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Practitioner's perspective on young children's use of mobile technology

Pinsuda Srisontisuk

16.1 Introduction

The 21st century and its technological advancement, particularly mobile technology, have brought about a new outlook towards teaching and learning in the early years. Whether children are directly interacting with these new devices or merely exposed to it, it becomes evident that most “rapid changes in these technologies create a new landscape of knowledge, leaning and growing up for young children” (Arnott, 2017). Kabali et al. (2015) emphasised the universality of exposure to mobile devices. In their research, they found that the pervasiveness of technology towards young children was evident across different social levels, irrespective of income or race.

In Chapter 16, we focus specifically on mobile touch screen technology (MTST) as their unique features of being mobile and touchscreen has played a role in the fast adoption of these devices amongst young children. The growing trend of young users is visible, not only through data collected from national surveys (Ofcom, 2019), but it is also evident in the sheer growth of apps targeted towards pre-school children internationally, with apps for this age group dominating the education app category at 58% (Shuler, Levine, & Ree, 2012). A more recent study investigated how beneficial these “educational” apps specifically targeted at young children, the results of analysing over 100 apps, indicated that the apps were not as educational as expected (Meyer et al., 2021). As a result, the pervasiveness of MTST in young children's lives raises the question of how technology should be introduced and focused on early years practitioners' perspectives towards these new devices.

This main research question that drives the narrative of Chapter 16 is “What attitudes and opinions do practitioners have towards young children's use of mobile touch screen technology?”. Chapter 16 will provide an overview of previous research that has looked at early years practitioners' beliefs and attitudes towards technology and young children, acknowledging the limited research in this field. It should be noted that the findings from Chapter 16 are based on empirical data from a larger design-based research project that aimed to investigate how children cooperate when using tablet computer in pairs. For the purpose of Chapter 16, when referring to young children the specific age group that we are discussing are

children aged 3–5 years old, as this is the age group in which practitioners were working with.

16.2 Research concerned with early years practitioners' beliefs and attitudes towards MTST

Multiple studies have explored how teacher beliefs and attitudes towards technology influence adoption and usage, especially in relation to primary school-age children (Ertmer, 1999; Ifenthaler & Schweinbenz, 2013). However, far less research has explored the perspective of practitioners and teachers of young children, an important group given the debate on the place of technology in the lives of these young children (Blackwell, Lauricella, Wartella, Robb, & Schomburg, 2013). The studies that have explored early years practitioners' perspectives often employed a quantitative approach in the form of surveys (Gialamas & Nikolopoulou, 2010; Aldhafeeri, Palaiologou, & Folorunsho, 2016). The findings usually indicated a positive attitude towards MTST, although concerns were also expressed, such as delays in social development, inappropriate material, and addiction (Marsh et al., 2015; O'Connor, 2017).

A limited number of more qualitative research and mixed-methods approach studies have also been conducted, involving focus groups that offered more perspectives in terms of the social expectations from their work colleagues (Hatzigianni & Kalaitzidis, 2018; Palaiologou, 2016). For example, Hatzigianni and Kalaitzidis (2018) found that early years teachers' views were evolving, and acknowledged a changing trend where practitioners were open minded to these new technologies. Using a Bronfenbrenner's ecological framework Hatzigianni and Kalaitzidis (2018) focused on how personal digital skills, leadership styles, teacher training, and teaching philosophies were associated with a positive attitude towards incorporation of technology. Palaiologou's (2016) international survey conducted across five countries demonstrated that practitioners consistently demonstrated a positive attitude and aptitude towards digital devices. However, practitioners appeared hesitant about integrating technology in their practice. This reluctance was unpacked in subsequent focus groups and was attributed to the fact that "the dominant ideology is that play-based pedagogy leaves no space for digital devices to be included" (Palaiologou; 2016, p. 313). This conflicting perspective towards digital technology appeared to be consistent cross-culturally as the view towards digital devices were not seen as offering interactions or experiences that could be considered as playful, and thus part of a play-based pedagogy that is the core to most early years curriculum.

Given that this is a critical age for all aspects of development and that technology is an undeniable part of everyday life for these children and will be even more eminent as they grow up, educators are concerned about how to establish a "positive start" in using technology. Research has shown that "problematic media habits may predict a trajectory of increasingly excessive use through adolescence" (Radesky et al., 2014, p. 1176) and therefore the early years are fundamental.

As for the studies that focused on interviews with practitioners, these either looked at ICT in general (Mertala, 2017) or specifically at computers (Alkhawaldeh

et al., 2017). Therefore, further interview studies to provide more insights into practitioners' perspectives in settings that are users and non-users of MTST are needed to better understand the educational context of young children in pre-school settings. Understanding how practitioners view MTST technology and what promotes or hinders practitioners in the early years sector to adopt any type of technology is critical. It is often a precursor to how technology is introduced in the primary school level, but it also is a reflection of the gap between practice and pedagogy.

16.3 Research design

Chapter 16 aimed to gather data about practitioners' perspectives on MTST through the use of semi-structured interviews. The participants involved nine practitioners from two different early childhood educational settings, one setting was a nursery based in Reading (no access to MTST) while the other was a school situated in east London (access to iPads). Using purposeful samplings (Palinkas et al., 2015), each of the practitioners had varying degrees of experience in teaching in the early years, ranging from 1–17 years. These samples are not meant to be representative but are intended to provide a holistic view from multiple perspectives. Interviews lasted between 30 and 50 minutes, were audio-recorded, transcribed, and analysed through an inductive thematic analysis approach (Braun & Clarke, 2006) by the author. Five major themes emerged from asking practitioners about their views on young children's usage of MTST: (1) Ubiquity of Technology (2) Ability in using MTST (3) Use in Moderation (4) Values of technologies in Early Childhood and (5) Negative Aspects of MTST.

16.4 Research findings

16.4.1 Ubiquity of technology

The first theme of ubiquity of technology referred to comments that practitioners made regarding how prevalent MTST is in young children's environment as well as in our daily lives as adults. This was also evident in Chapter 4 (Vogiatzis et al., 2022), whereby a teacher mainly used WhatsApp as a language theme method as most people have ubiquitous access to MTST. This theme manifested itself in different ways. Either the teacher was explicit in saying that MTST is here to stay and therefore we must be prepared for it, or through anecdotal stories they explained the pervasive nature of it and how we all are becoming regular users of MTST. This was an important and major theme as it reflects the changing outlook amongst practitioners about the usage of technology.

It demonstrates a shift in the conversation from the binary question of whether (or not) practitioners should be using technology towards a more constructive dialogue about how to best to use technology and to what extent it will yield the most educational benefit for young learners. This finding supported previous findings regarding the increased uptake of MTST in the early years as well as an

acknowledgement that young children today are growing up in a distinctively different technological environment than their parents (Karagiannidou, 2017).

Practitioners in both the London and Reading settings agreed that technology should be introduced. However, their tone and further explanation of why it should be introduced to children varied across practitioners. A majority of practitioners expressed that the need to introduce this type of technology was mainly due to how prevalent technology is in our society nowadays. As one practitioner mentioned,

I think it's a good idea, because the world is moving so fast, I mean new things are coming up. If they don't, if they're not, you know, expose to all of this, then they'll find it difficult later on. So it's best that they actually know how to use thing, it helps with their learning as well.

(P8, London)

There appeared to be a general recognition that MTST are becoming widely used and thus it becomes essential for early year practitioners to prepare children to use these types of technology appropriately. Similar perspectives on technology presence were reflected in other practitioners as they agreed that technology should be introduced:

I suppose because this day and age, technology is more in use.

(P7)

they just grow up with technology so they always expect it.

(P4, Reading)

The idea of technology presence as a rationale for introducing MTST in the early years appeared to be an agreed-upon notion. However, the implication of technology presence, including the perceived benefits and harms varied much more across individual practitioners, and will be discussed further in the fifth theme.

In another example, practitioner 6 shed a light on “ubiquity of technology” by making a comparison to her own childhood, and highlighting the differences in how time is now spent:

when I was little you go out and bike in the street and you went to play football, but now children want to sit on the iPad, even my niece she is two years old, she can pick up a phone and can open it, she can sit there for hours, which I guess as a parent is really useful sometimes, but not all the time, I mean like she's been taken to the park and what not but it is concerning that so much time is spent on there.

(P6, London)

This reflective thinking and comparison to one's childhood can often be found in research regarding uncertainty around new technology and parenting styles

(Plowman, McPake, & Stephen, 2008), and this is also true in teachers' teaching philosophy. It is not uncommon to make these comparisons, as we use our own experience as points of reference when working with young children. It becomes more challenging when practitioners are working with technologies that have not been part of their own childhood experiences. Although practitioner 6 was expressing her concerns about the potential harm that technology brings with it, she also highlighted another key component of technology presence and how it is re-shaping the culture of young children. As children share their day-to-day experience with their peers or teachers, stories about their weekend may include elements of watching a certain YouTube clip, or playing a new game on the iPad, in addition to or replacing more traditional stories of going to the park. This familiarity of technology has led to children sharing and developing different skill sets around technology use.

The first theme also presented itself in other ways, such as when one practitioner who was very optimistic about technology and commenting was questioned on how she thought the devices offered a lot of possibilities for learning. Reflecting on whether she was always receptive to new technology, she replied, "I think since I've been teaching, it's always been in the forefront. So I can't really compare it to before" (P5, London). This was another perspective on technology's presence and it illustrated how technology was advocated in the educational sector. It should be noted that she had experience teaching slightly older children, which might have shaped exposure and experience in using technology with children, as she also mentioned a project she did with her older students using stop-motion animation. This perspective might reflect some practitioners' experiences based on their training and school cultures that were more proactive in supporting and engaging practitioners in the use of MTST in their teaching practices. An unexpected point that emerged from the theme of technology presence was how for some children, the presence of all this technology changed the children's accent, given that children were watching more American YouTube clips at home.

16.4.2 Ability in using MTST

The second theme "Ability in using MTST" involved comments related to how easy, comfortable, and confident many of the children were in using MTST, because of how prevalent it is now in their home environment. Many practitioners noted that they could not be certain how much usage of MTST the children were getting outside of the school, as it was not something they tracked. However, there was certain behaviour that could be observed which indicated increased usage outside of the school environment. This related to how confident and knowledgeable children were when using the devices, prior to any instructions. This was a sub-theme as it was derived from the practitioners' comments that the children's confidence in using technology was the direct result of how much exposure or usage they were getting outside of school:

Some of the children are, you can tell cos some of them are really confident to speak to you about the programs and all the stuff that they use on the iPads, like the YouTube videos. They'll say like 'Oh!, I saw this on the YouTube video'. They know a lot of games that they play on the iPad, so that's how you know that they often on it at home. The majority do have access to iPad.

(P7, London)

Comments about children's confidence in using technology were echoed by other practitioners. Although practitioners did not address the more intuitive design of a touch-screen interface and the user-friendly nature of the devices that made it more accessible to young children, they did comment on a gap in expertise, and how children appeared to be more adept in using MTST than some adults. As practitioner 8 explained:

These are guys (children) are too good, I think some of them are a bit too forward than the adults and they know a bit too much sometimes. I think with technology like that smart phones and iPhones they have it at home. So they are really equipped, especially the ones who have them readily available.

(P8, London)

Practitioners viewed the children's confidence in using the devices from multiple angles: the tone varied from impressed at how adept the young children were at using it, to concerns that other essential skills such as holding a pencil were not being nurtured at home. An example of a more impressed tone could be seen when one of the practitioners listed all the things a child was capable of doing:

some of them know how to like turn the volume down, how to switch off. Yeah some of them, yeah it's crazy, (they) know how to turn the volume, know how to turn it up, know how to brighten up the screen and I'm just like "Well, I don't even know this". And they know how to get on it as well.

(P2, Reading)

As mentioned earlier, some practitioners took a more cautious view that although the young children were able to easily navigate through these devices, it might come at the cost of not developing other essential skills, such as mark-making and writing:

It's so interesting that some of them can come in and open the tablet, go around you know the different apps, when they're barely, you know just turned 4, but they can't pick up a pen, they can't hold a pen to make a mark. And I think it's getting the balance between the two.

(P6, London)

Practitioners appeared to be keenly aware of a different skillset that young children had developed, which included children using their fine-motor skills to use MTST

devices. Being able to swipe and navigate through these tools with confidence, although such a skill set might appear to be more intuitive than using a mouse or writing with a pencil, was still a different competency that developed as a result of more exposure to technology.

16.4.3 Use in moderation

The third term *use in moderation* indicated comments where practitioners talked about ensuring that children had exposure to technology but also sufficient time to engage in other types of activity. This idea of balanced choices often manifested itself in practitioners commenting on the necessity of setting up “limits”, and ensuring that children were engaging in other learning activities as well. There was some mention around the potential difference in the home and school setting, where setting up this balance at school was easier. This might not be so easy in the home setting where children may be spending substantially more time on the devices than appropriate. Although the theme was frequently expressed from the viewpoint of needing to set limitations, the term *use in moderation* rather than limits was used in Chapter 16 as it was a more reflective of the idea that practitioners still felt there was a place and time for MTST.

Practitioner 1 explained how she structured it in her setting, and set up clear time frames of usage:

I think that it could be introduced as long as there are some limits, not all day long. We are here for half an hour, we switch off the computer. Go to that room, so we can enjoy that space, if it's just something new and the game, maybe in the day half an hour morning and in the afternoon. For children to do some educational activities.

(P1, Reading)

Practitioner 1 went on to explain how she also set limits within her own household, and how that was made clear to her own children, “You have to give limits, how long they can use it for? You have to give limits. This iPad, for me I've got two children, they only use on the weekend.” Other practitioners also expressed similar views on setting up limits, “I think that it would be good to introduce with limits and not having certain things on there.” (P3, Reading). The idea of making a balanced choice often required the intervention of a practitioner to monitor their usage and ensure that certain children were not always on the devices:

I think it's fantastic, a fantastic learning tool for them. And obviously we limit the amount of time they're on. There are some children that would obviously love to sit there, like all day long on the iPad, playing games and watching videos. So you do try and limit them.

(P5, London)

Theme 3 was naturally linked with Theme 1, and the concern that because the devices were so prevalent, children were not engaging in other learning activities. Practitioner 6 explained this further:

I think when they're (MTST) used in the right way for an activity that it's benefiting them. But I think it needs to be limited so that they're getting other experiences, and I think especially we find with our children they do spend a lot of time on tablets and mobile phones at home. So we try to limit the time that they get on them in school.

(P6, London)

16.4.3.1 Value of MTST in early childhood education

The fourth theme addressed practitioners' comments about the positive value that MTST had in early childhood education. Some comments referred exclusively to the three Rs (reading, writing, arithmetic), referencing specific apps that catered to these knowledge developments. Practitioners also talked about the positive attitudes that children had towards learning when using the devices as well as the ability for technology to extend their learning. This extension of learning was one of the unique features of mobile devices, involving instant access to information that these tools now enabled through the Internet.

The feature of being able to find information online, and research certain concepts in the present, allowed the option to extend a learning opportunity further. This also helped to provide visual stimuli to explore and explain certain new concepts. Practitioner 5 gave an example from her classroom:

If someone comes up with a topic of discussion or something they're interested in, I can just get google up, "Oh lets", you know if you're interested in harp, like Jack and the Beanstalk. Everyone was like what's a harp?, they weren't sure. You know, it was easier to find pictures of harp and then to play some harp music them and give them that experience.

(P5, London)

The interesting thing about theme 4 was how practitioners went into detail and were able to give concrete examples about an incident, where they were able to search something online to help show or explain something further to the young children. This illustrates that practitioners experienced the advantages and benefits of being able to access information at any given time.

We had a little girl she got onto google maps, and like I showed her where are nursery was and then I showed her London and where we live, and that was an interesting one. Yeah, and then we showed her the world. The world was on there, "We live in England ... there is other people that live here". She was like "Oh! We come and play here, we come to nursery here". So I was like "Yeah". I thought that was pretty clever.

(P2, Reading)

The ubiquitous knowledge access was often viewed in a positive light, and practitioners expressed how accessibility allows for a more enriching experience for the children. Practitioners valued this access to the Internet:

They do have the internet explorer that they can use if they want to find out about something. Usually I go on the iPad and I show them, then they're aware of it, so then they can try and type out the word that they research. I personally like to use it for research.

(P9, London)

The findings demonstrated that many practitioners recognised the potential educational benefits of technology. One being the technology's connectivity to Internet, with the instant access to information being a tremendous asset to their teaching in extending the children's understanding of the world. According to the view that early childhood teachers helped to facilitate how children develop their culture and foster their ability to practically produce knowledge (Ihmeideh & Alkhalwaldeh, 2017) this instant access to information has allowed children to extend their learning. However, such engagement was often teacher-led.

16.4.4 Negative aspects of MTST

The fifth and final theme demonstrated the different types of concerns that practitioners had. There was a concern that when children were too immersed in technology they became too passive, and they did not communicate with others, or developed those essential physical, social, emotional skills that are at the core of early years education. This subdued interaction with technology was viewed as almost an addictive behaviour, and that their engagement with technology was no longer productive once it took away time from other essential types of play.

A fear was expressed by one of the practitioners, "That the children will become so technology involved that they're not interested in anything else. They're not giving those practical experience of going out to run but now children want to sit on the iPad." (P6, London). Another practitioner explained further why excessive passive interaction might hinder their cognitive development, "Fear, is that they may become a bit passive, it's already there they don't have to think much it's just click, click, click. That's what I feel some time, more of that and less of thinking." (P7, London). Practitioner 2 explained her fear when a balanced choice is not made, and how technology limits their interactions with others:

Bad things are I think some of them can just sit and sit and not interact with anybody else and there is no talking there. And their communication is just with colours, screen, a box. I don't like them sitting on their for too long.

(P2, Reading)

The fifth theme was expected given a general concern that the media presents and current observational behaviour in which children appeared to be overly immersed

with technology. Practitioners were expressing genuine concern over how the devices did not encourage active learning, but instead it was just a passive consumption of information.

16.5 Discussion and moving forwards

Chapter 16 provided an overview of how early child practitioners from two UK schools perceived the use of mobile touch screen technology (MTST) by young children. As practitioners acknowledged the growing presence of these devices, they shared differing perspectives on the educational potential of the MTST and the perceived harm, adding to the ongoing debate. The interviews with nine early-years practitioners confirmed and extended the findings of previous research, and it provided new insights about this group of young children. Practitioners' perspectives on how much exposure and usage the children had with MTST, confirms the growing statistics around young children's adoption of these new technologies. Similarly, the ease with which young children can use tablets with minimal instruction is potential evidence of how much they are using technology outside of school as well as the intuitive designs of tablets computers that has allowed for such young users to purposefully engage with them.

The fear around technology of being passive devices and not allowing the young children to engage in other social and physical activity is still at the forefront of many practitioners. These are the exact same concerns that were put forth earlier by early years practitioners about desktop computers (Wood et al., 2008), so the mobility of the device and the new software has not been able to adequately address this major concern. Practitioners felt that limited use and balancing children's interaction with these devices and other activities was the ideal solution. Practitioners also reported that one of the most beneficial features was the connectivity to Internet; instant access to knowledge and images was a feature they felt has enhanced the learning experience for their students.

Although there were some themes that were presented across both educational settings, which highlights the commonality in hopes and concern around MTST devices, it should be noted that the tone and emphasis that each practitioner expressed on a theme would vary even within the settings. For example, in the London school there was one practitioner who enthusiastically commented on all the potentials of learning that had arisen because of technology presence, while another practitioner was quicker to highlight the addictive behaviour that has occurred because of technology presence. The disparity of opinion between practitioners is a common phenomenon when looking at the impact of technology on education that reaffirms previous findings (Guha, 2003). Subtle differences in views were to be expected. However, extreme inconsistency amongst practitioners within settings may hint at a more substantial problem in which there is not enough evidence and research to persuade practitioners one way or another. There is a need for more research with this age group to provide more evidence to practitioners and continue to engage them in the ongoing conversation around what type of interaction and engagement with technology are appropriate for young children.

16.5.1 Implications for practice

Chapter 16 suggests that practitioners should seek to understand how children engage with MTST to benefit from the ways technology can enhance young children's learning experiences. Practitioners' abilities to identify their own concerns about the usage of MTST in young children should be an ongoing discourse, to prompt innovate ways to integrate and address these worries. Therefore, educational settings should also consider setting more explicit and concrete boundaries to the use of MTST, and work towards formulating their philosophy towards technology that best suits their context so that it can be presented to both learners and parents.

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