-dimensional framework – micro, meso and macro-level interpretations. Moreover, theorists such as Habermans (1990) already addressed that critical social theory helps CDA approach to examine ideologies and power relations involved in discourse. The micro level interpretation was around the topic of whether digital technology should be banned for children. The meso level interpretation was mainly focused upon the benefits and harm from the use or overuse of the technology. The macro level interpretation of the online data however concentrated on the strategies which shall or should be used in

children's use of digital technology. Although the data reported what could be considered opinions of the people without much research or literature support or development, the data is the opinions of the people who speak for or on behalf of children's parents, educators or medical practitioners, and who care to contribute on the discussion platform.

## 3. Online Responses

The 125 online responses were mainly focused upon an argument concern, which was whether the hand held devices could cause issues, such as delayed development, obesity, sleep deprivation and mental illness in young children. Among the responses, 48.8% of the 125 total responses (61 responses) were related with impact of hand held devices on children's social and emotional development.

Out of the 125 online response, 22 responses (17.6%) strongly agreed that the hand-held devices impacted negatively on young children's social and emotional development; 11 responses (8.8%) somewhat agreed; 9 responses (7.2%) somewhat disagreed; and 19 responses (15.2%) strongly disagreed and argued that the devices played a positive impact on children's social and emotional development. There is 64 responses (51.2%) showed no comment/opinions on children's social and emotional development. The strongly agree and somewhat agree responses were added and categorised into "no-technology" responses; while the strongly disagree and somewhat disagree responses were added and categorised into "go-technology" responses (see Table 1). There was no significant difference of number between the "no-technology" (26.4% out of the total 125 responses) and "go-technology" responses (22.4% of the total 125 responses).

Table 1: No-technology and go-technology responses.

| Category | Online responses | *n* |
|---|---|---|
| No-technology | Strongly agree with negative impact | 22 |
| | Agree with negative impact | 11 |
| Go-technology | Disagree with negative impact | 9 |
| | Strongly disagree with negative impact | 19 |

The following is an example from "no-technology" responses. *"I have seen it first-hand with our son. His interaction with people has gone downhill….. He had been allowed to spend way too many hours a day on video games and also hand held devices and then we started noticing his change in behaviour gradually. He has lost interest in communication, which is very sad to see. He is depressed when he is not allowed to have any hand held devices or video games, he is literally down and just empty and void of happiness."*

The child above is experiencing a behavioural problem – no interest in communication; moreover, this child is also having disruptive and anxious behaviour problems while he is not allowed to play hand-held devices. Similarly, another typical example was that "Lindsay" stated her 4-year-old son had behavioural issues and been nonverbal; she was asking whether she should get him an iPad to help him with his speech as she was told to. The online "no-technology" responses supported the opinion that she should not use iPad in assisting her son's social development, because "*communication is an interactive social skill, which is being significantly eroded by technology overuse*".

The figures in brackets represent the number and percentage of the 33 "no-technology" online responses reporting the nature of the impact of technology on children's social and emotional development, it should be noted that some online responses reported commitment(s) in more than one category:

- "Anxious" (8, 24.2%)
- "Depressed" (17, 51.5%)
- "Attention deficit" (2, 6.1%)
- "Poor self-regulation" or "addiction" (21, 63.6%)
- "Isolated" (15, 45.5%)

- "Overstimulated" (7, 21.2%)

On the contrary, the online "go-technology" responses are both similar to and different from the "no-technology" responses. They indicated that "*children's mental health diagnosis is not easy and is a tricky business with many flaws… and a process of assessing a clinical presentation, not a matter of determine course*". The 'go-technology" responses emphasised the role of the parents or educators in using digital technology as important to children's development, instead of the technology itself.

The following is an example from "go-technology" responses. *"there is huge cultural capital and future prospects in being computer literate. There are many professions that require it as a basic skill, not to mention the many positions in that sector itself that are a natural fit for young adults to bring their enthusiasm to. A passion for video games easily translates into learning to write game code, or character animation. The video game industry makes more moneyed employs more people than the movie industry, Hollywood and Bollywood combined. Contrary to what you seem to believe video games have evolved to be complex social forums, and can be a safe forum for a shy child to develop social confidence and personal skills. They also provide a dangerous world-safe place to explore adventurous play. I agree with limits but they should be specifically geared towards meeting the child's needs individually."*

The figures in brackets represent the number and percentage of the 28 "go-technology" online responses reporting the nature of the impact of technology on children's social and emotional development, it should be noted that some online responses reported commitment(s) in more than one category:

- "Engaging" (18, 64.3%)
- "Confidence" (15, 53.6%)
- "Interactive tool" (9, 32.1%)
- "Communication tool" (15, 53.6%)

The argument concern between the "no-technology" and "go-technology" responses lies in whether the use of these technologies was the direct cause of children's developmental delays or negative behavioural issues in children's development. The "no-technology" responses were supporting the causation, while the "no-technology" responses were against the causation. For example, one "no-technology" response stated "*the problem lies in children who cannot make wise decisions due to the fact that their frontal lobes are not fully developed until age 25. Kids generally pick instant gratification over delayed gratification, e.g. eat entire bag of candy now rather than one piece over a week."* The "go-technology" responses argued "*half the problems that is listed from technology could easily be from genetic, or parenting problems: like a divorce, spousal fights/arguments, parents could also be giving their children junk food causing obesity and not enrolling them into sports. The list goes on, and to say that technology is causing all of these problems is absolutely out of context*". Three teenager students (2.4%) presented their experiences of using the technologies from a corollary perspective to the potential negative impact of digital technology. "*None of us suffer from any of the problems which have been listed, but it is a good group of around 5 of us. Does that make us all 'Outliers' in the Correlations which have been cited, or are the Correlations and their evidence simply not examples of repeatable 'experiments' (for lack of a better term)?"*

Nevertheless, the argument concerns from both "no-technology" responses and "go-technology" responses also revealed that no child is alike and each child will follow a divergent path in order to achieve developmental outcomes.

## 4. Discussion and Conclusion

This study used 125 responses from Internet to explore people's opinions towards hand-held devices, and makes four useful contributions to knowledge on the level and nature about the people's opinions towards the impact of hand held devices on young children's social and emotional development.

First, it was found the "no-technology" responses highlighted that hand-held devices are feared to be addictive and socially isolating and minimising time spent with families and peers (Bower, 2013; Brown et al., 2012; Finegan & Austin, 2002; McCarrick & Li, 2007; Plowman & McPake, 2013;

Plowman & Stephen, 2003; Struppert et al, 2010; Yelland, 2011). However, the "go-technology" responses were consistent some of the reported benefits including increased persistence, self-confidence and self-esteem within learning (Dowling, 2014; Yelland et al., 2014; Lee, 2015; Plowman & McPake, 2013).

Second, it was found that one of the primary distinctions between the two responses was the level of parental engagement with the child's use of the hand-held devices. In the "no-technology" response the parent appeared disconnected from the child's use of technology, in that "he had been allowed to spend", rather in the "go-technology" response, where by the parent is "right there with her, constantly engaged". Which confirms Plowman and McPake's (2013) study that if parents use digital technology as a medium to begin conversation and discuss questions or interests the children have, it allows for children's growth and development.

Third, while it was found that both groups of responses had strong arguments with examples, it emphasised that every child should be treated as a different case and follow a divergent path in order to achieve developmental outcomes. It was consistent with Dodge et al (2002)'s statement that differences in gender, temperament, interests, learning styles, life experiences, culture, and special needs provide the individual differences that make each child unique and that make development difficult to predict.

Last, both groups of responses recognised the need for young children to learn and develop their skills and knowledge with technologies. Both groups also agreed that overuse of digital technologies could cause developmental issues in young children (Woods & Miano, 2012).

This paper has its limitations. All the online responses were from those people who spoke for themselves and who cared to do so online. Moreover, the responses did not cover all the developmental areas of young children, although some developmental areas such as language and social and emotional developmental areas were mainly focused. Based upon this limitation, a further study will be developed by using properly developed questionnaire to investigate the stakeholders' opinions, including parents and educators, towards the use of hand-held devices in young children's development. Moreover, parents' engagement with use of digital technology will be studied in-depth so that strategies of digital technologies could be provided to assist better use of the devices and software and therefore produce more positive impact on children's social and emotional development.

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