DIGITALISATION IN 21st CENTURY MUSIC EDUCATION: SMARTPHONE AS COMMUNICATION AND TEACHING-LEARNING TOOL

HAVILAH GINAJIL

CULTURAL CENTRE
UNIVERSITY OF MALAYA
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HAVILAH GINAJIL

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DIGITALISATION IN 21st CENTURY MUSIC EDUCATION: SMARTPHONE AS COMMUNICATION AND TEACHING-LEARNING TOOL

ABSTRACT

Parents were the biggest influencer to every child's development in any area of life, thus it is crucial to enhance parental involvement in order to assist efficiently in child's learning at home environment. Moreover, this generation of children has commitment in more than one activity every week, therefore it is important for parents to manage the time equally in turn to have quality performances achieved from the children. Thus, this study is conducted on Digitalisation in 21st Century Music Education: Smartphone as Communication and Teaching-Learning Tool. The aims of this study are: (1) to investigate the effectiveness of digital device in enhancing parental involvement in children's musical learning; (2) to identify the function of digital devices in improving communication among parents, music teachers and music students; and (3) to examine how digital device can be an effective teaching and learning tools. A total of 12 participants (4 parents, 4 music teachers and 4 music students) were purposefully selected according to the criteria needed in this study. In addition, 30 minutes face-to-face in-depth interview with semi-structured and open-ended questions was conducted with the individuals. The results found that digital device as smartphone was a useful tool to enhance communication between parent, teacher and student, also to access information efficiently through fingertips. Although smartphone benefits each individual in various ways, it should not replace the notion of parental involvement and face-to-face interaction between home and school partnership.

Keywords: digitalisation, smartphone, communication tool, teaching-learning tool

DIGITALISASI DALAM BIDANG PENDIDIKAN MUZIK ABAD KE-21: TELEFON PINTAR SEBAGAI ALAT KOMUNIKASI DAN PENGAJARAN-PEMBELAJARAN

ABSTRAK

Ibu bapa merupakan pengaruh yang paling besar dalam perkembangan kanak-kanak walau di mana sahaja. Oleh itu, penglibatan ibu bapa dalam membantu kanak-kanak di rumah adalah penting bagi mewujudkan keberkesanan dalam pembelajaran. Selain itu, kanak-kanak mempunyai komitmen dalam menjalankan pelbagai aktiviti setiap minggu dan ibu bapa perlu meluangkan masa bersama anak-anak agar dapat membantu mereka untuk mencapai prestasi yang cemerlang. Justeru, kajian ini dijalankan terhadap Digitalisasi Dalam Bidang Pendidikan Muzik Abad ke-21: Telefon Pintar Sebagai Alat Komunikasi Dan Pengajaran-Pembelajaran. Matlamat kajian ini adalah: (1) untuk menyiasat keberkesanan telefon pintar dalam peningkatan penglibatan ibu bapa terhadap pembelajaran kanak-kanak; (2) mengenal pasti fungsi peranti digital untuk meningkatkan komunikasi antara ibu bapa, guru-guru muzik dan pelajar-pelajar muzik; dan (3) mengenal pasti keupayaan peranti digital sebagai alat pengajaran dan pembelajaran. Seramai 12 orang calon (4 orang ibu bapa, 4 orang guru muzik dan 4 orang pelajar muzik) yang berpotensi telah dipilih berdasarkan kriteria yang diperlukan dalam kajian ini. Di samping itu, temu ramah bersemuka selama 30 minit dengan soalan separa berstruktur dan terbuka telah dilakukan dengan individu-individu tersebut. Hasil dapatan menunjukkan bahawa peranti digital seperti telefon pintar adalah alat yang berguna untuk meningkatkan komunikasi antara ibu bapa, guru dan pelajar, ia juga dapat mengakses maklumat dengan cekap dan pantas menggunakan hujung jari sahaja. Walaupun telefon pintar bermanfaat kepada setiap individu dalam pelbagai cara, ia tidak perlu menggantikan konsep penglibatan ibu bapa dan interaksi secara bersemuka antara perkongsian rumah dan sekolah.

Kata kunci: pendigitan, telefon pintar, alat komunikasi, alat pengajaran-pembelajaran

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CHAPTER 1

INTRODUCTION

1.1 Background

Parental involvement in developing children's learning has been practically crucial and improved from time to time in achieving better results. According to Badea (2016), an executive director of American Music Institute, declared that parents took an important role to become the first teacher in their children's learning process, in the same time encouraged and motivated children to improve school performances every year. Similar findings to Kernan (2012), the researcher emphasised parents being the dominant and most enduring educators to their children; also, parents apt to have an absolute effect in all aspects of children's learning. However, in the music aspect, Ho (2011) defined parental involvement as a moral support to assist and guide children's musical activities, instrumental instructions, learning and practices progress despite at home or school environment and the interest in musical career. Whether it was academically or musically, every parent aimed to guide their children to the right path, so they could improve and achieve success in the future.

Moreover, parents who had no musical background might undergo difficulties to engage themselves with their children throughout the process. Therefore, numerous studies had been conducted to discover variety of strategies in turn to guide parents in participating children's musical learning. One of the parental involvements that could overcome this issue was to improve the relationship between teachers and parents' communication. However, McPherson (2008) argued that parents with zero musical experience too could still cultivated children to become outstanding learners as a whole.

According to Kemp (2015), since parental involvement was recognised as an approach to boost up students' educational achievement, developing strong communication was vital among parent and teacher to improve the involvement of

parents. The communication consisted of sharing information about student's academic progress and school-related matters (Epstein, 2011). In spite of parents' busy schedule nowadays, the interactions between teacher and parents were resolved by digitalisation, where teachers could send information and update children's progress easily through smartphones.

Meanwhile, people who were born after 1980, that live with Internet and mobile technologies around could be called as "digital natives" (Prensky, 2001, p. 1). They were the generation who literally do not experience the era without digital technologies. Moreover, the author strongly emphasised that the current education system was no longer designed for 21st century students. Therefore, the knowledge practices of today's generation had drastically changed over the last decades, regardless of the education system that still remained the same.

Furthermore, Golwalker and Shelar (2016) studied that Indian society experienced digital technology since the 90's, where computers initiated media convergence process to produce and culminate into smartphones we had today. Those devices had influenced people's communication in variety of ways. In that way, telephone calls and text messages had become the fastest platform to communicate and share information with others (Van Wyk & Lemmer, 2009). Therefore, parent-teacher communication became accessible through smartphones because of its telephone call that made the interactions convenient (Couchenour & Chrisman, 2011). Similarly, Merkley, Schmidt, Dirksen and Fulher (2006) informed that effective communications between teacher and parents lead to "students experience success in the classroom" (p. 11).

1.2 Statement of Problem

The nature of parental involvement has augmented by time and its importance to acknowledge the skills in order to raise them in becoming a well-rounded person in all

areas. Either in academic or musical aspects, every parents wished to fully develop their child in variety of skills, and therefore improving the performances, disciplines, behaviours and confidences as a learner. According to Greek philosophers, Plato and Aristotle believed that music could shaped one's personality in distinctive ways, as it contained basic elements to promote "moral or spiritual harmony and order in the soul" (Whitfield, 2010, p. 11). In addition, music consisted the ability to form rational mind and ethical power to reinforce the education of inner being, hence influenced the structure of Greek education where it considered as the major instrument to develop character and virtue formations. However, it was pivotal for parents to engage themselves into this important part of child's learning, rather than leaving music done alone. McReynolds (2004) stated that "parent involvement will probably make more difference than anything else we could ever do to help our children learn" (para. 1). Regardless, children could still developed self-regulations and music aspirations thus becoming professional performers with the absence of parental support or positive parental feedback (Ho, 2011).

Next, there were various skills to be developed in each area; hence music was chosen as one of children's part of learning. Children in 21st century had spent most of the time learning at school on weekdays; however some parents intended to let their child to attend extra-curricular activities after the school hour or on the weekends. Based on Khane et al. (2001), the authors observed after-school activities provided students in supporting their developments and access experiences that were lack obtained from the school days. Indeed, parents wanted to develop child's talents and passions, also made them well-rounded and accomplished as a person. However, they were requisite to manage time equally in guiding the children to gain quality practices and performance achievements.

Many studies have investigated on parental involvement in child's academic education over the decades (Desforges & Abouchaar, 2003; Epstein, 1987, 1992, 1994;

Fan, 2001; Ho & Kwong, 2013; McPherson, 2008). However, there were lacked in investigate the important variables that effects parental involvement in children's musical learning, such as parents' cultural, education and musical background, socioeconomic status and relationships between parents and child (Margiotta, 2011; Suk, 2014).

In addition, due to the workloads or obligations most parents had today, it became harder for them to involve in their children's musical learning. The lack of communications between parent-teacher and parent-child had caused unproductive parental involvement at home environment. Surprisingly, there were even worst scenarios happened when parents being inattentive on children's progress. According to Tesch (n.d.), pianist of Orlando Music Institute affirmed the fundamental relationships among parent, student and teacher in making the process a success. He added that students needed to get support from both parent and teacher hence enhanced self-regulation in dealing challenges by themselves. Furthermore, to fortify parent's participation at home musical practices, parents ought to take note of weekly teaching points in every class (Bugeja, 2009). Moreover, study by Margiotta (2011) supported the matter above by engaging themselves along the lessons as it was not only advantageous to the child's learning yet to create an important link for the process.

Furthermore, with rapid growth of technologies, digitalisation was seen to be able to solve and bettering any kind of issues occurred. Digital technology has improved daily lives in any scopes; making every steps conveniently for all users. For instance, advanced illness treatments in medication, provided efficient learning skills in education and enhanced communications through numerous social platforms. Regardless of those advantages, Ismail (2017) disputed that people would no longer required to brainstorm as they depended on technology in every routines. Soon, the world would be floated with redundant and unreliable human being, as well as employment.

After all, in progressing efficient communication tools, variety of digital media were installed in smartphones, where teachers and parents could now share and interacted with the tip of their fingers, without making appointments to meet each other in person. Therefore, with the issues discussed above, can digital device be one of the solutions to keep parents updated with their child's progress and to improve parents and teachers' communications via digitalisation; thus to enhance parental involvement at the same time? Despite living in modern era, some parents still preferred to have personal, face-to-face interaction with the teacher, in the same boat to build healthy relationship among them.

1.3 Purpose of the Study

The purposes of this study were to investigate the effectiveness of digital device in enhancing parental involvement in children's musical learning. Also, the ancillary purposes were to identify the function of digital devices in improving communication among parents, music teachers and music students, and to examine how digital device can be an effective teaching and learning tools.

1.4 Research Questions

Specific research questions that guided this study were as follows:

1. How does digital device used in improving parental involvement in children's musical learning?
2. How does digital device enhance parent-teacher communication in monitoring children's musical learning progress?
3. How does teacher and student's communication through digital device facilitate musical learning at home environment?

4. How does teacher utilise digital device as a teaching tool in student's musical learning?
5. How does student utilise digital device as a learning tool in embracing self-regulated learning skills?
6. How does teacher utilise digital device in expanding their lifelong learning?

1.5 Significance of the Study

This study aims to contribute to the benefits of parents in developing and leading their involvement and engagement into their children's progress in musical learning. The findings will devote in redefining the notion of parental involvement as it was crucial for parents to update and adapt into new paradigm shift of teaching and learning framework at digital age.

Moreover, the objectives of the study are to explore digital device as communication and teaching-learning tools. Therefore in communication aspect, it influence to enhance efficient communications between teachers, parents and children in improving proficiency in practices and achieving distinction level of children's musical performances. Thus provide recommendations for teachers as well as parents in producing children's quality practices at home environment through digital devices.

In addition, digital device as teaching-learning tool in today's information-rich generation delve into heutagogical approach for student in developing self-determined learning, also for teacher in embracing lifelong learning to keep pace with demands of ever-evolving education system.

1.6 Delimitation of Study

This study was delimited to the investigation of three different groups of individuals – teachers, parents and students. The criteria of participants' selection were to utilise

smartphone and access to WhatsApp or other preferred communication tools during the musical learning progress. According to Calgary-based parenting expert, Arnall (2014) stated that kids these days own smartphones in the age of 10 in average. Therefore, the age range of students in this study were between upper primary students, 10 years old to lower secondary students, 16 years old.

Thus, the study was conducted with the delimitation of discovering how digitalisation as one of the teaching tools to enhance parental involvement in developing their children's musical practices at home. However, the findings may not able to sum up the general point of view of the entire population in music learning community.

1.7 Definition of Terms

The following presents the theoretical and operational definition of terms for this study.

1.7.1 Digitalisation

21st century's digital age, or known as Information Age was characterised as a historic period that has been shifted rapidly since 1970s with the development of new technologies relentlessly, introduced and provided devices with the ability to transmit and receive information freely and quickly. Digitalisation was a process of converting information into a digital format that organized information into discrete units of data, also known as byte. Those digitalised information were made to preserve, access and share to people worldwide. Digital media such as social media was encoded in digital format and was transmitted into electronic device as smartphone (Acerbi, 2016).

1.7.2 Digital device

Digital device is an electronic device such as smartphone, laptop, desktop computer, or tablet computer that allow user to have constant connectivity and efficiency in

communication and accessing information. In this study, the digital device is specifically refer to the smartphone.

1.7.3 21st century skills

21st century skills generally used to refer to certain core competencies such as critical thinking, creativity, collaboration, communication, problem-solving and digital literacy (Voogt & Roblin, 2012).

1.7.4 Parental involvement

Desforges and Abouchaar (2003) defined involvement as a participation, partnership, collaboration and cooperation. Meanwhile, parental involvement consisted of school-related activities (Epstein, 1990; Fan, 2001), basic obligations (Epstein, 1987), continual, persistent and stable resources (Trask-Tate & Cunningham, 2010) and parent-teacher communications (Epstein, 1987, 1991, 1992, 1994; Ho & Kwong, 2013).

1.7.5 Parent-teacher communications

Parent-teacher communication represented the interaction between parent and teacher in sharing information regarding student's academic progress and school-related matters (Epstein, 2011).

1.7.6 Musical learning

Music education is a field of study which associated with the teaching and learning of music. In this context, musical learning refers to the participants whom partake in learning of musical instruments such as piano, guitar, violin, drum and wind instruments in one-to-one instrumental lesson.

1.7.7 Home musical practice

According to Klickstein (2009), practice is the deliberate and creative process to improve musical skills and master music for performance. Thus, this study refers home musical practice as the process of learning musical instruments at home environment that essential to maintain proficiency after the music lesson.

1.8 Conclusion

Chapter 1 has presented the statement of problem, research objectives, significance of the study and delimitation of the study. At the end of the chapter, definition of terms was presented.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter prepares discussion of various relevant studies correlated to the purpose of this study. The phenomenon of parental involvement was practically crucial for children to be fully developed in all aspects of life, for instance, personality and education. As stated by Tao (1986), the author insisted that parents should prioritise in "bringing together the necessary ingredients" (p. 314) as an important responsibility to build and develop their children's personality. Besides being children's initial educator that devoted in improving learning growth (Badea, 2016), Trask-Tate and Cunningham (2010) declared that parents served greater "as a continual, persistent, and stable resource for their children throughout their lifespan" (p. 138) than other educators, counsellors or professionals.

2.2 Parental Involvement

This chapter provides an extensive literature pertaining to the definitions and a brief account of parental involvement since the 80's to this current era.

2.2.1 Definition

Desforges and Abouchaar (2003) defined 'involvement' as a participation, partnership (Epstein, 2011; Hornby, 2011; Kernan, 2012; Keyes, 2000), collaboration and cooperation. The authors indicated that a good parenting was included of providing safe and stable environment, engaging parents and child discussion, showing good models in social, education and citizenship, and finally aspiring to personal fulfilment (p. 85). Also, the researchers suggested that parents need to visit the school for discussion on particular issue that arises, supporting teachers in preparing lesson materials, promoting the school

to the community, and participating in school events and school governances. Furthermore, the research aimed to discuss the typologies and definitions to define parental involvement in early learning and to discover family factors that impact parental involvement in learning outcomes. Result showed that social class of the family, maternal psycho-social health, maternal level of education, material deprivation, single parent status and ethnicity of the family were strongly influenced parental involvement. Moreover, other factors regarded parental involvement were lack of time and interest in engaging school activities, incapable of certain languages, and older children had went to the school by themselves.

However, a study by McPherson (2008) indicated that factors as family size, differences between mother and father's role and their socioeconomic status, cultural norm and education background needed more recognitions by music psychologists and music educator, thence to contribute researchers in compiling data in educational and psychology developmental component with specific and general musical contexts such as learning concert repertoires and formal versus informal learning respectively (p. 15). Therefore, the author emphasised that parents' goals and aspirations (Desforges & Abouchaar, 2003; Fan, 2001; Ho, 2009) as a pivotal role in children's musical learning which developed the practice styles during their interaction with the child.

2.2.2 Styles of parental involvement: a brief story from 20th century

Parental involvement has attracted attention and interest since 20th century; with different perspectives and responsibilities to improve any aspects in children's life. Thus, the following outlined the development of the style of parental involvement from the 1980s until present.

In the 1980s, several studies declared that parent-teacher dialogue has been limited to discuss about children's learning progress (Blatchford, Battle & Mays, 1982;

Tizard, Mortimore & Burchell, 1981). While, some researcher insisted that parents should not interfered nor questioned teacher's major responsibility in educating children at school. According to Katz (1984), the author indicated that teacher's role was only particular to schooling, whereas parents were universal to all aspects in their child's life. As the years go by, teachers welcomed clear communication with the parents regarding school's curriculum and suggested ways to help children at home (Epstein, 1988). Beforehand, Epstein (1987) had identified four major parental involvements which consisted of the basic obligations, communications within school and home, parent's participations at school activities and parental involvement in home learning activities.

Moreover, parental involvement was considered a crucial influence on children's academic learning (Fehrmann, Keith & Reimers, 1987). So, the study focused on developing student's academic growth while accentuated into different aspects that might affected to the academic learning in American education. Therefore, the study examined the effects of perceived parental involvement in academic grades via the time spent on homework and TV time. Results showed that parental involvement increased the time spent on homework and contributed to higher grades (p. 336). Meanwhile, negligible results appeared on the effect on grades of parental involvement through TV leisure time. Hence, the author suggested parental involvement in children's academic and social lives should be deliberated to improve their academic progressively.

Parents' major responsibility in parental involvement inhered "necessary ingredients" (Tao, 1986, p. 314) stated earlier in turn to develop decent personality of the children. The growth of children's attitude towards music learning was crucial as they would acknowledge and appreciate music utterly by time. A study by Brand (1986) investigated the relationship between musical attribution and home musical environment among Mexican-American's second-grade school children on parental musical involvement with children, attitude towards music and other home musical environment

aspects that examined into tonal and rhythmic perceptions and school musical achievement features. The total results of 116 respondents consisted of students and parents were analysed and showed that Home Musical Environmental Scale (HOMES) had relation neither to tonal nor rhythmic perception. However, it showed positive relationship ($p < .001$) on musical achievement that assessed by music teachers. In addition, the study found that musical achievement does not influenced by home musical environmental variables.

In the following decade of the 1990s, parental involvement as observed by Epstein (1990) in this period had no major differences than in the 80's. It included learning and helping with children's academic activities at home, decision-making construct, and participating in school decisions in order to support their child's learning process. Later, the author expanded and categorised into six levels of parental involvement in relation to school participations that consisted of progressing child's rearing skills, enhancing parents-teachers communication, volunteering in school opportunities, involving in school-community collaborations, advancing home-based learning and lastly taking part of school decision making (Epstein, 1992; 1994).

Meanwhile in music point of view, one of the factors that affected parental involvement and musical achievement was the children's age groups that still remained unclear (Zdzinski, 1992). With the participations of 113 wind instrumentalists among four selected middle schools in north-central Pennsylvania, the study had then examined the relationship between four aspects that covered into parent's involvement, musical talent, musical achievement and performance goal. Although the results showed zero relation on parental involvement and performance achievement, there were happened to observe slight influences on both musical achievement and musical aptitude. In contrast to another study of parental involvement by Zdzinski (1996), major findings were identified as the involvement of parents was related between all aspects in performance,

affective and cognitive musical outcomes. However, parental involvement only occurred at primary level in both performance and cognitive musical outcomes. Yet, affective musical outcomes increased parental involvement by the student's age. Regardless, parents still concerning in concert attendances, providing materials, tape-recording of children's performances and participating in parent groups in all areas.

However, a study by Davidson, Sloboda and Howe (1995) investigated the role of parents and teachers at specialist music school, motivated children's initial music learning. One of the motivations supported were parents involved along in the music lessons. The endless motivations became increasingly intrinsic and self-sustaining to the children. Therefore, the author emphasized the importance of support through parent's encouragements was pivotal than musical skills in assisting children's musical development (p. 41). Similar study conducted a year after by Davidson, Howe, Moore and Sloboda (1996), indicated positive development of children's musical ability by parental support. With the total number of 257 children and parents who were interviewed, they discovered that parents of successful children were highly participated with themselves in the initial phase of learning in music lessons and practice routines. Listened to music and increased learning period were parts of parental musical involvement at home environment. However, children who failed to endure music lessons had parents who were less enthusiastic in music and did not change the degree of involvement of music over their children's learning period.

At the turn of 21st century, parents had become more active and concern in participating school's activities, developed in-depth discussion between parents and children, and improved greater relationship of teachers and parents regarding children's progress. As observed by Fan (2001), parental involvement was defined as parents' communication with children on education matters, communication between parents and teachers on the children, parents' participation in school activities (Epstein, 1987; 1990;

1992; 1994), parental aspirations on children's academic achievement (Desforges & Abouchaar, 2003; Ho, 2009) and parent's supervision at home. The objective of the study was to hone in the effect of parental involvement in high school students' academic growth. Two major findings showed that parental involvement emerged to be multidimensional and parents' aspiration did have a positive outcome towards student's academic growth.

Furthermore, Ho (2009) clarified parental involvement as attending musical concerts, learning musical instruments, listening to music and aspiring into music educations would had significant effects on one's attitudes in music. The interview data of 19 families showed that parents offered financial support for children's music participation, alike the study by Upitis, Abrami, Brook and King (2016) that showed parents were intensely devoted as a commitment to support the evolution of self-regulating musician in their children's music lessons. Moreover, Ho classified that parents did influence concert attendance although the parents and children have differed musical experiences. Also, it showed that parents often question the value of persistence education even musical instrumental learning was commonly found among children. Finally, parents had high deem on school music education although they do not expect any development of musical abilities aspired from their children in the future. In conclusion, parental involvement in children's musical learning did have a positive effect on developing children's attitudes towards music learning.

In present decade, parental involvement had become multi-layered with variety of definitions (Ho & Kwong, 2013). With ample divergence of not only within groups of parents, children and teachers, yet it evolved within the same group of individuals. Parents and teachers were no longer assigned only at home and school respectively. They shared and aimed to improve children's progress in both school and home for distinction results. As mentioned earlier, parents were their child's preeminent educators (Badea,

2016; Kernan, 2012) and contributed most powerful impact on children's development either to shape their personality, attitude, academic growth or in musical learning. Parents however, were presumably indicated by both researchers and educators as a dynamic force in children's advancement, due to the fact that parents served as an enduring resource throughout their children's lifespan (Trask-Tate & Cunningham, 2010).

Another study by Zdzinski (2013) which examined the underlying multifaceted structure of home environment in music using a 99-item pool measure by number of 523, fourth to twelfth-grade students in South-eastern United States who enrolled in general music classes, band classes, orchestra classes and chorus classes. Seven parental involvements were identified in home musical environment which included home musical structure, home musical environment, family musical participation, family musical background, parental expectation, attitudes toward music and music program support (p. 79).

In addition, since parents' education level, profession and socioeconomic status had highly developed throughout this era, parents were fully invested into children's musical learning, also supported them towards becoming self-regulated musicians (Upitis et al., 2016). According to Howe and Sloboda (1991), the authors discovered that living in a stable family brought no external pressures and solicitude in one's learning process. Moreover, Ho (2011) amazed by the study held at Chinese University of Hong Kong which discovered the majority of parents in supporting children's musical interests financially by 91.4% from HK$1,000 to over HK$5,000 ranges. However, the remaining 8.6% of parents could not afford in financial support for the child's music lessons.

Further, in today's issue, overloaded works and busy schedules became one of the factors of parental involvement and caused hardship between parent-teacher interactions on updating children's academic or musical learning progress. Thus, it affected and lead to misunderstanding between both parties. Fear not, with the technology developed in

this era, parent-teacher communications were just one fingertip away. Therefore, numerous studies on digitalisation had attached below as one of the strategies to improve parent-teacher communications.

2.3 Digitalisation

In the future, since technology keep developed and offered wide range of possibilities in this modern era, it was believed that many errands could notably be run more easily, bringing ease and comfort into one's daily life at both workplace and home. Thus, this chapter consisted of three sections that look into the definitions of digitalisation, improve parent-teacher communications by digitalisation and lastly develop children's academic and musical learning through digitalisation.

Digitalisation in technology area defined as a process of converting information into a digital format that organised information into discrete units of data that known as byte. Those digitalised information were made at fingertips to preserve, access and share to people worldwide. According to Lahlou (2010), interactivity was happened due to the pervasiveness of networks in digitisation, also its user-friendly assessment to access networks. The author added the representations were constantly "updated, amended, discussed and referred to in a collective-authorship process for which new instruments are growing" (p. 3), such as digital fora, Wikipedia, social media and et cetera. Acerbi (2016) stated that digital media which encoded in digital format were transmitted into electronic devises as computers and smartphones that we all had on these days. Those digital media included emails, instant messaging, e-books, blogs, digital audio, video recordings, and most recent used of all time, the social media.

The usage of smartphones in digital age had become accessible and beneficial to merge with our environment. Thus, with the technology development, smartphone has now enhanced one of the learning tools for parents to keep an eye on their children's

learning progress. Therefore, literature review on previous studies were searched and evaluated to address how smartphones help to improve parental involvement and enhance parent-teacher's communication from 1980's, in order to improve children's academic and musical learning.

2.3.1 Parent-teacher communication via digitalisation

As mentioned earlier, parents were indeed the first and most powerful person who play a vital role to integrate all aspects of their children's life as a whole. Teachers, in the other hand run a responsibility only to guide and support the children at school (Katz, 1984). Obviously, both parents and teachers shared the same intention to encourage children in any aspects of learning. Hence, in order to work effectively for children's success, there have to be interactions between school and home regarding children's cognitive development (Weinberger, 1996, p. 25). Years ago, the limitations of parent-teacher communication (Blatchford et al., 1982; Tizard et al., 1981) had caused teacher to underestimate parents' role relating home literacy (Hannon & James, 1990). Fortunately, there have been revolutions in perspectives among schools and families that both parties reached out to each other for better development (Keyes, 2000). Thus, with the help of digitalisation, endless efforts were made to reinforce partnerships between both individuals in any areas.

Study by Ramirez (2001) observed that students opt to perform better when their parents were actively involved along in the education. They also insisted to see their parents' participations often in school activities. Despite of the limitations, the school had integrated technology into communication strategies in order to approach parents effortlessly. By obtaining e-mail addresses, teachers managed to notify parents regarding forthcoming event (p. 30). Although e-mail has been introduced earlier in 1971, it did not operated conveniently as todays since it needed both users to be online in the same time

in turn to send and receive messages. So, to inform children's academic progress and school activities, teachers utilised newsletters, report cards and organised orientation meetings to keep parents updated (Olsen & Fuller, 2003). Therefore, Doyle, a blog writer indicated that e-mail has then caught quickly throughout the 90's and became the newest and quickest way to communicate.

Delivering information via traditional methods as paper-based newsletters, phone calls, report cards and face-to-face meetings were no longer effective and efficient for parent-teacher communications due to busy schedules and other obligations (Kemp, 2015, p. 3). Smartphone, the innovation from a cell phone in 2001 had made the greatest turnover in people's lifestyle. Doyle (n.d.) stated that smartphone was characterised as a pocket-sized cell phone which combined with computing power and gave user to access basic computer functionality and Internet. Since majority of parents had smartphones which allowed them to access Internet at fingertips, they could receive information conveniently even on their tight schedules, while keeping teacher's workflow as conventionalised as possible. Thompson, Mazer and Grady (2015) declared that parent-teacher communications became increasingly prominent with this strategy as internet access resumed to be more feasible that lead parents and teachers to communicate more via e-mails, text messaging and social media. Therefore, Kemp's study concentrated on using three major social media to find out whether those could effectively keep parents consociated with their child's education. The usages of Facebook, Twitter and E-mail contributed to positive results and allowed families to stay informed with the school. It also showed greater teamwork between parents and the school to overcome difficult situations together.

In a blink of an eye, parent-teacher interactions via social media were gaining acceptance rapidly as a medium of communication (Ramasubbu, 2015). The author proposed that technology promoted parent-teacher communications more practical,

positive and personal. Intergraded technology into communication tools like e-mails, online chats, video and phone conferences did enhance school-home communications towards informing and connecting all teachers, parents and students at once. With more media apps inaugurated each year, the employees of Yahoo!, Brian Acton and Jan Koum had invented WhatsApp in 2009, as the most recent used of communication app till today. It became the world's top platform for people worldwide to stay connected at zero cost.

An analysis study by Golwalkar and Shelar (2016), the research conducted via mixed method research of 200 adolescent girls and boys on their preferred communication tools. The results showed that the extensive usages of WhatsApp application among these adolescences because of its features to easy access of sharing text messages, photographs, audio and audio-visual clips to individuals or groups without any charges. With new feature updated in 2016, WhatsApp had introduced PDF file, which made it even more accessible for users to share and read documents instantly. Moreover, social network like Facebook and FB messenger itself was another popular option among the youths for the same function as WhatsApp. Due to the extended service for voice calling segment, users could call and talk even easier to one another nationally and internationally. Even though digitalisation made the population to rely more on the smartphones, the young adults however still like traditional face-to-face communication on their daily life. Supported latest study by Ellis (2017) indicated that teacher of third grades sent messages through WhatsApp in case if parents were experiencing difficulty to attend school's meetings.

2.3.2 School academic and musical learning via digitalisation

Back in 1982, Compact Disc or well-known as CD was made originally to only store and play sound recordings, and later it adapted to audio and data storage. CD was one of the primary distribution methods in music industry. Moreover, Digital Video Disc or DVD

was invented 13 years later in 1995, to store any kind of digital data as well as video format. Hence, school and home practiced the usage of CD and DVD as one of the platforms in early childhood education. As stated by Ho (2009), the result of the study showed parents were willing to buy CD for their children, while engaging parental involvement to listen and sing with the children at home.

A study by Ferry (2009) focused on how pre-service teachers (PSTs) utilised mobile devices to expand their teaching skills with an action-learning set. These action-learning sets consisted of several PSTs groups in five different schools, where those teachers needed to teach two hours class in partners for six weeks period. In addition, the mobile phones have other functions of prepared camera, audio and video recording, internet, e-mail, Excel and Word features to support and update the teaching progress. Later, it was found that action-learning sets contributed a professional growth of sustained and targeted pedagogy ideas for teachers. Moreover, similar study by Ison, Hayes, Robinson and Jamieson (2004) recorded the usage of mobile phones as one of the learning tools, where it featured calculator, instant messages and alarm reminder. The study found mobile phones were applicable in strengthen teacher and students' relationship, as well to improve learner's engagement. Finally, the authors stated beneficial features that could be found in modern mobile phones which helped learners to access web-based content, remix and share information conveniently, cooperate efficiently with others and design media-rich deliverables for worldwide users (p. 47).

Also, Ferreira, Moreira, Pereira and Durão (2015) examined 151 and 273 participations from year 2009/2010 and 2014/2015 respectively at Higher Education Institutions in Portugal, with the aimed to discover the evolution of mobile technologies. The authors stated that large investment into ICT (Information and Communication Technology) has been supplied over the past few years for teaching and learning purposes. Moreover, digital devices as smartphones and tablet computers had cropped up

as one of the learning tools and exploited into daily life and educational activities. In this way, it has contributed to more motivating and personalised in teaching and learning process.

Therefore, the study observed that students' motivation increased with the present of technology in the classroom, leading them to greater participations, eventually towards faster and better acquisition of skills and concepts. In addition, teamwork among students, teachers and an entire class obtained positive outcomes with the present of mobile devices in the classroom. In conclusion, the approaches of mobile devices as learning tools was essential, hence teacher's implications in training needed to acknowledge for not only using and applying technology, but to perceive the underlying concepts and support.

Anthony William (Tony) Bates, an education administrator in Institute of Education, London found the advantages of featuring videotape in integrating with students' activities. Since videotape featured the stop, rewind and replay buttons, it became an important resource to develop student's skills, as their activities always took place differently from the initial view of the video. The research indicated that students need to be guided as how the video intended, if there was no direct usage of video in conducting the class (Bates, 2015, p. 242). Earlier study by Bates and Gallagher (1977), declared that teachable skill of video usage towards developing higher analysis and evaluation needed to be manufactured into courses or programs, in turn to achieve best results.

In contrast to Ramasubbu (2015), the study enhanced parent's participation in children's education by utilising live video podcasts of the class activities. This method gave parents the idea of how the class was conducted, how their child behave and respond, also to find out what improvements needed to be done in order to make a better learning environment.

Further, in music point of view, it has positive outcomes on children's achievement through digitalisation too. Linklater (1997) declared that parents-children relationships were often limited, harried and dysfunctional in current era of advancing social fractionalisation, therefore reinforced parent and children's bond was valued through developed common interests (p. 411). Thus, the study discovered the comparative effects in home practices by three differing methods used to evaluate beginner clarinet students' performance achievement in the period of 8 weeks. Three different cassette-tape models that consisted videotape (aural and visual), audiotape (audio) and non-modelling audiotape were randomly distributed to 146 students from fifth and sixth grade. Other information as the amount of practice session, types of tape used and parental involvement in student's progress were collected. In addition, the retention of student's performance achievement were later conducted and examined by two independent judges. Result showed that students of videotape feature scored substantially 0.05 higher than students of non-modelling audiotape on visual and physical, also on timbre and intonation performance criteria. The author emphasised that exemplary musical models were pivotal to embellish student's musical quality and skills (p. 402). Later, he added the usage of videotape for parents with limited musical background might provide effective ways to enhance their children's musical instrument learning (p. 403), also it offered further possibilities to develop on performance achievement (p. 404). The importance of recorded media provided learners to have endless accessibility of the exact learning materials at any time they desired (Bates, 2015).

In conclusion, modelling videotape does increased parental involvement which contributed to increase in children's performance achievement too. It also enabled efficient guidance in home practices and provided positive relationship between both parents and children (p. 412). The findings could be supported with one of the studies which looked into the relationship between teacher's modelling performances skills and

student's performance behaviours (Sang, 1987). The result concluded a positive effect towards student's instrumental achievement with teacher's modelling performance during music lesson.

Moreover in modern era, digital approaches in music learning had become ubiquitous. From the online magazine The Economist (2017, March 30), the author with the pen name G.M. wrote on how digital music tools are reshaping music education in the 21st century. He described the work by the researchers at University of Auckland in 2013, who investigated that using computer-connected keyboard with goggles helped to improve seven beginner piano students, where they experienced virtually with projected images via augmented-reality device. It was made to encourage students in healthy competition with others to get higher scores. Another digital approach by Samanta Shi and Sean Kelly, Google Cardboard Virtual Reality device was invented to make music learning more interesting. With the easy access through Wi-Fi, teachers and bandmates now could join the same virtual space. It was argued that standard music sheet in PDF file was no longer intrigued students or learners in learning music than YouTube, digital sheet music, digital flashcards, augmented reality tablet, e-books and smartphone apps did.

2.4 21st Century Skills

In this globally and digitally interlinked world, all learners from cradle to career requisite new skills and knowledge to be successful. Learners are now required to equip with 21st century skills that are not only provide a framework for effective classroom learning, but also ensure that they can succeed in a world where change and learning are continuous and boundless.

21st century skills are referred to a wide range of knowledge, abilities, working habits and character traits that are vital to one's success in today's world, especially in

college programs, contemporary professions and working places. In general, the skills of the 21st century can be applied in all academic and education field, career and civic aspects throughout a learner's life. Through rapid technological advancement in the present day, each lifestyles and ways of interacting with people have changed significantly as digital technologies become ubiquitous in one's life (Chu, Reynolds, Tavares, Notari & Lee, 2016). Thus, a number of international, national and more regional technology and information literacy frameworks have developed to provide outcome benchmarks for the required curricular reforms.

In contrast, Lamb, Maire and Doecke (2017) indicated that the concept of 21st century skills was broad, rather vague and complicated to define. It may have different definition in certain technical contexts yet the term was commonly used to refer general competencies and capabilities such as social skills, soft skills, transferable skills and non-cognitive skills. The study therefore implied 21st century skills as the ability that was identified in the current approach and policy for learners to acquire in their schooling in order to succeed. Thus, the following section included frameworks to specify and strengthen one's understanding towards 21st century learning skills.

2.4.1 21st century skills framework

A wide range of skills and related dispositions are commonly considered crucial for schooling in the 21st century learning. Nine skills that have gained the most recognition in recent policy on education and research were found in several frameworks and related to 21st century skills discussions. There was critical thinking, creativity, metacognition, problem solving, collaboration, motivation, self-efficacy, conscientiousness and grit or perseverance (Lamb et al., 2017). However, this chapter will honed in particularly to Partnership for 21st Century Learning framework.

Partnership for 21st Century Learning, also known as P21 is a nationwide advocacy organisation that is chaired by John Wilson, an executive director of National Education Association to encourage schools, communities and states to integrate technology into education. The organisation had collaborate a partnership among business partners such as Microsoft, Time Warner and Cisco Systems, various education-related organisations as American Association of School Libraries and American Federation Teachers, foundations from Intel Foundation and Oracle Education Foundation and cooperated with media-groups as Corporation for Public Broadcasting and Cable in the Classroom. Bialik and Fadel (2015) declared that P21 has provided a clear framework for 21st century learning that consisted of essential skills for current education system which taught students regarding mental processes in order to adapt and develop upon a modern work environment. It was believed that working environment are more complex in today's society, thus students must be able to integrate the traditional academic core with interdisciplinary skills that were more reflective than those complexities.

Moreover, this framework has become highly recognised in information technology (IT) field in education (Chu et al., 2016). It consisted of 12 competencies which were divided into three main elements: (1) learning and innovation skills, (2) information, media and technology skills, and (3) life and career skills. Each features aimed to support system that embodies standards, assessments, curriculum, instructions, professional development and learning environments.

The first element consisted of the 4 C's which included of creativity and innovation, critical thinking and problem solving, communication, and collaboration. Creativity was important to empower students to view concepts in a different light that led to innovation which factor to one's adaptability and overall success. Then, critical thinking was essential for improvement. It functioned as a mechanism that solves

problems and replaces them with fruitful endeavours. Furthermore, this skill helped students to figure out solution on their own when there was no instructor at their disposal.

Next element communication was crucial for students to learn how to effectively transmit ideas through different types of personality. Effective communication was also one of the most underrated soft skills that have the potential to eliminate uncertainty in the workplace. Without the understanding of proper communication, 21st century students may lack on the pivotal skill to progress their careers. Lastly, collaboration referred to the input of students who, in effect, have come together to work as a team to achieve compromises and produce the best possible results from solving a problem. Willingness was the key element in collaboration which required all participants to be willing in contributing ideas and accepting other's in order to achieve the desired results. Through these foundational outcomes and the 4 C's in mind, Ross (2017) indicated that today's classrooms will perceived and concentrated not only on obtaining knowledge, but also on ensuring that students cultivated innovative solutions, critical thinking on complex issues and expanded the ability to work and interact through diverse teams.

Second element of P21 framework was consisted of information literacy, media literacy and ICT (Information, Communication and Technology) literacy. According to Chu et al. (2017), it was crucial to equip with wide range of skills such as digital literacies since we are living in a technology and media-driven environment that enable us to access a wealth of information, with rapid changes of technology tools that provided individuals to collaborate and contribute on an unprecedented scale.

Information literacy was the ability to select, evaluate and use information effectively and ethically to gain, apply and share knowledge (American Association of School Librarians [AASL], 2007). It was important to apply a fundamental understanding of the ethical and legal issues surrounding prior access to and use of information from a wide variety of sources.

Next, media literacy was the ability to access, interpret, evaluate and transmit messages in a variety of forms. User was required to understand on both how and why media messages were constructed and subjected in order to effectively utilise through appropriate expressions and interpretations in diverse, multi-cultural environments.

Then, ICT literacy referred to the ability to utilise digital technology, communication tools and networks to access, manage, integrate, evaluate and create bodies of information (International ICT Literacy Panel, 2002). Similar to the above literacies, a basic understanding of the ethical issues surrounding to use any digital tools as computers, media players, personal digital assistants (PDAs) and GPS must be implemented accordingly.

Finally, the third element consisted of 5 competencies which were flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability and leadership and responsibility. These were the behaviours and attitudes that students should develop while learning from this framework. Some of these are internal, while others are based on experiences to interact with others. These skills included of seeking input, working in groups and coping well to changes. Partnership for 21st Century Skills (2009) emphasised that today's living and working environments required far more than a thinking skill and content knowledge. Thus, the ability to navigate diverse living and working environments in a globally competitive digital age was crucial to allow learners to be attentive in developing adequate life and career skills.

All in all, these 21st century learning skills were highly demanded in today's world, thus it was essential to teach students the understanding of knowledge before implementing it to new environment as it was implausible to teach skills alone without a supporting knowledge base. Chu et al. (2017) insisted that both knowledge and skills must develop together in a virtuous cycle, in effect, to impetus one's classroom practice to be a source of creative and critical in thinking. This way, we might engage the major

challenges of today's political climate, the new demands of today's workforce, and the pathways to personal and societal fulfilment in a modern world. In spite of numerous systems and schools that have made considerable exertions to expand conceptualisation of the skills needed for young people to acquire in future, yet only little evidence that has provided clear guidance on the most efficacious approaches in teaching and learning those skills as well as the best ways to assess them. Hence, Lamb et al. (2017) recommended that schools provide a cohesive approach to embed key skills across various stages of schooling and determine more systematically on how the importance of key skills impacts on the work of teachers, classrooms, and students' learning outcomes.

2.4.2 Digital literacy

Digital literacy was one of the components of being a digital citizen who utilised technology to interact with the world around them. Hague and Payton (2010) specified it as a "skill, knowledge and understanding that enables critical, creative, discerning and safe practices when engaging with digital technologies in all areas of life" (p. 19). Digital literacy is also known as e-literacy that defined as the ability to critically appraise and utilise information on the Internet for decision making (Brown & Dickson, 2010). Technology in 21st century is an extraordinary tool for shaping and enhancing one's learning environment. Despite of its convenience and advancement, integrating technology was only to supplement and not to replace a learning method. Boholano (2017) emphasised that educators with decent digital literacy skills are the most effective teaching tools in the present day.

Spires and Bartlett (2012) have divided three categories from various intellectual processes that related with digital literacy. It included of the ability to locate and consume, create and communicate digital content. The authors suggested that every learners requisite to develop evaluative procedures when they access any digital content. A

discerning mentality as critical evaluation was crucial in order to transmit online resources precisely.

First and foremost, it was essential to develop skills to locate, comprehend and consume digital content on the Internet. There was a consensus that successful web-based search skills must be developed for educational success in a digital society. Moraveji, Morris, Morris, Czerwinski and Riche (2011) stated that some important skills such as domain knowledge, working knowledge on how to use search engines and general knowledge of the resources available online, were considered necessary for locating and utilising digital content. In addition, the authors suggested that in turn to develop skills in creating successful web search terms on the Internet, search lesson should include direct modelling of search strategies and differentiating domain names and querying sites for reliability and accessibility.

Furthermore, teachers and students were able to create digital content effortlessly through multiple media and variety of web tools provided. Enabling students to create and consume digital content in the classroom will increase their engagement while encouraging developing skills needed for a technological society (Spires & Bartlett, 2012). For instance, video editors that were easy-to-use as Animato, WeVideo and Powtoon can encourage students to create video content for educational purposes.

Finally, in order to promote a useful educational medium in the classroom, digital content must be communicated effectively. Utilising social networking sites as Facebook, Twitter and Instagram require users to understand and manipulate information in various formats. Moreover, the ability to communicate digital content through digital devices as smartphones and tablets provide teachers and students with convenience and immediacy in the communication process. To conclude, it provides access to an infinite number of people and digital content resources worldwide to improve one's learning experience.

Tunmibi, Aregbesola, Adejobi and Ibrahim (2015) conducted a case study to examine the impact of e-learning and digitalisation in primary and secondary schools in Lagos State, Nigeria. Total of 32 and 35 responses from students and teachers respectively showed that application of e-learning technology in schools facilitated to more efficient, effective and productive way of teaching. The participants indicated that e-learning promoted better communication among them in sharing accountability for learning and achievements. As a result, most students agreed that e-learning helped them to access unlimited source of information, promoted critical thinking and encouraged ways of learning. At the same time, the teachers found e-learning as a convenient and effective tool to assist further development of teachers' digital literacy skills and brings out the best in student's learning. Similar to the study by Kaur (2019), the author declared that digitalisation has had a significant impact on the educational system, thus enhanced both aspects of classroom and online learning methods which promoted a stronghold to one's lifelong cycle of learning.

2.4.3 Lifelong learning

Lifelong learning was broadly defined as learning that pursued throughout life. It was flexible, diverse and accessible at different times and in different places (Głąbicka, 2015). Laal (2011) added that lifelong learning was resulted from the integration of formal, non-formal and informal learning, which has led to the creation of one's ability for continuous lifelong development of quality life. In order to cope with the modern environment, individuals need to develop skills for both personal and professional purposes to succeed. Through lifelong learning, it will not only enhanced individuals to become accountable for themselves and communities, but will also engaged actively at all levels of their societies.

In addition, El Mawas and Muntean (2018) indicated that life expectancy has increased due to rapid technological change and global needs. In order to succeed in the future, it was crucial to be a person who would be open to learning new ideas, regardless of age and level of education. 21st century skills such as digital literacy, communication, critical thinking, problem solving, collaboration, creativity and imagination should be developed in turn to become a lifelong learner and to be able to identify learning opportunities in enhancing knowledge and skills. Complementing professional competence as such, helped to keep one's mind sharp and improved memory, developed self-esteem, helped to adapt changes in society, made new friends and met new people during the learning process.

In the meantime, lifelong learning has emerged as a major global educational challenge and was demanded as one of the most pivotal competencies that one's must possessed (Collins, 2009). This challenge therefore entails changes of the way educators teach to a more facilitative role while learners learn to be responsible in setting goals, defining learning opportunities, reflecting and evaluating their learning. Tunney and Bell (2011) determined that those learners who have taken responsibility for their own learning have embraced the concept of self-directed learning (andragogy) that benefited in motivating them to be engaged in the learning process. In this way, learners will gradually expand their learning to a heutagogical approach that improves their ability by becoming highly autonomous and self-determined in learning.

2.4.4 Heutagogy

Heutagogy is a form of self-determined learning that practices and principles rooted from a self-directed learning, andragogy (Blaschke, 2012). It was a process in which individuals take initiative, with or without the help of others in identifying their learning needs, formulating goals, implementing appropriate learning strategies and evaluating

learning outcomes. Hase and Kenyon (2001) added that heutagogical approach was recognised to the need for flexibility in learning, where teachers provide resources and learners design the actual course that they might take by negotiating the learning. The authors elaborated that learners may therefore read about critical issues or questions, decide what is important and significant to them, and then negotiate further reading and evaluate the tasks. As far as the latter is concerned, assessment becomes more of a learning experience than a means of measuring the attainment.

In the scope of a heutagogical approach in teaching and learning, learners were highly autonomous and self-determined. Blaschke (2012) indicated that they emphasised on developing capacity and capability, with the intention of cultivated to become well-prepared for the challenges in today's workplace. In this study, emerging technologies as Web 2.0 and social media have provided higher education learners an environment that supports a heutagogical approach in developing learner-generated content and self-directedness to obtain information and define their learning paths. The usage of Web 2.0 facilitated learners to play an active role rather than passive in their individuals learning experiences, while social media enhanced connectivity and the ability to share information with others. The affordances of these technologies supported self-determined learning activities of learners.

Moreover, a case study was conducted to explore the role of social media in promoting cognitive and meta-cognitive learner development while using a heutagogical teaching and learning approach (Blaschke, 2014). Mixed methods research was utilised to delve into teachers and students' perspectives on using social media in the online classroom, hence investigated on how technology has affected one's interaction and development. The results showed that students perceived social media such as Google, Docs, mind mapping and e-portfolio tools were beneficial in constructing new knowledge, reflecting on course content and understanding individual learning process.

The study also had shown an increased number of students' understanding of the use of social media and digital literacy. Integrating technology into self-determined learning has created a comprehensive, learner-cantered learning environment in which students have flexibility in decision-making while working towards specific learning objectives. In helping students become more competent in the use of social media, teachers were advised to empower them in finding new ways to acquire knowledge.

In addition, Narayan and Herrington (2014) shared similar views on utilising smartphones and tablets in form of mobile learning, which provided vehicles to reinforce one's learning into heutagogical approach as it facilitated the learning process by improving communication between learners and educators across authentic learner-cantered contexts. Although technologies may enhance self-determined teaching and learning approach, Blaschke (2012) recommended that more substantial work be done in researching heutagogy within this research construct, as to examine which digital media support the framework, thus investigate the efficacious of the approaches in creating lifelong learners to effectively and successfully generate competencies into capability in the complex and real-world situations.

CHAPTER 3

METHODOLOGY

3.1 Overview

The purposes of this study were to investigate the effectiveness of digital device in enhancing parental involvement in children's musical learning. Also, the ancillary purposes were to identify the function of digital devices in improving communication among parents, music teachers and music students, and to examine how digital device can be an effective teaching and learning tools.

This chapter aims to provide a brief description of the research methodology. The outline of this chapter will be organised as follows: (1) research design; (2) participants sampling; (3) data collection procedure and (4) data analysis procedure. The study discusses the methods used to address the following research questions:

1. How does digital device used in improving parental involvement in children's musical learning?
2. How does digital device enhance parent-teacher communication in monitoring children's musical learning progress?
3. How does teacher and student's communication through digital device facilitate musical learning at home environment?
4. How does teacher utilise digital device as a teaching tool in student's musical learning?
5. How does student utilise digital device as a learning tool in embracing self-regulated learning skills?
6. How does teacher utilise digital device in expanding their lifelong learning?

3.2 Research Method

The following presents the research methods for the study. The sections are organised as follows: (1) research design; (2) participants sampling; (3) data collection procedure; and (4) data analysis procedure.

3.2.1 Research design

This study utilised qualitative research method that designed to acquire information through open-ended and conversational communication. The method included in-depth investigation to obtain specific information regarding values, opinions, behaviours and social contexts of the particular populations.

Through qualitative research method, collective case study approaches enable researcher to understand a theory or construct theory from a larger context (Chua, 2012). Researcher can also connect theories and generalise the population based on the research results of the sample that are being studied. Therefore, the participants of this study were selected via purposive sampling method as collective case study involves more than one case, which may or may not be physically related to other cases (Mills, Durepos & Wiebe, 2010).

Moreover, in qualitative data collection method, Pope and Mays (1995) declared that it developed and beneficent in understanding social phenomena naturally rather than experimental settings, hence contributed to emphasis the meanings, experiences and participants' point of view. Thus, interview was one of the strategies in qualitative research method that contributed to pursue in-depth information of the topic (McNamara, 1999). In other words, interview was particularly constructive in getting stories of participants' experiences also to follow-up certain respondents.

3.2.2 Participants sampling

According to Patton (1990), time allotted, resources availability and study's objectives were influenced to determine the best sample size in qualitative research (p. 184). However, there were no specific rules to determine an appropriate sample size. Yet, some researchers indicated the importance of saturation concept in turn to achieve the best sample size after no additional information arises. Moreover, a study shown that saturation usually ensued within 12 participants in a homogenous group (Guest, Bunce & Johnson, 2006). In addition, Crouch and McKenzie (2006) proposed that lesser than 20 participants could assisted researcher in qualitative study to develop the exchange of information.

Thus, the samples to this study were consisted of three different groups of individuals – teachers, parents and students. Each group consisted of four participants who utilised smartphone to communicate among others during the musical learning process. There were 4 music teachers who taught one-to-one musical instrument lesson (e.g., piano, violin, guitar, drum, and wind instruments), 4 parents who assigned their children to one-to-one musical instrument lesson, and 4 music students who attended one-to-one musical instrument lesson. In addition, the students' ages ranged between 10 to 16 years old, an upper primary to lower secondary students.

Moreover, Battaglia (2008) implied that purposive sampling was one of the three categories in non-probability sampling, along with convenience sampling and quota sampling, where participants were sampled to elucidate particular aspects based on the purpose of the study. Also, Creswell (2014) mentioned the importance to decide participants purposefully in turn to receive ideas and understandings to verify the research questions. As a result, total of twelve participants were purposefully selected according to the criteria needed in this study.

3.2.3 Data collection procedure

By data collection, one's undergo the procedure of collecting and evaluating information on variables that contributed to clarify research questions and evaluated hypothesis at all possible outcomes. In this study, primary data was collected from one source, which was qualitative data collection.

The interview was one of the most common data collection formats in qualitative research (Jamshed, 2014). According to Turner (2010), one of the most important areas of interest in the development of qualitative research was the protocol of the interview, as it provides in-depth information on "participants' experiences and viewpoints of a particular topic" (p. 754). In addition, interview was a conversational interaction driven by the question and answer sequences (Roulston & Choi, 2018). Thus, there were three fundamental types of interviews: (1) structured; (2) semi-structured; and (3) unstructured. Each of these types has a slight variation in their structure and, most importantly, the way it is conducted.

Roulston and Choi (2018) referred structured interview as a tightly organised survey where interview questions were asked in a specific order and plan. The aim of such controlled interview was to ensure that the interviewee concentrated on the targeted topic area, hence covered the procedure in a well-defined domain, which allowed researcher to compare responses across different participants. On the other hand, a structured interview was limited to variability, flexibility and spontaneity in response as the interviewer entailed to record the responses according to a coding scheme. Therefore, this type of interview was beneficial for the researcher to frame questions in order to obtain the required answers.

Next, both semi-structured and unstructured interviews were generally aimed to elicit life stories and testimonio through narratives; and general focus or direction is imposed by the interviewers. Although the semi-structured interview was designed with

directing questions and prompts, yet the format was open-ended and the interviewee was encouraged to elaborate on the issues raised in an exploratory manner. Thus, this type of interview was suitable for situations where the researcher had a clear understanding of the phenomena or domain in question and was able to develop wide-ranging questions on the topic in advance, in turn, to obtain the depth and breadth of the respondent's narration.

In contrast, an unstructured interview allowed flexibility to follow the interviewee in an unpredictable direction. The intention was to create a tranquil atmosphere in which the respondent may express more than he or she would have done in formal contexts. Despite the flexible advantages, Zhang and Wildemuth (2009) highlighted that one of the challenges encountered by the researcher was to analyse the data from the unstructured interviews as it could vary dramatically over multiple interviews. However, this method was most effective in investigating the profound meaning of particular phenomena or some detailed historical account of how a particular phenomenon has developed.

Above all, selecting the types of interviews depending on one's research design and what outcomes need to be obtained, as it was crucial to determine which approaches worked the best to answer the research questions of the study. Therefore, qualitative data collection was done via 30 minutes personal interview with semi-structured and open-ended questions. Semi-structured interview was generally to be conducted within 30 minutes to more than an hour, as it consisted of schematic questions that needed to be clarified by the respondents (DiCicco-Bloom & Crabtree, 2006). The questions were constructed based on detailed information extracted from literature review on parental involvement in musical learning at digital age.

3.2.4 Data analysis procedure

Data analysis was consisted of qualitative research approaches in this study. Qualitative research was characterised as a process to identify common patterns between responses

and analyse critically in turn to attain research aims and objectives. In essence, the research commenced with transcribing data from the interviews, assigning codes to organise data and conducting thematic analysis that strived for identifying patterns of themes in turn to draw conclusion of the research.

Thematic analysis was the process of identifying patterns or themes within qualitative data. Thus, this study utilised Braun and Clarke's (2006) thematic analysis framework which consisted of six-phase guide as followed: (1) familiar with the data, (2) generate initial codes, (3) search for themes, (4) review themes, (5) define themes; and (6) write-up. The authors suggested that thematic analysis to be the first qualitative method to learn as it provides core skills that will be useful in conducting various kinds of analysis.

3.3 Conclusion

This chapter has presented the methodology of this study. It included research design, participants sampling, data collection procedure and data analysis procedure for the study.

CHAPTER 4

DATA ANALYSIS AND FINDINGS

4.1 Overview

This chapter presents the data analysis from the interviews and a discussion of the research findings. The findings are guided by the following research questions:

1. How does digital device used in improving parental involvement in children's musical learning?
2. How does digital device enhance parent-teacher communication in monitoring children's musical learning progress?
3. How does teacher and student's communication through digital device facilitate musical learning at home environment?
4. How does teacher utilise digital device as a teaching tool in student's musical learning?
5. How does student utilise digital device as a learning tool in embracing self-regulated learning skills?
6. How does teacher utilise digital device in expanding their lifelong learning?

4.2 Findings of the Study

This section discusses the findings of the study and organised accordingly: (1) communication tool; and (2) teaching-learning tool.

4.2.1 Digital device as a communication tool between parents and children in improving parental involvement in children's musical learning

The participants in this study were parents and children of age 10 to 16 years old who sent and attend one-to-one music lesson. From the findings in this study, the participants

indicated that those digital devices were used as: (1) communication tool; and (2) source of information and knowledge.

4.2.1.1 Communication tool

In today's digital era, communication was made easier with pocket-sized device as smartphone to approach individuals effortlessly. The analysis of interview data indicated that the communal matters among parents through digital device like the smartphone was only for monitoring and support of children's learning progress.

In children's learning process, parent's monitoring and support were crucial in turn to improve academically and well-being of a child. It included observing and checking their progress over a period and undergoing systematic review to improve the outcomes. With the technology provided in digital era, parents were able to improve their involvement in enhancing their child's learning progress. Thus, from the interview data, the parents indicated that communication using digital device like the smartphone is efficient. Parent 1 stated that:

> It is convenient to approach the teacher in this way. If I need to get information regarding the class or my child's progress, I will text a message to the teacher via WhatsApp and she can respond in her convenient timing. (P 01)

He shared that this way of communication is timesaving and convenient. He elaborated that:

> It is timesaving because sometimes the teacher may be busy and I am not sure which appropriate time to call her. In this way, I do not have to keep calling her. (P 01)

He also suggested that:

> It is a good way to communicate, each find their own suitable timing to contact each other. With this interaction, I can provide guidance for my child's musical practices at home. (P 01)

He added that playing an instrument was an additional advantage of monitoring children learning progress. He learns an instrument to help in monitoring his child's musical learning:

> In order to guide my child, I learn to play the instrument as well. This helps to keep track of their progress and make sure they achieve weekly goals assisted by the teacher. (P 01)

Thus, he declared that:

> I made a photocopy of my child's book as my reference and self-taught through every pages ahead from my child. However, when it comes to new information that I do not understand, I will text a message to the teacher for clarification. (P 01)

Parent 2 also shared the same view, indicated that learning musical instrument benefited to improve home musical environment:

> Other than learning the same musical instrument as my child, I bought ukulele to explore together from YouTube tutorials during our leisure time as part of my involvement into their musical learning. (P 02)

She agreed that parental involvement is crucial. She mentioned that:

> My child loves whenever I attended her musical performances as I took photos and videos of her performing on the stage. With those video recordings, I will share it via WhatsApp with the father or music teacher in order to build her confidence and improve her performing skills. (P 02)

From the narration of Parent 4, it was indicated that parents' support was the most essential influence towards the child. She stated that:

> It is important to provide support into child's interest. By encouragement, children tend to do better. Therefore, I will signed up my child into any music-related activities that I found online to develop his passion in becoming a musician. (P 04)

On the other hand, Parent 3 shared a view of children participation in music activities:

> I do engage my children into music concerts and ensure them to practice well. However, I do not intend them to become a musician. (P 03)

When asked what made her thought of the value of music education, she paused and reflected that:

> I did not come from a wealthy family to get music education back then. Ages ago, music was only learn by wealthy family or gifted people, so when I grew up I wanted my child to have this privilege to learn music. (P 03)

However, she further commented:

> I only wanted them to learn music as a stress reliever. They can play, compose and do what they wanted in turn to develop their interest without feeling pressured. (P 03)

She also added that:

> Sometimes, my son will send audio recordings of his compositions through WhatsApp. I will give my opinion and encouragement so he can enhances the talent he had. Then, I will share it with his music teacher as references. (P 03)

From the narration of the participants, parents insisted that the communication with the teachers through smartphone was efficient in order to get information regarding their child's progress. By utilising smartphone too, parents were able to enhance their involvement in supporting children's performances by engaging them into music-related activities that found online and taking pictures and video recordings during the event. Providing moral support was crucial in developing child's interest although the intention was undesired for them to become a musician.

Ruholt, Gore and Dukes's (2015) study found that both parental support and parental involvement contributed to child's self-esteem and self-efficacy (p. 6). Receiving both emotional support and active involvement from parents were equally important to elevate child's confidence, perceived worth and self-sufficiency in their learning process.

In addition, parents also indicated that they learned musical instruments by self-taught and referring from YouTube tutorials so that they could guide their child's musical practices at home. Previous study by Patrikakou (2016) indicated that using technology into monitoring the child "strengthens parent modelling of a variety of activities and their completion rather than explicit tutoring" (p. 15). The author proposed that parents can be aided in navigating with their child on the use of technology and media, thereby

enhancing the use of technology and media to strengthen the learning continuum between school and home.

Moreover, parent who showed interest benefited to boost self-esteem and increase educational attainment of the child. Campbell, Povey, Hancock, Mitrou and Haynes (2016) discovered that parents' interest in children's learning showed positive outcomes, particularly in developing children's efficacy on self-evaluation and future educational attainment. Furthermore, parent's support and supervision at home-environment enhanced children's achievements and perceptions of academic competence too. Providing appropriate emotional support to children reinforced higher cultural value on education (Delgado-Gaitan, 1992). It was found that parents used personal experiences and their lack of educational opportunity to further study as motivation to guide children's moral and emotional learning. However, Margiotta (2011) discovered that parental support did not influenced the child's overall attainment, yet it only influenced by the child's level of effort in music learning (p. 30). It was therefore essential for the child to make attempts and accomplishments on what they did despite of getting parents' fullest assistances.

On the other hand, the interview data indicated that parents were struggling to cope with heavy workloads, which affected their child's musical learning at home. Parent 2 said that:

> Because of my busy schedule, I could not be there physically during my child's musical practices at home. (P 02)

She elaborated that:

> My daughter has not developed self-regulation where she can practice by herself without having me to assist her. Therefore, musical practices at home were limited to twice a week during the weekends only. (P 02)

Despite of the limitation, she further commented that WhatsApp enabled her to approach the teacher for verification:

> During the weekends, I can check her playing and will always record a video to refer with the teacher efficiently through WhatsApp. (P 02)

Moreover, Parent 4 also shared similar view on busy schedule. She declared that it affected her involvement to assist her child at home environment:

> Being tie from workloads and obligations made my physical involvement towards their musical practices ineffective. My children will not practice their musical instruments when I am not at home. (P 04)

Hence, she ensured that:

> Whenever I am away from home, I will always give a phone call to my child to remind him to practice. By the time I came back, he will showed whatever he has practiced to me. (P 04)

Other than parent's hectic schedule, children in 21st century do involve in various extra-curricular activities after school hour. Therefore, Parent 1 emphasised the importance of time management. He specified that:

> I managed my child's musical practices after their school ended in the afternoon. I ensured them to practice at least 15 minutes before they leave for extra-curricular activities. (P 01)

He accentuated that a quality musical practice was not measured by the time spent in the practice room. He elucidated that:

> Breaking down into small sections from the whole piece enable my child to focus and achieve the goal of the practice session. (P 01)

A study by Gyamfi and Pobbi (2016) declared that parents' negligence and spent a lot of time working do contributed towards low rates of participation in children's education. Despite of heavy workloads, one of the parents managed to overcome the situation by giving a phone call from workplace to remind the child to practice and presented it after returning from work. Moreover, video recording of child's practice session during the weekends benefited parent to review with the teacher through WhatsApp.

In addition, time management was important to balance between child's academics and extra-curricular activities in order to accomplish both areas productively and efficiently. Therefore, managing home musical practices before the child leave for extra-curricular activities were one of the solutions to consistent practice routine. Gyamfi and Pobbi (2016) recommended that parent should develop a timetable for the child to regulate child activities in learning aspect.

Nonetheless, ascertained to the aim of practice session was essential to children's productive and efficient musical learning. Setting goals helped them to concentrate and prioritise their time on specific section they want to improve. Thus, efficient and directed practice sessions are vital instead of practicing for hours without particular goal.

4.2.1.2 Digital device as the source of information and knowledge

From the interview data, the participants indicated that most parents used smartphone as a source of information and knowledge to know their children's learning better. Parent-child partnerships were most probable to have occurred when sharing information discovered online. They also allow their children to access to digital devices to enhance their musical learning. The analysis of interview data indicated that the communal matters among parents through digital device like the smartphone included the use of digital resource.

Internet, the global computer network that offers endless supply of knowledge and information that is readily available and accessible to everyone. The parents indicated that using smartphone to obtain information is accessible. Parent 2 was very definite and positive:

> Through smartphone, I can easily search up music tutorial in YouTube on how to play ukulele together with my family during our spare time. (P 02)

She praises the advance of technology that:

> With the technology we have nowadays, I can access to various sources of information with the tip of my fingers as I have no musical background. My children and I do go on our own Google search to explore more about music learning. (P 02)

Meanwhile, she shared some musical activities for the child to participate:

> Sometimes, I will check out concerts and performances online to get my children involve as their learning experience. (P 02)

However, Parent 1 has differed point of view on accessing digital resources. He emphasised that:

> I have no attempt on utilising smartphone to access information for my child's musical learning. I am fully relying on teacher's guidance during the music lesson. (P 01)

He clarified that:

> The practical book provided by the teacher is good enough as their source of musical learning. Therefore, I do not find any necessity to add supplementary material for it. (P 01)

From the narratives above, one of the parents indicated that utilising smartphone for Google search and YouTube to obtain information improved their involvements in child's musical learning. According to Ziakis, Vlachopoulou, Kyrkoudis and Karagkiozidou (2019), Google was the most common search engine with a market share of almost 90% used worldwide. It was because Google provided quality and relevant websites more than other search engine in the result pages (Ansari & Gadge, 2014, p. 24).

Moreover, whether the parents have musical background or not, searching information online were the small steps parents could take to expand their source of knowledge and understanding to support the musical learning of their child. However, one of the parents insisted that relying on teacher's guidance was good enough and no effort was required to access digital resources for his references.

Furthermore, the narration of students indicated that parents do shared music-related videos occasionally. Student 1 stated that her mother is very enthusiastic in sharing music-related resource with her:

> My mother will share music-related videos through Facebook of my favourite songs. (S 01)

She further commented that:

> Whenever she was mesmerised by viral piano performances, she will shared those videos to my profile. (S 01)

Receiving those videos boosted her motivation to learn more repertoire. She added that:

> I was amazed from watching other pianists performing delicately, thus it increased my interest on learning that particular song. (S 01)

Student 3 also shared the same view on receiving music-related videos from her parents. She declared that:

> Both of my parents will shared music-related videos from YouTube via family WhatsApp group. (S 03)

However, she specified that:

> Most of the time, the WhatsApp group is occupied by humorous videos for entertaining purposes. They will only share music performances that they found outstanding. (S 03)

Besides video, Student 4 included that her parent will share music activities that found online. She indicated that:

> My mother will inform me through WhatsApp regarding any concert or music performances she saw online. (S 04)

She added that:

> She then encouraged me to participate in order to improve my confidence and expand musical learning experience. (S 04)

In addition, Student 2 experienced the same by attending music-related performances that engaged by her parent. Instead, she was informed in person regarding the issue. She declared that:

> My mother will inform any music performances with me personally. She found that face-to-face interaction is better and straightforward. (S 02)

From the narratives above, most of the students indicated that their parents did share music-related videos through Facebook and WhatsApp. One of the students declared that whenever her parent shared videos of her favourite song or an outstanding performance on Facebook, it benefited in boosting her interest to learn that particular song. This motivated the student to self-learn and develop confidence during the process. However, other parents will only share music-related videos if they found it interesting through WhatsApp. Most of the time, the parents will shared non-music-related videos for entertaining purposes.

Moreover, the students indicated that their parents share information through WhatsApp regarding music performances that were found online. They even get encouragement from their parents to participate the event. Parental support was advantageous for students to broaden their musical learning experience, in the same time to develop enthusiasm and self-esteem in learning.

Instead of utilising smartphone, one of the students insisted that her parent preferred face-to-face communication in discussing any concert information. This is because interacting in person gives better clarification and to avoid misleading understanding.

In sum, parents utilised the smartphone to obtain and share music-related information to improve their child's musical learning. It was found that the parents did their own research via Google and YouTube to get information regarding the child's musical practices and music events. They even shared music-related videos through Facebook and WhatsApp as encouragement. However, one of the parents insisted that the guidance of the teacher was sufficient and there was no need for self-research to improve the child's learning. In addition, face-to-face interaction was preferred by one of the parents to discuss music performances with the child, so that the information was certainly delivered.

4.2.2 Digital device as a communication tool between parents and teachers

The participants in this study were parents who sent their child to one-to-one music lesson and teachers who taught one-to-one music lesson. In this study, the participants indicated that digital device such as smartphone was used as communication tool in: (1) enhancing parent-teacher communication; and (2) monitoring and support children's musical learning progress and achievement.

4.2.2.1 Communication tool in enhancing parent-teacher communication

Communication between parent and teacher was no longer limited ever since both parties shared the same intention to make education a wholesome experience for the child. With digital devices, each individual was able to approach one another effortlessly and provide efficacy into children's learning progress. Thus, the analysis of interview data indicated that parents and teachers shared similar views through digital device like the smartphone only for administrative matters.

The communication tools in 21st century digital era have changed the lifestyles and ways of interaction between individuals. Exchanged information, sharing knowledge and commence administrative matters can be smoothly executed through digital conversation. From the interview data, the parents indicated that communication using digital device like the smartphone was convenient. Parent 1 stated that:

> It is very convenient to approach the teacher in this way. I can contact the teacher immediately when there is an urgent matter occurred. (P 01)

He declared that:

> Social platform such as WhatsApp made communication easier. The features from the app enable user to not only send text messages but voice messages, audio and video recordings also documents that made our daily basis convenient. (P 01)

Although WhatsApp may be convenient in communication, he reflected that:

> It may be a good way to communicate; each party can find their own suitable timing to contact each other. However, I may have some reservations that possibly impose additional inconvenience and obligation to the teacher. (P 01)

Therefore, he insisted on only approaching the teacher on important issues:

> I will only approach the teacher on important and urgent matters such as change of schedules and not on trivial issues. (P 01)

Parent 2 also shared similar view in engaging the teacher on administrative matters:

> Communication with the teacher only happened when I need to inform absentee or exchange information regarding my child's progress. Other than that, I will not disturb her privacy on trivial issues. (P 02)

From the narration of Parent 3, she mentioned that it might be troublesome to communicate with the teacher through smartphone to clarify her child's musical practices. She explained that:

> Due to zero musical background, communication via smartphone might be challenging and easily misinterpreted. Therefore, I found it troublesome to talk in that way. (P 03)

Hence, she stressed the importance of face-to-face interaction in this matter:

> I prefer face-to-face interaction with the teacher after my child's music lesson ends in order to get information clearly and directly in person. (P 03)

From the narrations of participants, parents were able to contact the teachers easily with WhatsApp application regarding student's progress and urgent matters. Although smartphone was efficient in approaching the teachers, parent with no musical background found it difficult as communication could be easily misinterpreted. Therefore, the parent preferred personal interaction with the teacher in order to obtain clarifications for the child's musical practices at home. It was discovered that face-to-face interaction made communication more accurate (Schumacher, 2013).

From teachers' point of view, different approaches were done to communicate with the parents. Teacher 1 expressed that:

> Parent and teacher's communication is only one call away. It is efficacious when everyone is utilising WhatsApp. However, due to administrative management, teachers were advised to use office telephone to contact with the parents regarding any issues. (T 01)

He sighed and further commented that:

> The need to go through a third party to communicate with the parent became a major obstacle. Thus, communication with these parents only happened upon their requests. (T 01)

Similar view shared by Teacher 3, she strongly against the third-party approaches between parent-teacher communication. She clarified that:

> If I could have every parent's contact, it will make things easier rather than going through the administration, which I could only talk at certain time of the day. Most of the time parents are the one who will approach me on their child's musical learning. (T 03)

She then declared to only approach the parents whenever they accompanied the child to the music class:

> I will only talk to the parents if they happened to accompany their child to music class and waited until the lesson ended. (T 03)

In addition, Teacher 2 clarified that the communication between parents and teachers were influenced by the age of the child. She elaborated that:

> Younger kids with age range of 5 to 9 need more attention due to their concentration span and misbehaviour during the lesson. Those students will get weekly update to their parents' WhatsApp regarding the learning progress. (T 02)

Similar approach taken by Teacher 4, he responded that:

> Weekly update will be given to parents of younger kids of age 8 and below. This is because they are most likely to misbehave in the class. Therefore, parent-teacher communication was often on this matter. (T 04)

From the narration of the teachers, parent-teacher communications were convenient by using WhatsApp as a communication platform. However, the need of going through a third person was incommodious and made the communication limited to only approach upon parents' request. Having all parents' contact numbers would be easier to get all the parents in mind and provide the best possible educational outcomes for the

child. Two-way information flow between parent and teacher could affect the quality of parent's involvement at home environment and the child's learning process. Having a good working partnership between teacher and parent was therefore essential in providing the best for the child (Loughran, 2008).

Moreover, the age of the students influenced the communication between parents and teachers due to the factors of concentration span and misbehaviour during the lesson. The findings indicated that parents of children ages between 5 to 9 years old received more feedback from the teacher regarding these issues. As indicated by the blogger of Day 2 Day Parenting (2013), the key to keep children's attention was to get them motivated, interested and involved in the class.

In conclusion, both parents and teachers indicated that communication between two parties were more to administrative matters such as change of schedule, children's learning progress, home musical practices and child's behaviour. Although smartphone is an effective tool to improve communication, some parents and teachers preferred to talk personally face-to-face to obtain clearer information, at the same time to engage two-way communication without third-party interference.

4.2.2.2 Monitoring and support children's musical learning progress and achievement

Indeed, both parent and teacher aimed to lead a beneficial effect on a child's academic performance as well as to ensure that they reach their full potential in all areas. The interview data indicated that parent-teacher communication via digital device, as smartphone was beneficial in assisting children's musical practices at home. Parent 2 stated that:

> I will take video recordings of my child's home practices without teacher's demand in order to verify if they are doing it correctly. (P 02)

She also shared that:

> The teacher will reply at her convenience to check my child's practices. She also gave comments and assisted me to ensure my child to practice with metronome in turn to keep his rhythm steadily. (P 02)

As a parent with no musical background, Parent 3 insisted that smartphone enhance parent-teacher communication efficiently:

> Although I prefer face-to-face interaction with the teacher, I do find smartphone benefits to approach her instantly to reassure my child's hands position on the piano. (P 03)

She added that:

> It is timesaving and I do not have to meet the teacher on the following week just to check on my child's hands position. (P 03)

Parent-teacher communication through smartphone was convenient. Parent 4 shared similar view on getting clarification with the teacher through WhatsApp application:

> I will record a video recording on my child's musical practices at home and send it to the teacher through WhatsApp, as validation on what they are supposed to do. (P 04)

She insisted the need to verify with the teacher is crucial during the process:

> There were times when my child is practicing and the sound produced was heard dissonance. Yet, my child insisted to practice that way until I personally rechecked with the teacher during the next lesson. (P 04)

Meanwhile, Parent 1 emphasised that child's grade level influenced parent-teacher communication through smartphone. He elaborated that:

> There are minor problems faced during the beginner level since I can monitor my child during their home musical practices. The desires to approach the teacher via smartphone are unnecessary. (P 01)

He added that:

> Whenever I need to clarify with the teacher regarding my child's lesson plan, I will personally meet her right after the class. (P 01)

He affirmed that face-to-face interaction was advantageous to solve any issues directly:

> All the problems and questions that I had were solved personally at once. Thus, guiding my child's musical practices at home becomes undoubtedly manageable. (P 01)

However, he further commented that:

> Parent-teacher communication may be increased by the time my child develop towards higher grade. Then, I might need further clarification from the teacher through smartphone. (P 01)

Utilising smartphone to improve children's musical practices at home was beneficent and timesaving. Parents could get clarifications from the teachers instantly by sending video recordings of children's musical practices through WhatsApp. This way, parents do not have to wait for the following class in order to get verifications.

Furthermore, one of the parents stated that student's grade level affected parent-teacher communication through digital device. It was redundant to approach the teacher with smartphone since the parents are still feasible to assist the children unless the level increased and techniques that are more complicated applied.

From the narration of teachers, communication between both parties via smartphone was indeed convenient and beneficent. Teacher 1 stated that:

> Smartphone is accommodating to assign parents by sending text messages through WhatsApp to ensure their child is practicing and getting prepared before the next lesson. (T 01)

Teacher 4 shared the same view, indicated that assisting parents benefits their children's musical practices to be provident for the next lesson:

> It is important to assist parents on providing quality musical practices at home. As some students might simply play the piano and claimed it as a proper practice session. (T 04)

Thus, it was crucial for parents to get informed of weekly teaching points so they could monitor their child to achieve the goals during home musical practices:

> Parents need to know what the aims for every practices are in order to improve their child's musical learning. (T 04)

Additionally, Teacher 3 shared similar experience and suggested that:

> Weekly tasks were listed down into students' notebook and will be verified by parents' signature during their home musical practices. (T 03)

She clarified that this strategy benefited parental involvement:

> In this way, parents will be aware of their involvement to check their child's weekly progresses. In addition, students will embrace self-regulation on completing the tasks given. (T 03)

Moreover, Teacher 2 declared that only small percentages of parents are fulfilling teacher's demand as informed through the WhatsApp. She observed that:

> Most of the parents are workaholics. They are not at home during children's musical practices. Therefore, most of my messages were being ignored. (T 02)

She sighed and added that:

> Even if they responded to my text messages, they did not deliver the tasks as how I wanted the work to be accomplished. (T 02)

Hence, she elucidated that student's effort for musical attainment was crucial:

> I still have to depend on my student's aptitude to practice and accomplish the tasks that were given throughout the week. (T 02)

In the meantime, Teacher 4 pointed out the importance of utilising smartphone as a tool to enhance child's learning:

> Smartphone is a good platform to provide efficient communication between parents and teachers. However, it is crucial for both parties to understand the purpose in order to improve children's musical learning progress. (T 04)

Teacher 2 also asserted that:

> Parents have to be truthfully understand what their involvements are. There will be an issue occurred no matter what devices we are using. (T 02)

In addition, Teacher 4 indicated that only certain percentage of parents would act upon teacher's request in monitoring their child's musical practices at home. He was astonished with some responses from other parents. He observed that:

> Some parents used teacher's honest feedback as a bullet to attack their child after the class ends. (T 04)

In support of what has been said, he further elaborated that:

> The parents will constantly criticised children's misbehaviour during the lesson, which gradually lowered their self-esteem. Eventually, the students lose interest in learning music due to the parent's misleading action. (T 04)

Nevertheless, in his personal belief, he asserted that:

> Parent-teacher communication does more advantages than harm on building children's self-confidence and motivating them during this learning process. (T 04)

In teachers' perspectives, communicating via smartphone was more to assigning parents to ensure their children to practice at home and fulfilling what they need to practice for the upcoming class. Gyamfi and Pobbi (2016) emphasised that parents are required to comprehend the importance of their role in developing the children towards their future. It was crucial for parents to know what the teaching points were in every lesson in order to improve their child's musical learning. Other ways of informing parents regarding weekly summary, notebooks are vital to serve as student's report card and parent's verification to ensure children did practice according to the tasks given. This way, children will be aware of their practice session and will take it seriously.

Although teachers did approach the parents, there were still small percentages of parents who were not concerned regarding their child's musical learning. This issue affected from parent's hectic schedule, lack of instructional delivery, unclear of the involvements and misinterpreted teacher's feedbacks.

According to Margiotta (2011), the failure of parents to access direct information during the class regarding the work to accomplish at home might have jeopardised the efficiency of the assistance they provided in their child's practice (p. 29). As shown in other research, communication between parent and teacher was the utmost significant (Sloboda & Howe, 1991; Davidson et al., 1995). Regular exchange of feedbacks between parents and teachers should thus minimise the risk of misinterpretation and enable the student to thrive in his or her development.

In sum, parents and teachers shared the same intention by sending progresses in form of videos and text messages through WhatsApp to ensure children's improve throughout their musical learning. However, only small percentage of parents is unable to deliver the tasks given as how the teacher intended them to be.

4.2.3 Digital device as a communication tool between teachers and students

The participants in this study were teachers and students of age 10 to 16 years old who taught and attended one-to-one music lesson respectively. In this study, the participants indicated that digital device was used as communication tool.

4.2.3.1 Communication tool

Other than parents, having positive relationship between teacher and student during the learning process was crucial too. Communication between teachers and students played an important role to develop quality learning progress. Therefore, the analysis of interview data indicated that the communal matters between teachers and students through digital device like the smartphone included: (1) administrative matters; and (2) facilitating musical learning at home environment.

Smartphone as a communication tool can be efficient in communicating between teacher and student regarding administrative matters. Similar approaches as parent-teacher communication above, the interview data specified that the usage of digital device between teacher and student was to exchange information, resolve practice issues and commence administrative matters occasionally. The teachers indicated that communication using the smartphone was convenient. Teacher 1 stated that:

> It is convenient to contact the students directly via WhatsApp when I had urgent matters that I could not avoid. (T 01)

He added with much agreement on the use of WhatsApp:

> Through WhatsApp, replacement classes can be done effortlessly. (T 01)

Teacher 4 also shared the same view, concurred that:

> Rescheduling happened quite often with adult students too since they have obstacles to balance their work and other obligations. (T 04)

Further, he observed that students' absenteeism happened commonly during school holidays and festival events:

> Students' replacement classes were made frequently during school holidays and festival celebrations such as Chinese New Year. Those are the time where most students are away from the town for vacation. (T 04)

Other than replacement class, Teacher 3 shared some of the unexpected experiences:

> I have student who came to me and asked for consultation. In the situation, she feel pressured to sit for PT3 and ABRSM piano practical grade 4 examination in the same year. So she insisted to give up on her musical learning in order to focus on her school's year end examination. (T 03)

In support of her own opinion, she further commented that:

> I felt the efforts that she had put on throughout the year to prepare for the examination will be proved fruitless if she gives up. Without letting her thoughts drown her more, I managed to encourage her to endure the examination along with her parents' support; she finally achieved it with a distinction result. (T 03)

With the platform provided in the smartphone, she obliged that it benefited the student to approach her immediately:

> WhatsApp is truly convenient when there is an urgent matter occurred. I was relieved that the student reached me during her breakdown and we managed to solve it instantly. (T 03)

Above all, teacher's communication with students via smartphone was mostly on urgent matters that lead to rescheduling music classes. However, most of the absence happened where students were away for vacation whenever school holidays and festival celebrations were around the corner. No matter how well planned the decision was, lesson absences tend to be disruptive.

Kelleher (2019) insisted that good attendance was one of the keys to academic success. Adult students on the other hand, came upon obstacles to balance between their work and other obligations for attending musical learning. It might be difficult but extremely essential to balance between work and personal lives in turn to pursue their outside interests.

Moreover, as stated by one of the teacher particularly, smartphone as a communication tool was very convenient in emergency where one of the students was able to be in touch with her when she stumbled upon mental breakdown and desired to approach the teacher for consultation. It truly benefited the teacher to be able to solve the situation immediately.

In students' point of view, communication between the teachers was practically similar. Student 1 stated that:

> I usually contacted my teacher when I could not attend the class due to my school activities. (S 01)

Student 2 also mentioned the communal matters to engage the teacher via smartphone:

> Communication with the teacher through smartphone only occurred when there are urgent mattes that affected my attendances and practical issues that I faced during my practice sessions at home. (S 02)

However, Student 4 admitted that:

> I do not have my teacher's contact number. Whenever I could not attend the class, my parents will be the one to inform her regarding the issue. (S 04)

When asked how she deals with questions and problems during her practice sessions at home, she declared that:

> I will list out the questions and discuss all the practical issues with my teacher on the following class. (S 04)

Then, she affirmed that:

> I prefer personal interaction with the teacher when I need clarification or demonstration from her. I found it easier to understand instead of discussing through the smartphone. (S 04)

Students shared the same point of view as teachers where they only contacted for urgent matters that might affected the attendances. School activities were one of the reasons that caused absence throughout the musical learning process. Nevertheless, some students may not have teacher's contact number, thus the parents will contacted the teacher on their behalf. In addition, they preferred to meet the teacher on the following week to clarify practice issues personally. As a whole, the efficiency of teacher and student's communication can be achieved through smartphone on urgent matters, absenteeism and consultation purposes.

Other than utilising digital device as a communication tool for administrative matter, smartphone can be used as a tool to facilitate musical learning at home environment. A good relationship between teacher and student improves beneficial and long-lasting implications for both academic and social development of learners. Teacher and student were able to communicate outside the classroom with smartphone and thus strengthen the ability of student to act independently and stay motivated throughout the week. Therefore, the interview data indicated that communication between teacher and student was advantageous in improving musical learning at home environment.

Teacher 3 emphasised that communication between teacher and student was essential, she explained that:

> It is crucial to have teacher and student's communication after the music lesson ends. In this way, students are more alert of their weekly tasks and they are not hesitate to approach me when they faced difficulties during their practice sessions. (T 03)

She added that communication enhanced students in various ways:

> By communicating with the students, they are slowly developing self-regulation and discipline to ensure they completed their tasks before the next lesson begins. (T 03)

Moreover, Teacher 1 shared that:

> Most of the students who contacted me through smartphone are the ones who care about their learning progress. Hence, there were always improvements on their playing in each lesson. (T 01)

The conversations via WhatsApp were mostly pictures and video recordings. Teacher 1 elaborated that:

> One of my students usually sent pictures of music phrases that he found challenging during his practice session. Then, I will showed him by video recording of myself playing that particular music phrases. (T 01)

He recommended that this approach of learning was efficacious:

> This method of learning is timesaving and efficient in expanding student's progress. They do not have to wait for the following week in order to learn a single phrase of the repertoire. (T 01)

Teacher 4 agreed that communication through smartphone is efficient. He indicated that:

> Most of my students are eager to send text messages and audio recordings of songs that they want to learn next. Thus, they will come to the class with intentions and produce quality musical learning on the song that they have prepared throughout the week. (T 04)

As a result, he asserted that smartphone benefited student's learning in general:

> Students with this manner developed self-regulation and improved their musical learning faster than those who await for teacher's command. (T 04)

Moreover, he shared that:

> Communicating with the students via WhatsApp also served as a reminder and a notebook to refer on what they have learnt during the class. (T 04)

He also added that:

> At the end of the class, weekly summary and tasks will be given through their WhatsApp. In this way, they are more attentive towards accomplishing the tasks because smartphone is the first thing they look to everyday and get reminded easily. (T 04)

Therefore, teachers indicated that students eventually developed self-regulated skills when they were assigned weekly tasks that were sent through their WhatsApp after each classes ended. With smartphone, it created an atmosphere that encourage student to

communicate with the teacher through accessibility during their home musical practices. Students approached the teacher easily by sending photos of musical phrases that they found challenging.

In addition, they sent video recordings of their performances to verify with the teacher. Some students shared audio recordings of music too that they found interesting so they could learn on the upcoming lesson. This way, quality musical learning was produce when students were assured of their intention in each week. Literally, smartphone enriched motivation, communication, cooperation and research ability of student (Dias & Victor, 2017).

Meanwhile, from the narration of students, communicating with teachers regarding musical learning through digital device as smartphone has similar approaches. Student 3 indicated that:

> I will send text messages to my teacher whenever I faced problem such as fingering issue during my practice session. (S 03)

She reassured that:

> I will send video recordings of my practices so that my teacher is able to check accordingly. (S 03)

She further commented on the positive outcomes of smartphone that benefited her learning process:

> Communication via smartphone is convenient and timesaving. I could fix the issues occurred during the moment and do not have to wait for the following music lesson. (S 03)

Student 2 experienced the same learning progress. She clarified that:

> When I am unfamiliar with the hands position or notations, I will send a picture to my teacher to clarify the position and notes for me. (S 02)

She also asserted that:

> With this method, my teacher could guide me without being physically there during my home musical practices. In the meantime, she will ensures me to improve my playing in the next lesson. (S 02)

In contrast, Student 4 determined on discussing practice issues with the teacher during the class:

> Any practical issues that I faced during my practice session will be discussed with the teacher personally during the class. (S 04)

She strongly emphasised that:

> I prefer face-to-face interaction with the teacher in turn to get information clearly and directly. Communicating with my teacher through smartphone was never come across my mind. (S 04)

Students approached their teachers mostly on practice issues that they faced during their home musical practices. They will send photos and video recordings of the music phrases and performances respectively to clarify with the teacher. However, one of the students indicated that no intention was made to approach the teacher with smartphone for any practice issue. The student insisted to meet personally during the music lesson in order to obtain clearer clarification from the teacher.

In sum, communicating through smartphone served as problem solving for students whenever they encountered difficulties during their home musical practices. In the same boat, teacher was able to verify and reinforce student's playing throughout the week before the upcoming lesson. Although smartphone may be convenient, some student preferred to discuss with the teacher in person.

4.2.4 Digital device as a teaching tool in student's musical learning

The participants in this study were teachers who taught one-to-one music lesson. In this study, the participants indicated that digital device was used as teaching tool.

4.2.4.1 Teaching tool

Implementing digital devices into teacher's teaching method was one of the effective ways to enhance students' engagement and active learning in their process. The analysis

of interview data indicated that the common matters among teachers through digital device like the smartphone included source of information and knowledge.

From the interview data, the teachers indicated that digital device used as a source of information and knowledge to develop student's musical learning. They also encouraged their students to access digital device to enhance their learning progress. The analysis of interview data indicated that the common matters of teachers through smartphone only for the usage of digital resource.

The teachers indicated that various digital resources could be obtained from the smartphone to enhance teacher's teaching method in the class. In music, keeping the rhythm steadily was one of the fundamental concepts that musician needs to acquire. With emerging technology, innumerable metronomes are available to download into the smartphone and made practice session handily. Other than utilising metronome to keep time of student's rhythmic pulse, recording devices were used to strengthen student's sense of rhythm while practicing. Teacher 3 stated that:

> Audio or video recording is needed during every practice session for students who could not feel the rhythmic pulse. (T 03)

She added that:

> Some students do not realise they played it faster than usual. (T 03)

Thus, she insisted the use of recording device to develop student's rhythmic pulse was essential:

> It is important for the students to listen to their own playing in turn to improve their sense of rhythm. (T 03)

Moreover, Teacher 2 shared that video recording benefits student to learn faster. She specified that:

> Students grasped the learning faster by visualising the recorded videos on the topics that they learn. (T 02)

Furthermore, she elaborated that especially for the preparation of music examination, additional teacher's model performance to enhance student's practice can be effective through using the digital devise:

> For students who are preparing their piano examinations, I will record a video of my playing on scales and arpeggios and send it through their WhatsApp by the end of the class. (T 02)

Through this method, she shared her experience and viewpoints of using digital device as a teaching tool to remind students' home practice and the quality of self-learning:

> This method benefits them to grasp faster than reading notations from the book… further, the students gradually becoming independent learners. (T 02)

However, she reflected on the disadvantage of learning through video recording:

> By learning from the recorded video, students are deficient on the ability to read notations from the repertoire. (T 02)

Therefore, she highlighted that:

> It is important to balance the usage of video recordings during the class in order to develop student's reading skills. (T 02)

In addition, Teacher 2 included that recording feature in digital piano was effectively utilised during the process too. She shared that:

> Students who play piano are require learning separate hand before they can perform both hands together. For example, after they have learned to play the right-hand part, I will then record the left-hand accompaniment on the digital piano. Later, I will transfer it to the student via thumb drive. (T 02)

She elaborated that:

> When they are practicing with the recorded accompaniment at home, they were playing the piece like how we did during the class but without me physically there with them. It is like bringing me home for their practice session. (T 02)

Then, she further commented on the feature of digital piano which provided student to practice with their preferred speed:

> If the student could not play in a fast tempo yet, the digital piano features to change the recorded speed as well. Therefore, he or she can practice with his or her own tempo before gradually increasing the speed until the actual tempo achieved. (T 02)

Thus, she affirmed that:

> In this way, the student will not only learn to play the right hand or vice versa alone but to develop their rhythmic sense as in playing a duet from the backing track. (T 02)

Moreover, she clarified that this method was only applicable to digital piano:

> This recording method is only accessible to students who have digital piano with the same feature on it. (T 02)

When asked what alternatives for students who do not own digital piano, she suggested that:

> I will do the same procedure with a smartphone. Audio or video recording is workable to provide the same purpose of my teaching method. (T 02)

Furthermore, Teacher 4 stated that using smartphone was very handy during the class. He declared that:

> Since my students are learning vocal with me, we do not require bringing any papers such as music sheets to the class because all the resources were available on the internet. (T 04)

He added that:

> By accessing to the Internet, I can easily find the lyrics and chords via Ultimate Guitar Tab. (T 04)

Through Ultimate Guitar Tab, it assisted students to sing delicately in their own range:

> Each of my students have different vocal range and not everyone can sing the same key as the singer in the song. Therefore, it provides transpose feature to match with each of their vocal ranges. (T 04)

Hence, he ascertained that:

> With this application, my class was done competently without wasting time to list out each chords of a new key manually. (T 04)

Timesaving was mentioned once again from utilising smartphone. This time, it featured Spotify into the class. Teacher 4 indicated that:

> Spotify used as references of song selection in order to provide my students a wide array of repertoires. I can get countless music tracks in a blink of an eye. (T 04)

He added that:

> For students who have subscribed to Spotify too, they are more eager to suggest new songs to learn for the next lesson. This way, quality lesson is produced in each week as students have their own intentions in every class. (T 04)

However, for students who have not downloaded to the application, he suggested that:

> They could access to YouTube to find their own favourite songs and practice beforehand as well. (T 04)

Both Spotify and YouTube provided students with variety of music selections:

> Using these applications, it benefits my students to be independent in searching for the next piece and practice at home in advance before coming to the class. (T 04)

He assured that:

> By utilising these digital resources, my teaching has become efficient and convenient in any aspects. (T 04)

Moreover, Teacher 1 shared an application for young beginner students to improve their hearing skills. He shared that:

> Theta Music Trainer was one of the applications that I used for my young beginner guitar students to help them determine musical tones. (T 01)

He dedicated the usage of the application only for younger students:

> Unlike adult students, younger ones tend to have difficulties to understand and identify a pitch. (T 01)

He also added that:

> One of the features in Theta Music Trainer was to introduce pitch to the user. It functions as a tuner to help my students on identifying higher and lower pitches. (T 01)

He declared that:

> It is complicated to explain verbally to younger students on how is the pitch flatted or sharped when they plug a string. (T 01)

For instance, he demonstrated that:

> Happy and sad faces will be shown on the screen for students to understand. Whenever the students get closer to the note, it will smiles for the answer. In this way, they get better understanding visually from the application itself and learn to identify pitches in a fun way. (T 01)

However, he insisted that the practice was only used as an introduction to young beginner students:

> This application will only be used as an introduction to beginner students who are barely understood what pitches are. Since it is a free download app, it only provides limited exercises and examples, which I do not recommend my students to use it as a practice tool. (T 01)

He further commented that:

> If the students did practice it with enough time, they will only get the same questions repeatedly and probably know all the answers to it. Hence, I will only use this application as introducing purposes only. (T 01)

As a whole, every teacher have their own approaches in utilising digital devices and digital resources as their teaching tools. From the narrations above, recording devices were used commonly for students to enhance accuracy in rhythm during their practice sessions at home. By listening back to their own playing too, will assist them to become reflective practitioners where they can assess themselves on distinct parameters such as "intonation, tempo regularity through difficult passages, dynamics and expressiveness" (Joaquín & González, 2011, para. 5). Also by watching through video recordings, students opt to grasp the learning faster and effectively from teacher's demonstration rather than reading from the music sheet alone. With demonstrations, Palmiter, Elkerton and Baggett (1991) discovered that it provided faster and accurate learning by the students than those who only had written instructions to perform the task.

On the other hand, digital piano featured built-in recording devices that enhance students to practice with teacher's accompaniment without the presence of teacher during their musical practices at home environment. This way, the students were able to experience the entire repertoire even though at the start they only learned separate hands. In addition, smartphone audio and video recordings served the same benefit too if the student did not own a digital piano at home.

Apart from recording devices and metronome, YouTube, Spotify, Ultimate Guitar Tab and Theta Music Trainer were the online applications that teachers utilised during music lesson. Each features to different aspects such as song references, lyrics and chords, aural training et cetera that provided instruction on any particular topic that student requires. Above all, they shared the same intention to improve students' learning by reinforced their teaching method, at the same time to create quality and intriguing ambience of the music class. It was believed that motivation to learn and attainment increases by enabling students to use mobile devices in the classroom (Künzler, 2011).

4.2.5 Digital device as a learning tool in embracing student's self-regulated learning skills

The participants in this study were students of age 10 to 16 years old who attended one-to-one music lesson. In this study, the participants indicated that digital device was used as learning tool.

4.2.5.1 Learning tool

Digital device as learning tool in today's generation has been widely used to enhance and transform one's learning. It was also an absolute essential to acquire information and further learning to nourish the mind. Thus, the analysis of interview data indicated that

the communal matters among students through digital device like the smartphone included the source of information and knowledge.

Utilising smartphone on a daily basis provides students constant access to information about the current technology trends and develop their enthusiasm from a young age. The students indicated that using smartphone to get information is convenient. Student 1 stated that:

> Google search enables me to find music scores of my favourite songs effortlessly. (S 01)

She added that learning became easier this way:

> Learning to play every popular songs on the piano became easier since I get to access to most of the music sheets online and learn from it. (S 01)

She also expressed that:

> With the facility provided, I feel accomplished whenever I managed to play popular songs that are top during that period. My friends are always fascinated if I could play those songs on the piano. (S 01)

Moreover, she shared that:

> I will watch others' performances of that particular songs in YouTube too so I can develop my performance skills to improve by time. (S 01)

In addition, Student 3 experienced the same way by searching for music sheets and music performances in Google and YouTube respectively. She said that:

> I will look for music sheets that I find interesting and learn accordingly with my teacher during the music lesson. (S 03)

She also added that:

> Sometimes, my teacher will shared her favourite songs via WhatsApp that I might find it exciting to learn too. Then, I will do my own research through Google and YouTube as my weekly task. (S 03)

Hence, she declared that:

> In this way, I am not only learning to play an instrument but to expand my knowledge and develop self-regulated skills along the process. (S 03)

Other than music learning, Student 3 said that she was utilising smartphone for school's purposes too:

> It is accessible for me to look into school's website when I need to check for updated syllabus or upcoming assessments. (S 03)

She added that:

> Smartphone is very handy in accomplishing school's assessment too. For instance, some quizzes need to be done online in school's website, therefore I will just utilise my smartphone to complete it. (S 03)

However, she reflected on the usage of smartphone might be inapt:

> Although smartphone is convenient, yet laptop or desktop computer was much suitable to do research for school's assessments or projects. (S 03)

Student 2 shared similar view on utilising desktop computer to complete school projects too. She declared that:

> I only utilise digital device as computer to do my research for school project via Google. I am not allowed to access entertainment except for school purposes only. (S 02)

She also added that:

> I was occupied with school projects every single week too. Thus, no intentions were made to find music-related information regarding my musical learning. (S 02)

Therefore, she concluded that:

> I will only contacted my teacher via smartphone whenever I encountered challenges during home musical practices. Yet no additional self-research as I only practice and complete the tasks given by my teacher in every lesson. (S 02)

Overall, the narration of students insisted that despite of any digital devices that they were using, it was done efficiently and accessibly to get any information for both school and music purposes. Eventually, they developed heutagogical learning from implementing digital devices and digital resources that expanded their expertise and self-improvements. Kok (2017) indicated that using electronic devices could motivate students to practice self-access learning alongside independent learning. However, one of

the students insisted the usage of digital device was only for educational purposes. Self-research on musical learning was never intended since the student only aimed to complete each task given by the teacher.

Moreover, Google, YouTube and WhatsApp were the main platforms used that served as informational tool for the students. The students indicated that Google was the main search engine to obtain information for school and music purposes. It was used mainly for self-research to find music sheets and to complete their school projects. YouTube on the other hand, serves as entertainment and references of performances in order to improve their performing skills. Nevertheless, WhatsApp as communication tool between student and teacher is to share and exchange information regarding the musical learning. The findings above supported Kvavik's (2005) study that reported the major usage of technology by college students was for education purposes, communication and surfing the Internet for their personal pleasure.

4.2.6 Digital device as a learning tool in expanding teacher's lifelong learning

The participants in this study were teachers who taught one-to-one music lesson. In this study, the participants indicated that digital device was used as learning tool.

4.2.6.1 Learning tool

Utilising digital device as learning tool for lifelong learning empowered teachers to access knowledge and competency development. Thus, the analysis of interview data indicated that the communal matters between teachers through digital device like the smartphone included the source of information and knowledge.

Learning has constantly occurred in everyday life events, and the ability to expand and devote oneself to lifelong learning was the key to breaking any success barriers ahead. Hence, the teachers indicated that lifelong learning is crucial. Teacher 1 stated that:

It is important to keep learning regardless if it is for my profession or not. I will read anything to expand my source of knowledge. (T 01)

Teacher 4 agreed on constant learning in the present-day:

Learning is a non-stop process. There is only a comma where I can take a rest on learning something that I have been working on for so long, but will never has a full stop to it. Even a Ph.D. holder keeps on learning within their research area. (T 04)

He insisted that:

We learn new things everyday either from what we see or from people around us. (T 04)

Moreover, Teacher 3 shared the same point of view. She indicated that:

It is vital to keep learning to gain knowledge not only for music alone. Obtaining general knowledge is important too. (T 03)

She also added that learning to keep pace with evolving technology was crucial:

We have to continue learning and catch up with the endless evolving technologies we have on these days. (T 03)

She further commented that:

If we are not updated in today's digital age, we might fall back not in terms of knowledge alone but in technology too. (T 03)

For instance, she followed that:

If I were still using an MP3 Player during the music class, probably it would not be as accessible as what I have now. Nowadays, even digital piano has Bluetooth functioned speaker and I can play the song from my phone during the music lesson. (T 03)

In addition, she indicated that:

Some music books do include music playlists without the CD. It is even convenient to listen to the music with just a scan on the QR code from the book and it will access to the website for us to view the playlists. (T 03)

She affirmed that:

Other digital resources can be applied to my teaching but I have not discovered yet. Therefore, as a music teacher I should keep myself updated for upgraded resources in turn to keep my teaching efficient along with the non-stop evolving technologies. (T 03)

From the narration of teachers, they usually get information and references from the Google and YouTube too. Teacher 2 stated that:

> I get all my searching done from Google since I can obtain various kind of information from other country as well. As for my music references, I will specifically went to ABRSM website to find their updated teaching seminar and syllabus. (T 02)

Teacher 3 did the same way. She expanded her musical skills by attending seminar:

> I am teaching violin as my minor instrument, thus, I signed up for a violin seminar from Webinar to obtain violin techniques from Suzuki method that were done in America. (T 03)

However, she declared that the time zone had led her to stop from the program:

> Due to its different time zone from Malaysia and obligations that I had during that time, I am not able to complete the online seminar through the end. However, internet made it easier and I can still get the information I needed to enhance my teaching for lifelong learning. (T 03)

Teacher 1 shared the similar experience by attending courses online. He indicated that:

> I once attended a course in Psychology through Coursera. It is a free online learning tool that provides credential from universities and has to complete it within a period given. (T 01)

He further commented that:

> Although I could not complete the course, I do find it beneficial in furthering different area from what I am currently major in. (T 01)

Moreover, in musical learning, he added that YouTube provided online lectures from university:

> Sometimes, I watched video lectures from Yells University of Music in YouTube, where they posted various kind of topics discussed in an actual class. Meanwhile, I get to experience how the music class is conducted in the university. (T 01)

Thus, he declared that:

> With the Internet, I am able to access various resources in YouTube and others that contributed for my master's study too. (T 01)

In addition, Teacher 4 shared the accessibility to e-library from the university:

> Since I am an alumni from Middlesex University in London, I still get to access to the library online. Even if no resources found in the e-library, I am able to contact my friends in England via smartphone and they can help me to look for it in the library. (T 04)

Furthermore, Teacher 2 insisted that there were no necessity to use books anymore. She emphasised that:

> I do not see the necessity to use books any longer because everything is accessible online. (T 02)

On the other hand, Teacher 3 disagreed on the matter:

> Although I can get numerous resources from the internet, I still prefer published books from the library or bookstore because certain things such as advance analogy or interpretational materials are not entirely accessible and reliable through online. (T 03)

As a whole, lifelong learning is indeed important for teachers to keep their teaching method upgraded in digital age. Lifelong learning in digital age was crucial in incorporating new tools and strategies into the educational process. Moreover, the narrators indicated the importance of learning different field and keeping the mind updated for source of knowledge was vital. Sisson (2017) stated that expanding one's learning outside the comfort zone enhanced abilities, knowledge and in-depth understanding around the areas. In the same time, learning served as significant need for psychological well-being to boost confidence and self-efficacy of a person.

Furthermore, Google and YouTube were the top searching platforms for teachers to obtain information worldwide too. In addition, attending seminars from ABRSM and Webinar, signing up for new courses from Coursera, following video lectures on YouTube and accessing resources via e-library were the preferences for teachers to expand their lifelong learning. Through online, abundant references could be accessed effortlessly at one's fingertips, thus it affected disruptively on publishing books. One of the teachers insisted that there was no longer any need to use books as everything could be accessed through the Internet. Although the Internet benefited to access information

conveniently, one of the teachers asserted to refer published books since resources as advanced analogy or interpretational materials were not entirely accessible and reliable online.

CHAPTER 5

DISCUSSION, IMPLICATION AND RECOMMENDATIONS

5.1 Overview

This chapter aims to address the research questions and provides the summary of the research findings, included discussion, implication, recommendation and conclusion. It reflects on how the research findings linked to the literature and analysis of data collected from the interview.

The purposes of this study were to investigate the effectiveness of digital device in enhancing parental involvement in children's musical learning. Also, the ancillary purposes were to identify the function of digital device in improving communication among parents, music teachers and music students, and to examine how digital device can be an effective teaching and learning tools.

The research questions were included: (1) how does digital device used in improving parental involvement in children's musical learning; (2) how does digital device enhance parent-teacher communication in monitoring children's musical learning progress; (3) how does teacher and student's communication through digital device facilitate musical learning at home environment; (4) how does teacher utilise digital device as a teaching tool in student's musical learning; (5) how does student utilise digital device as a learning tool in embracing self-regulated learning skills; and (6) how does teacher utilise digital device in expanding their lifelong learning.

For identifying the data from the interview, the result showed that the smartphone was efficient as communication and teaching-learning tools among three individuals in musical learning. The results shown that smartphone was used in various ways by the participants (parents, music teachers and music students) to develop the child's musical learning.

This study contributed to the benefits of parents in enhancing their involvements, music teachers in improving proficient teaching strategies and music students in developing self-determined learning. Besides, the discussion in this chapter provides extensive and in-depth understanding to expand the usage of digital device in the musical learning process.

5.2 Summary of the Results

This study focused on the perspectives of using smartphone as a communication tool and teaching-learning tool among parents, music teachers and music students. The data source in this study was derived from an in-depth interview of a total of 12 participants; four members from each category.

The findings indicated that digital device as smartphone enhanced parental involvement in children's musical learning process. Through smartphone, parents were able to approach the teachers conveniently in obtaining and exchanging information regarding the child's learning progress. Parent and teacher's communication was essential to enhance parental involvement so that they could monitor the child at home environment.

Moreover, smartphone benefited parents to access information online on ways to improve the musical learning of their child. It was found that Google and YouTube were the main platforms used for their source of information and knowledge. In the same boat, teachers and students indicated the same platforms used to obtain information for music and school purposes.

Furthermore, WhatsApp application developed communication between parents, teachers and students. Each individual was able to engage one another conveniently to acquire information and clarification regarding the music lesson. Communication

between individuals was commonly commenced on administrative matters and providing support in monitoring the children's musical practices at home environment.

In addition, digital device was efficacious as a teaching tool for teachers to expand their knowledge and skills into their teaching. Integrated technology into teaching not only made the class exciting but also improves student's engagement during the lesson. For instance, the teacher used YouTube to demonstrate performances to provide ideas for the students on how to perform the piece and increase their confidence at the same time. Utilising smartphone was efficient and time-saving as various resources can be accessed easily through online.

Lastly, teachers and students used digital device as a learning tool to expand lifelong learning and cultivate self-determined learning respectively. The result showed that the main platform used for teachers and students to obtain source of information and knowledge was via Google. It was fast and convenient in searching for resources for the user's need. Whether it was for self-improvement in music or school purposes, digital device made the process effortlessly for all users to accomplish their tasks.

5.3 Digital Devices as Communication Tool and Teaching-Learning Tool

This study delved into parents, music teachers and music students' perceptions in utilising smartphone to improve parental involvement, communication and teaching-learning aspects in 21st century music education. The following sections discuss the six research questions separately.

5.3.1 The use of digital device as a communication tool between parents and children in improving parental involvement in children's musical learning

The usage of digital device enhanced parental involvement among parents and children that included monitoring and supporting child's musical learning and obtaining

information as source of knowledge. Smartphone was an effective tool for parents to provide educational support and enrich the child's educational experience.

Parents have persistent views that communicating with the music teachers to obtain information regarding their child's progress through digital device was efficient. Smartphone enabled parents to approach teachers conveniently through WhatsApp application that enhanced the communication not only through text messages, yet easy access to share photos, video and audio recordings of the child's musical learning.

Moreover, the used of smartphone enhanced parental involvement by providing moral support into the child's musical learning progress. It was found that parents used the smartphone to take pictures and video recordings of their child during musical performances. This way, it developed the child's learning by boosting their confidence and elevating interest and self-sufficiency during the process.

Furthermore, parents indicated that Google and YouTube served as the main platforms of source of information and knowledge that provided loads of resources and music tutorials to assist them respectively in monitoring their child's musical practices at home environment. Thus, the use of technology and media at home environment enhanced parental involvement and strengthen the learning continuum of the child.

In addition, parents shared music-related videos through Facebook and WhatsApp too. From the children's perspectives, they were delighted in receiving those videos from their parents as it boosted their interest to learn that particular song hence developed their confidence and motivated them to self-learn. Parents also shared information about music events that they found online. The children indicated that their parents will encourage them to participate to expand their musical learning experience.

In the contemporary context, parents were occupied from heavy workloads that affected their involvement in monitoring their child at home environment. Parents

confessed that busy schedule and too many activities resulted in "pressured" parents and child; and disruptive involvement during the weekdays.

Therefore, the child's home musical practices can only be scheduled during the weekends. Also, one of the parents asserted that over-scheduled is one of the main negative factors that disturb the quality and quantity of home musical practicing session. Meanwhile, children's attended extra-curricular activities after school hours affected their home musical practices. Thus, managing the time table and setting goals of practice sessions were essential in turn to produce quality practice routine and effective learning process. In spite of these factors, undesirable situation were managed to overcome by communicating through a phone call as a reminder to practise and encouraged the child to give a performance during family time.

Though we are already ushering into the third decade of the 21st century, digital devices have become part of our life and made our life better providing knowledge and resources. However, these digital devices with improved technology should not be the disruptive innovation that disturbs the harmony and bonding of family life.

The smartphone may be justified as a helpful device for parents; however, most parents maintained that teacher's professional guidance is good enough to monitor the child's musical learning. Thus, it is redundant to use the digital resources in improving the parental engagement and strengthening the parental involvement in musical learning. Also, one of the parents insisted that face-to-face communication gives better clarification and also avoid misleading information and understanding.

5.3.2 The use of digital device as a communication tool between parents and teachers in monitoring children's musical learning progress

The utility of digital device in parent-teacher communication improved the school and home partnership through managing administrative matters and monitoring and

supporting child's musical learning. Parent and teacher communication in 21st century shared similar intention to make education a wholesome experience for the child. Parents were welcomed to approach teachers regarding any issues that might affect their child's learning academically or musically.

Through WhatsApp application, parents were able to reach the teachers conveniently without the need to meet on the following music lesson. Sending the photos and video recordings as hands position and performances of children's musical practices at home environment benefited parents to get clarification shortly from the teacher. This way, it saved time for the parents to get verifications anytime from the teacher.

Further, the teacher's perspective on communicating with the parents was mostly emphasised on assisting parents to ensure the child's musical practices at home environment were accomplished before the upcoming class. It was important for the parents to be acquainted with weekly teaching points in order to improve their child's musical learning. However, not all teachers have every parent's contact number due to the administrative management which requires parent-teacher communication through the office phone. The need for going through the third party was troublesome and made the communication limited to only approach upon parents' request. Therefore, teachers would jot down weekly tasks on children's notebook in another way to inform parents on what their child has learned throughout the week.

Smartphone may be efficient in enhancing parent-teacher communication, yet one of the parents insisted to interact with the teacher personally in person to obtain clearer clarification on the child's learning progress. The parent declared that communication on certain aspect via smartphone was difficult to understand as she has zero musical backgrounds which could lead to misunderstanding.

In addition, age and grade level of a student were the factors that affected parent-teacher communication. Teachers indicated that children of 5 to 9 years old had

difficulties to concentrate during the class. Thus, the parents of these children received more comments from the teachers due to their concentration span and misbehaviour during the music lesson. As for grade level factor, one of the parents stated that communication with the teacher through smartphone was redundant. The parent indicated that monitoring the child in beginner level at home environment was feasible, therefore no intention to contact the teacher during the process unless the level increased and more intricate techniques applied.

Although the teachers had initiated communication with the parents, there were still little percentages of parents who were inattentive on their child's musical learning. The issue was affected by parents' busy schedule, lack of instructional delivery, misinterpreted teacher's feedbacks and ambiguous of their involvements in improving the child's learning progress. Despite those issues, the absence of parents during the child's learning process was allied with the teacher's communication style. Costa and Faria (2017) asserted that the teacher's role to stimulate parents in engaging themselves with the school more often was a vital aspect. The study indicated that teachers should not only to justify the negative academic attainments and social behaviours of a child, yet the certainty to assure parents to visit the school to obtain good feedback too.

5.3.3 The use of digital device as a communication tool between teachers and students in facilitating musical learning at home environment

Teacher and student's communication through digital device were included of managing administrative matters and facilitating the musical learning at home environment. Building a good relationship between teacher and student was one of the crucial roles to improve the quality of the learning process.

The teacher-student communication through smartphone was commonly on students informing absences and rescheduling for the following music lesson. The

findings indicated that school activities, work-life balance and family plans during public school holidays and festival celebrations were the communal matters that influenced the absenteeism among adolescent and adult students. In Sahin, Arseven and Kiliç's (2016) study, it was found that engaging in family events such as family visits, leaving the town, weddings etc. had the highest frequency of student absenteeism than other factors (family-child relationship, family problems, view of education and economic impossibilities). The study patently showed priority in family bonding than education on absenteeism. However, in general, regular attendance was essential for both school academic and extra-curricular activities learning in turn to provide wholesome experience and all-round development of the student.

Moreover, smartphone was beneficial for certain situation as an emotional crisis where one of the students managed to contact her teacher during mental breakdown. With smartphone, the student was able to approach the teacher efficiently during the moment to seek consultation. Smartphone serves as a handy tool whenever one's encountered emergency or despair, it benefited user to seek help and solve the situation immediately.

In addition, smartphone developed an atmosphere that encourages students to interact with the teacher through accessibility during their home musical practices. Students commonly sent photos and video recordings of practice issues that they found challenging to their teacher via WhatsApp. The discussions, therefore, improved student's problem-solving skills which resulted in progress and improvements in the next music lesson. The teacher indicated that it enhanced self-efficacy of the students to accomplish weekly tasks during their practice sessions. Some of the students were also keen to suggest new repertoire to learn in the upcoming lesson. Whenever they find music that was intriguing, they will share the audio recording of the music through the WhatsApp. This way, students with intention in every lesson produced quality musical learning than those who rely entirely on the teacher.

However, some students do not have their teacher's contact number; hence they will ask their parents to contact the teacher on their behalf. Even some may have teacher's contact number; they still preferred to approach the teacher personally during the lesson for any clarification on practice issue.

5.3.4 The use of digital device as a teaching tool in student's musical learning

The use of digital device as teaching tool among teachers was to obtain source of information and knowledge. Executing technology into teacher's teaching was one of the effective approaches to increase students' engagement and active learning during the process. Variety of digital resources can be accessed online to develop each aspect in student's musical learning. For instance, rhythm is one of the elements in music that essential for students to enhance a sense of rhythm in order to perform well in any musical style. Besides metronome, recording devices were used mainly to help students to listen to their playing. This way, it assisted the students to become reflective practitioners in ascertaining their consistency of tempo in particular passages.

Moreover, students opt to learn faster by watching video recordings of teacher's demonstration. The demonstration approach was one of various techniques to transfer information and skills to the students. Through teacher's model performances, it improved student's understanding and provided effective learning in many ways (Haston, 2007).

Furthermore, the teachers indicated that some of the applications they used in the class included YouTube, Spotify, Ultimate Guitar Tab and Theta Music Trainer. Each performed differently towards the learning process. As an example, both YouTube and Spotify were used for students to obtain wide arrays of repertoires to learn during the lesson. Commonly, music videos from YouTube provided demonstrations and interpretations for the students to perform their piece. Also, Ultimate Guitar Tab provided

chords and lyrics of songs as references and Theta Music Trainer that gave clearer understanding of musical pitches to younger student. These platforms thus made the music lesson efficient and time-saving.

In addition, digital piano enhanced students to practice with teacher's accompaniment through its built-in recording device. It allowed students to experience the same as they were in the actual music class but without the presence of teacher during their home musical practices. With the recording device, students were able to go through the entire song although they only learned separate hands. For students who did not own digital piano, audio or video recording via smartphone provided the same intention too.

All in all, every teacher shared one goal which was to improve students' learning by enhancing their teaching method, in the meantime to create quality and intriguing ambience of the music class.

5.3.5 The use of digital device as a learning tool in embracing student's self-regulated learning skills

The use of digital device to enhance self-regulated learning skills among students was included for source of information and knowledge. Utilising digital device as a learning tool to obtain information and knowledge to nourish the mind was crucial. It also provides students with incessant access to information for their desires and develops their interest at the same time. The findings indicated that digital devices as smartphone and desktop computer served efficiently and accessibly for the students to get information for both of their school and music needs. Students insisted that the usage of digital device was primarily for self-research to complete their school projects. Inquiring on music derived next, where the students searched music sheets and watched music performances through Google and YouTube respectively to improve their musical learning.

Google, YouTube and WhatsApp were the major platforms used as an informational tool for the students to obtain materials for school and music learning purposes. The students asserted that Google was the main search engine that provides abundant resources for them to complete their tasks academically and musically. Moreover, YouTube served as entertainment and references for their musical learning. Most of the students watched music performances via YouTube to get ideas on performing the selected piece. Lastly, communication with the teacher through WhatsApp allowed students to provide and exchange information in enhancing their musical learning. Similar findings by Omar, Daud, Hassan, Bolong and Teimmouri's study that indicated the dominant online usages of children in Malaysia were for communication, information and entertainment purposes (2014, p. 79).

Finally, through these platforms, students manage to attain self-research for their school and music needs. The process of self-study of materials and accomplish the task successfully enhanced students to develop self-regulated skills and self-efficacy in learning. Implementing digital devices to obtain resources expanded students' expertise and self-improvements, thus embracing heutagogical learning that emphasized the development of one's autonomy, capacity and capability.

5.3.6 The use of digital device as a learning tool in expanding teacher's lifelong learning

The digital device used as learning tool to expand lifelong learning among teachers was included for source of information and knowledge. Lifelong learning was crucial to gain knowledge and learn new skills especially in 21st century with endless evolving technology. Lifelong learning through digital device made all users to access knowledge boundlessly since learning occurred constantly in daily life.

In this study, the teachers indicated the importance of educators to keep pace with education system demands thus incorporating new tools and strategies into the educational process were essential. Not only within the area, but it was vital to explore different field to keep the mind occupied and updated with a wide range of knowledge and information. The findings indicated that Google was the primary information resource that used by the teachers to access information. Search Engine Market Share Worldwide (2019) indicated that Google was the most viewed throughout worldwide with 92.62% in June 2019 as it provides faster and numerous relevant results to the users (Malik, 2014).

Through Google, teachers were able to search for various seminars and online courses that were available to partake such as ABRSM, Webinar and Coursera. It provided user to develop and updated with the new syllabus, at the same time it expanded their source of knowledge. Some Universities even provided online lectures via YouTube that enable foreign students and educators to experience the actual class conducted from the university. It also gave students and educators a wide range of understanding of specific topic discussed among the lecturers.

Moreover, one of the teachers indicated that being an alumnus benefited to access electronic resources from the library. The teacher declared that accessing resources through the e-library was the preference to expand lifelong learning. Even if there were no specific resources found online, smartphone was efficient in connecting people worldwide to access the desired materials.

Lastly, the Internet may offer user to access numerous of references in a blink of an eye, nevertheless, it could not be replaced with published books as some materials were not entirely accessibly and reliable through online.

5.4 Conclusion

The findings from this study indicated some significant conclusions. The smartphone today has many functions to support different uses in daily life. Cell phone, a mobile device that was initially developed solely for communication purpose and evolved immensely from 1983 with various features in both design and function to what we have today as the smartphone.

In this day and age, smartphone becomes diversely more than just a phone. It is becoming a self-help device that support people throughout the day. Smartphone represents an important part in a daily basis that facilitate user with its connectivity and efficiency to communicate and access information. Thus, in this context, its main functions were used as a communication tool and teaching-learning tool.

Smartphone was described as a convenient device to connect among parents and teachers boundlessly. With various messaging applications available online, WhatsApp became one of the most used platforms with 1.7 billion active monthly users in June 2019 worldwide (SimilarWeb, 2019). It served as a communication tool that facilitated parent and teacher to variety of interactions via instant text messaging, voice and video calling, also photo and file sharing (Hill, 2019).

In addition, WhatsApp enhanced parent-teacher communication through exchanging information regarding student's learning progress and provided opportunities to strengthen the home and school relationship that benefited in improving parental involvement. Although it executed as a fast and efficient platform to communicate, it may possibly affected the ability to interact face-to-face among individuals. Elsobeihi and Abu-Naser (2017) indicated that people these days were neglecting to engage in person and becoming more reliant to communicate through digital device. Hence, the presence of technology degraded the quality of communication.

Though smartphone provides benefits to help parent and teacher, it can only enhanced but not substitute the notion of parental involvement and face-to-face interaction between the individuals in developing the child's musical learning process. Moreover, student plays a crucial role in this learning process in order to make a worthwhile experience rather than relying on parent-teacher partnership alone. Thus, Grant (2010) emphasised that parents, teachers and children need to work together to share expectations and understand each roles and responsibilities among themselves in order to make the learning a success.

Further, with all the available online applications and digital resources, smartphone can be used as a teaching-learning tool to expand teachers and students' learning. In 21st century learning, learners are encouraged to gain knowledge and skills with the exposure of digital devices. Thus, developing digital technology skills in this era is essential to improve student's digital literacy in learning (Saubari & Baharuddin, 2016). Integrating technology into classroom learning also benefits students from a young age to think more critically regarding the use of technology in their life.

In addition, to preserve teaching method upgraded in the present-day, teachers are required to expand lifelong learning to enhance skills not only for their professional lives, but also for personal development in order to achieve their fullest potential in life.

5.5 Implication of the Study

The conclusions of this study focused on the parents, music teachers and music students' perspectives of utilising digital device as communication tool and teaching-learning tool in the 21st century music education. It considered a small but accessible research based on their live experienced interview. After making interview with 12 participants (4 parents, 4 music teachers and 4 music students), they offer personal valuable insights in

implementing smartphone to improve parental involvement, home-school relationships and the process of two-way learning.

The multifunction of smartphone is not only beneficial to access information and instant interaction, but also provides learner in different learning contexts. It creates opportunities to expand lifelong learning skills and provides student a framework of ideation and ability to be self-directed (Narayan, Herrington & Cochrane, 2019). Through self-directed learning, students are aspire to expand their direction of learning and promote the development of self-esteem and satisfaction from completing challenges, hence enhance them to become self-determined in learning (heutagogy).

Furthermore, digital literacy enriches the information and understanding of using digital devices in educational context that is required in today's learning skills. It enhances one's ability to utilise digital technology to "locate, create, and communicate digital content" (Spires, Paul & Kerkhoff, 2017, p. 2242). Moreover, Wang and Kang (2006) indicated cybergogy approach in learning was important to encourage learner to engage in online environment through their thinking, behaviour and emotion to the culture of computers, technology and the Internet. It also benefits to promote technology-enabled learning for a better learning outcome.

5.6 Recommendation for Future Study

This study has attempted to gain a deeper and insightful understanding of integrating digital tools into the development of 21st century music education. In 21st century learning, it is crucial for music teachers and music students to enhance digital literacy in musical learning process. Future research could hone in on utilising smartphone to improve teacher and student's two-way learning in musical aspect, also identifying the best practices to teach students on how to navigate the use of digital technology

effectively (Spires et al., 2017), thus cultivate students in becoming self-determined in learning.

In the meantime, it is suggested to conduct the research in case study approaches in order to obtain an in-depth investigation of an issue, event or phenomenon of interest (Crowe et al., 2011). Chua (2012) indicated that case studies can be used to analyse an event on a wide perspective such as behaviour of a society in relation to its member's background, belief and culture. Through case study, further research could investigate on three related individuals (parent, music teacher and music student) as to find out the relation and cross verification of the musical learning process.

In addition, it is recommended that this research be replicated in other areas of the country to allow effective generalization results. As overscheduled children with extra-curricular activities and parent's obstacle in work-life balance in 21st century are affecting the engagement of parental involvement in child's musical learning, it is essential for on-going research in this matter.

5.7 Closing Remarks

This study has attempted to investigate the perspectives of parents, music teachers and music students in utilising digital device as smartphone to enhance communication and expand teaching and learning aspects during the musical learning process.

Smartphone, with its multifunction enriched user's daily life such as constant access to information and social interaction. In this context, it served as a model and reference to develop parental involvement, parent, teacher and student's communication, student's self-determined learning and teacher's lifelong learning.

Therefore, the final chapter of this study has provided ideas which benefited parents, music teachers and music students to utilise smartphone to obtain information through efficient communication and accessibility to the Internet for the musical learning

development. In addition, the suggestions to the future research may assist in the related area of music education especially in 21st century learning. Though, the possibility of smartphone in the future is unknown, thus, in this present time; it has its impact on society, daily life, and wellbeing.

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