CYBER SECURITY FOR CHILDREN: PARENTAL MONITORING FROM A TECHNOLOGICAL, CHILD PSYCHOLOGY AND ISLAMIC PSYCHOSPIRITUAL PERSPECTIVE DURING THE COVID-19 PANDEMIC

Nor Azah Abdul Aziz*, Che Zarrina Sa’ari**, Suzaily Wahab***


**Email: zarrina@um.edu.my

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Abstract

Cyber ethics awareness and education is crucial when children surf the internet especially during the Covid-19 pandemic situations where internet use is a common norm. During the pandemic, children from preschool until secondary school level had to stay at home and learn online (Teaching and Learning at Home (PdPR)). In this study, interviews are conducted to parents on how children surf the internet during the pandemic and how parents monitor and advise their children. The findings of this research suggest that parental monitoring of children related to cyber issues is equally important for the children. Parents are noticeably given a lot of advice regarding the appropriate way of communicating when playing games, the types of games played by children, the commandments and prohibitions of Allah in Islam, and also the safety and health’s concern of children
when playing games. Not only that, but parents also suggested to government agency such as Malaysian Communications and Multimedia Commission (MCMC) to increase regulation on those inappropriate websites in Malaysia and take proactive measures to prevent our personal data be misused by the cyber criminals such as scammers and pornography’s criminals. Proactive measures need to be taken by the government such as making restrictions on games like Mobile Legend because of the destructive effects it could have on the children’s behavior. Children who are negatively affected by the game will likely stay home most of the time and are reluctant to socialize. Besides, there are also other concerning safety issues raised by parents when children play games such as abusive words, bullies, games addiction and pornography.

Keywords: Cyber security for children; parental guidelines; children development psychology; Islamic psychospiritual.

Khulasah

Kata kunci: Keselamatan siber untuk kanak-kanak; garis panduan keibubapaan; perkembangan psikologi kanak-kanak; psikospiritual Islam.

Introduction
Awareness and education of cyber ethics when children surfing the internet is very important especially in situations where internet use is a common norm especially during Covid-19 pandemic situations where all children from preschool to secondary school level have to stay at home and learn online.

There are various cyber security issues of great concern such as sexual predators, cyber bullying, pornography, cyber fraud and content that is not suitable for children. As early as 2014, the Malaysian Multimedia Communications Commission has released statistics that 70% of 14,000 children suffer from internet problems while surfing the internet.  

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1 Malaysian Communications and Multimedia Commission, “Online Harassment of Schoolkids as High as 70%: Survey, 09 Sep 2014”,

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There are several guidelines for parents to educate children about cyber ethics such as the guidelines issued by Malaysian Multimedia Communications Commission\(^2\), UNICEF\(^3\) and there are also guidelines and ethics of social media use for teachers and students issued by Ministry of Education Malaysia in 2017 for the use of all schools in Malaysia\(^4\) to address this worrying issue.

This study conducted interviews to parents on how children surf the internet during pandemic situations and how parents monitor and give advice from the point of view of children psychology, technology aspect and Islamic psychospiritual.

Cyber Security for Children and Parental Guidelines
A category of online risk to children includes aggressive, sexual, values and commercial. The main purpose of cyber security for children is encouraging safer online behaviour by children and young people, encouraging effective online parenting and encouraging others who interact with children and young people to teach them to stay safe online (extended family members, teachers, etc.) Children and young people are exposed to online manipulation, online solicitation or grooming, bullying and harassment\(^5\):


\(^5\) International Telecommunication Union (ITU), “Guidelines for Parents and Educators on Child Online Protection 2020”, Geneva,
i. **Online manipulation**

Children and young people are exposed to a variety of content, algorithmically filtered, with an intention to manipulate them in one way or another. Examples include political manipulation (promoting certain political points of view), fake news (spreading false information with political, commercial or other intentions), advertising (create early attachment of children and young people towards specific brands or products).

ii. **Online solicitation or grooming**

The Council of Europe Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse (Lanzarote Convention) provides that grooming (solicitation of children for sexual parties) is the intentional proposal, through information and communication technologies, of an adult to meet a child who has not reached the legal age for sexual activity, for the purpose of committing acts of sexual abuse or producing child sexual abuse material. The solicitation does not necessarily result in a meeting in person. It may remain online and nonetheless cause serious harm to the child, for example through production, possession and transmission of child sexual abuse material. In the context of sexual solicitation, or grooming, there is more focus on the process of victimization because the research has largely involved the children and young people themselves.

iii. **Bullying and harassment**

Bullying is bullying wherever and however, it happens. Online bullying can be particularly upsetting and damaging because it tends to spread more widely, with a greater degree of publicity. Moreover, the content circulated
electronically can resurface at any time, which makes it harder for the victim of the bullying to get closure over the incident; it may contain damaging visual images or hurtful words; the content is available 24 hours a day. Bullying by electronic means can happen 24 hours a day, so it can invade the victim’s privacy even in otherwise ‘safe’ places such as at home, personal information can be manipulated, visual images altered, and forwarded to others. Further, it can be carried out anonymously.

According to International Telecommunication Union⁶, children and young people who are victimized offline are likely to be victimized online. Children with disabilities are more likely to experience abuse of any kind and specifically are more likely to experience sexual victimization, placing them at a higher risk online. Victimization can include bullying, harassment, exclusion, and discrimination based on a child’s actual or perceived disability, or on aspects related to their disability such as the way that they behave or speak, or the equipment or services they use.

iv. Sexting
A common behaviour by teenagers is ‘sexting’ (sharing of sexualized images or text via mobile phones). These images and text are often shared between partners in a relationship or with potential partners, but sometimes end up being shared with much wider audiences. It is thought unlikely that young teenagers have an adequate understanding of the implications of these behaviours and the potential risks they entail. A serious concern with sexting is that children and young people may be creating illegal child sexual abuse material, which could lead to serious legal sanctions.

Children and young people’s internet safety should not be seen in isolation but rather as one that has commonalities within a range of initiatives concerning children and young

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⁶ Guidelines for Parents and Educators.
people, their safety and the Internet. The way children and young people use new media versus the way people think they use it has been reported in The EU Kids Online 2020 survey. The survey maps the risks and opportunities of the internet for children in Europe and also shows that the time children now spend online varies between about two hours per day (Switzerland) and three-and-a-half hours (Norway). But while the time that children spend online each day has almost doubled in some countries, compared with 2010, many have yet to receive any online safety advice from parents, teachers or friends. However, when children have a negative experience online, they mostly speak to parents or friends, and only rarely tell teachers or professionals whose job it is to actually help them\textsuperscript{7}.

Cyber ethics awareness and education when children surfing the internet is crucial especially in situations where internet use is common particularly during the Covid-19 pandemic situation, where all children from preschool to high school need to be at home for online learning (Teaching and Learning at Home (PdPR) in Malaysia. During the pandemic, it is necessary for every home to have its own computer that can access the internet anywhere regardless of time. Therefore, owning a computer can make it easier for students to access the internet more often, and facilitates the search for materials and hence, will increase their confidence to use computers in their studies\textsuperscript{8}.

There are 12 internet activities that are popular among children in Malaysia based on the Basic Study of National

\textsuperscript{7} David Smahel et al., “EU Kids Online 2020: Survey Results from 19 Countries”, EU Kids Online 2020, https://www.lse.ac.uk/media-and-communications/research/research-projects/eu-kids-online/eu-kids-online-2020.

Cyber Security Awareness Among Primary and Secondary School Students in 2016:

1. Looking for specific information
2. Browse websites
3. Social networks
4. Play games online
5. Using chat/Messaging applications
6. E-learning
7. Watch videos online
8. Email
9. Get the latest news/information
10. Looking for new contacts
11. Downloading videos
12. Upload a video

The negative risks of internet utilization are caused by several factors, such as the lack of youth and children knowledge about how to use the internet wisely and safely, lack of supervision from parents, usually caused by parents’ lack of understanding of the internet, the technology industry which pays little attention to user security, especially youth and children, inadequate regulations and the absence of a supervisory committee that actively promotes internet security.

A systematic literature review on security awareness for children, states that there are studies on the

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effectiveness of interactive gamification approaches\textsuperscript{12} and that parents and their children together negotiate the process at home and use various strategies to face cyber security threats and manage cyber security within the household\textsuperscript{13}. When children have negative experiences online, they mostly talk to parents or friends, and rarely tell teachers or professionals who are on duty to help them\textsuperscript{14}. Therefore, the role of parents is very important in dealing with this cyber security issue.

There are some basic practices to create a safe online environment for families such as: (1) Keep the use of computers and devices in the living room open so that you can monitor the children’s online activity and ensure that it does not interfere with their sleep or study time; (2) Set the browser to safe search mode; (3) Download and set up a monitoring application; (4) Set personal social media settings; (5) Set a time limit for Internet use; (6) Installing antivirus software; and (7) Educate your children to keep their passwords secret from strangers\textsuperscript{15}.

Guidelines for parents and educators on Child Online Protection by International Telecommunication Union\textsuperscript{16}, state that the guidelines for parents and educators serve as

\textsuperscript{16} Guidelines for Parents and Educators on Child Online Protection.
a practical tool to help them to effectively support children and young people's interaction with the online world, to awaken the families to the potential risks and threats and at the same time to help cultivate a healthy and empowering online environment at home and in the classroom.

There are a variety of applications (apps), animation and video games are developed individually to provide guidance for cyber ethics. Through a keyword search in English on Google Play there are hundreds of apps for the words “parental control apps” as shown in Figure 1.

![Parental control apps in Google Play Store](image)

Figure 1: Parental control apps in Google Play Store
Figure 2 shows search display on YouTube for the word “parental control apps”:

![YouTube search display](image)

Figure 2: Searching on YouTube Keywords search display in English for the word “parental control apps”

**Children Psychology**

Aspects to be considered in the development of children are physical, intellectual, emotional and spiritual. Physically, materialism and worldliness are the basic need in life such as shelter, food, drink and clothing. The claim of this nature is the aspect that allows children to live comfortably. Whereas spirituality, divinity and thereafter are the needs that referring to the food for the heart. The needs for these aspects are to be claimed starting from childhood. Exposure to recognize Allah and religion prevents the child from feeling lost and emptiness in their hearts. Claims of this nature will result in a sense of calm and secure in parental love and compassion overflow of the Creator. The two nature discussed are expressed as the inner potential of children. In general, children’s potential are grouped into several aspects, which is known as the intellectual, spiritual, emotional, physical and social. All these aspects need to be developed and in line with the children’s needs.
Monitoring the balance can produce children who are potentially balanced.\textsuperscript{17}

**Solat for Children**

Young children are not required to perform *solat* until they reached puberty. However, parents or guardians must teach *salat* to the children so that they use to it. The Messenger of Allah (PBUH), said, “Teach your children to pray when they are seven years old, and smack them (lightly) if they do not pray when they are 10 years old, and separate them in their beds”\textsuperscript{18}. The smack in the Hadith means that it should be done for the purpose of discipline and teaching. Children who *mumayyiz* (preschoolers are classified in this category) can perform acts of worship including the right to worship God and was recognized but children are not obliged to do so. The child *salat* is legitimate and is able to express the faith to Allah\textsuperscript{19}.

**Spiritual and Moral Development**

Strong spiritual and moral values and positive attitudes of children must be nurtured continually. Thus, the teaching and learning process has to be carried out based on the principle that emphasizes the needs for children to develop noble values at their early age, which ultimately help them to develop into highly sociable and responsible individuals. In particular, they need to learn the acceptable social norms and the proper communication style as a tool for moral development and self-expression. Hence, the teaching and learning of morals at the elementary level should focus on enriching students’ vocabulary and honing their spoken

\textsuperscript{17} Nor Azah Abdul Aziz et al., *Pembangunan Perisian Multimedia untuk Kanak-kanak Pra Sekolah* (Kuala Nerus: UniSZA, 2021), 30-35.


\textsuperscript{19} Huzaemah Tahido Yanggo, *Didik Anak Gaya Rasulullah* (Selangor: PTS Millennia Sdn Bhd, 2011), 12-17.
language that are morally correct, which can help them develop strong morals.

As such, teaching and learning activities should include problem solving, selections of alternative solutions, and feasibility study that help expose children to socially acceptable behaviors, which have to observe in their daily lives. Effectively, such activities provide students the tool for moral reasoning that can help them develop and nurture noble social values, with which they can harmoniously live in a society. In addition, such values can guide them to behave in morally upright ways, not in ways that merely conform to vague and continually changing codes of behaviors.

**Play games**

Play games is not only a fun activity that carried out spontaneously by the children but it also contributes to the psychological development of children. Children are always curious and wanted to explore something new in their lives. Encouragement to learn while playing can be practiced when teachers or parents are using technology that children themselves feel comfortable with, therefore they can be encouraged to learn through play.

Emotional development encompasses the identification and management of emotions, the attainment of positive emotions, positive self-concept, communication skills, and social skills. Through games, children learn the social rules on how to interact with their friends. Likewise,

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through social interactions, they learn on how to control and express their emotions. They can also learn to confront and resolve conflicts with other children and seek appropriate solutions. As prescribed in the preschool curriculum, identifying students’ emotions can be carried out in certain activities that allow students to reveal their feelings, such as sadness, happiness, fear, or surprises. Eventually, after prolonged exposure to such activities, they will be able to not only control their emotions but also identify their friends’ emotions.

Children learn from the behavior or actions. Children must always be allowed to use the computer not as a reward when completing a task or for practising a good behavior but must involve actual tasks to be performed by children. Computer technology allow cooperative learning strategies implemented effectively and to encourage children to learn in small groups or with peer, aimed at building teamwork and learning together with friends in a classroom. Children feel that the technology supporting them accordingly when technology provides opportunities for them to control, no matter how small the physical interaction\(^23\).

**Islamic Spiritual Psychology**

Islam discusses the structure of human personality with the elements that exist in human beings. Humans in the Qur’an with the names of *bashar* and *insan*. *Bashar* contains physical and animal meanings while human beings contain psychological meanings that have a habit of friendliness, forgetfulness and turmoil. The psychological state described by Allah Almighty in the Qur’an among them is hard and rough heart\(^24\), a sinful heart\(^25\), a negligent heart\(^26\),


\(^24\) Al-Imran (3):159

\(^25\) Al-Baqarah (2):283

\(^26\) Al-Anbiya’ (21):3
a shaken heart\(^{27}\), a very fearful heart\(^{28}\), a heart that accepts God’s guidance\(^{29}\), a repentant heart\(^{30}\), a heart that inclined to goodness\(^{31}\), a pure heart\(^{32}\), a pious heart\(^{33}\) and so on. The heart discussed by al-Ghazali\(^{34}\) has a subtle meaning (latifah), divinity (rabbaniyyah) and spirituality (ruhaniyyah). It is this heart that functions to feel, know and recognize and this heart is also the target of all God's commands and prohibitions, which will be tortured, criticized and demanded for all his deeds.

Islamic spiritual psychology and mental health have a close relationship with the human psyche, morality and happiness. This Islamic spiritual psychology is based on the Qur’an and Hadith. According to Seyyed Hossein Nasr, in-depth studies of Islamic philosophy over 1200 years show the role of the Qur’an and Hadith in the formulation, disclosure and problems in Islamic philosophy\(^{35}\). All Islamic philosophers start from al-Kindi and onwards have knowledge of the Qur’an and Hadith and live with it. Al-Qur’an is maw’izah and shifa’ for the soul which is the cure for all diseases of the heart as the words of Allah Almighty\(^{36}\):

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\text{يَٰٓأَيُّهَا ٱلنَّاسُ قَدۡ جَآَٰءَتۡكُم مَّوۡعِظَةٞ مِّن رَّبِّكُمۡ وَشِفَآَٰٓءٞ لِّمَآ فِي ٱلصُّدُورِ وَهُدٗى وَرَحۡمَةٞ لِّلۡمُؤۡمِنِينَ}
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\(27\) Al-Nur (24):37
\(28\) Al-Nazi’at (79):8
\(29\) Al-Taghabun (64):11
\(30\) Qaf (50):33
\(31\) Al-Tahirim (66):4
\(32\) Al-Syu’ara (26):89
\(33\) Al-Haj (22):32
\(34\) Abu Hamid Muhammad bin Muhammad al-Ghazali, \textit{Ihya’ Ulum al-Din} 3 (Beirut: Dar al-Ma’rifah, 1982), 4-5.
Translation: “O mankind! There hath come to you a direction from your Lord and a healing for the diseases in your hearts, and those who believe, a guidance and a mercy.” Yunus (10): 57

Islamic spiritual psychology can be seen in the four dimensions of the living human self, namely physical, biological, psychological, sociocultural and spiritual. Islamic spiritual psychology is also a solution to the problems of the human soul and mind that are spiritual in nature by knowing oneself, worshiping or praying to Allah and the formation of morals based on the Qur’an and Hadith37.

At the First World Conference on Muslim Education held in Mecca in 1977, emphasizes the balanced growth of human personality through human spiritual practice, intellectual, self rationality, feelings and body senses. Education should cover individually and collectively of all aspects of human growth that are spiritual, intellectual, imaginative, physical, science and language and also motivating to all aspects of well-being and achievement of perfection. The main goal of Islamic education is subject to the realization of the application perfectly to Allah in individual level, society level and all mankind. Consciousness has a comprehensive approach in the field of education has become a major concern to the Malaysian education system 38, stated in the Malaysia National Philosophy of Education39:

“Education in Malaysia is an on-going effort towards further developing the potential of individuals in holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious, based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable, competent, who possess high moral standards, and who are responsible and capable to contribute to the harmony and betterment of the family, the society and the nation at large”.

Based on the principles outlined previously by the conference in Mecca in 1977 and Malaysia National Philosophy of Education, therefore children education should be injected with spiritual element to get the balance in the development of children.

**Methodology**
The methodology of this study are through qualitative interview. A qualitative interview is a research approach used in qualitative studies where more personal interaction is required and detailed data is gathered from the participant. Respondents (32 parents) who participated in this study are particularly important because of their experiences that can be shared to the society, the country and the world in addressing cyber issues among children. The study was conducted through interviews using telephone lines by purposive sampling where only parents

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with children 12 years and below were selected around Perak and Selangor in Malaysia.

The interview procedure for 32 parents was conducted for 15 minutes via telephone to avoid the risk of stress for parents. If there were many issues or ideas expressed by the parents, the researchers gave them space to tell stories or their experiences but no more than 30 minutes. No audio or video recordings were made. Researchers have prepared a list of questions and have wrote the interview results down as a record of study findings.

Each respondent was informed of the confidentiality of data and names in interviews conducted over the telephone line. The respondent’s name is placed as the Respondent code 1-32. The respondent’s phone number is stored in the researcher’s phone and will be erased when the research is completed.

The parents were asked about their experiences with their children in the use of computers, mobile phones, internet, games, apps and cyber issues. Respondents were also asked about recommendations to address cyber issues that could be used by parents, schools and the government. The interview is on an open-ended question basis. However, the researcher will ask the parents to give ideas such as what games or applications are often used by their children if the parents have no idea to narrate their experiences.

**Research Findings and Discussion**
The results of the study found that 100% of 32 parents allowed and provided devices for children starting from the Covid-19 pandemic session in 2019 for the purpose of Teaching and Learning at Home (PdPR). Outside of PdPR hours, children are given freedom to use the apps or play online games while being monitored by the parents. This shows the flexibility of parents to their children in using phones and computers at home. It has been suggested by

Marie Danet\textsuperscript{41} to create a healthy family media plan with each member of the family, for the purpose of helping parents dealing with siblings’ age differences in managing screen time.

The results of the study also found that 75\% of their children play Roblox games. Children also watch YouTube and Roblox video games, play Minecraft, Mobile Legend and other games online. 12\% of parents also stated that their children excelled or improved their English while playing Roblox games. This is because their children can play and communicate with international players and always watch Roblox game videos that provides explanations in English.

21.9\% of 32 parents placed a computer or television in the living room, open space or in the middle of the house. This is intended to monitor children by seeing what they are doing or watching. Younger children watching YouTube on the television screen. Parents monitor the history list on the browser or on games played by children such as Roblox and ask their children to indicate in advance which game, app or any website they want to access.

The majority of parents ask their children to hand over their phones and go to bed at 10.00 pm to 11.00. In this study it have been found that parents give conditions to their children before their children are allowed to play games or use any application on the computer or phone such as: children will be ensured to complete school work, bathe, pray and do routine tasks before being allowed to play, cannot play or open any inappropriate applications and the position of the child must be next to the mother or father when playing games. In terms of the selection of games and apps, children are influenced by siblings, friends and teachers.

Playing internet games is not only a fun activity carried out spontaneously by children but it also contributes to children's psychological development. Children are always curious and want to explore something new in their life. Encouraging learning while playing can be practiced when teachers or parents use technology that children feel comfortable with, thus they can be encouraged to learn through playing.

Gadget-free methods implemented by parents in this study include, children interacting with parents and doing physical activities every evening, fathers taking children to the mosque for prayer and outdoor activities such as cycling and children having friends who play physically from the neighborhood.

The use of digital devices excessively can cause 'Digital Eye Syndrome (DES)’. Signs of DES include blurred vision, tension/fatigue eyes, eyes become dry or redness and headache. Among the tips for reduce the impact of use digital devices on vision is:

1. Practice the 20-20-20 rule: After the use of digital devices for 20 minutes, rest for 20 minutes for a moment by looking as far as 20 feet.
2. Blinks frequently while using digital devices to prevent dry eyes.
3. Maintain visibility with digital device not less than 18 inches for children.
4. Ensure the child’s vision level with an initial examination.

According to Rizky, parenting style contributes to gadget addiction and parents should adopt an authoritative parenting style that can make children no longer depends

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42 Nor Azah, *Pembangunan Perisian Multimedia*, 50.
43 Nor Azah, “Aplikasi Skrin Sesentuh iPad.”
44 Cybersafe Parenting: Ke Arah Kesejahteraan Siber.
Parents interviewed in this study suggested that all parents should advise their children about cyber etiquette as shown in Table 1:

<table>
<thead>
<tr>
<th><strong>Element</strong></th>
<th><strong>What parents should do</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Children language</td>
<td>Parents need to use children's language when communicating with children to implement internet etiquette</td>
</tr>
<tr>
<td>Child development and interest</td>
<td>Parents also need to understand their children's development and interests</td>
</tr>
<tr>
<td>Reward from God (Allah)</td>
<td>Parents must advise their children that whatever we do in the world will be rewarded by Allah.</td>
</tr>
<tr>
<td>Child self-awareness</td>
<td>The concept of children’s self-awareness is important because parents cannot constantly monitor.</td>
</tr>
</tbody>
</table>

80% of parents suggested that school should provide education on cyber ethics to parents and children in schools so that there is awareness about cyber ethics.

Parents also suggested to governments such as MCMC to scrutinize websites that need to be censored in Malaysia and personal data should not be misused by those who commit crimes such as scammer and pornography and this can be identified by telecommunication companies.

The government needs to take proactive action such as making restrictions on games like Mobile Legend that causes children to change their behavior and like to sit at home and do not want to socialize. There is a lot of advice

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that parents give to children especially about the type of games that children play, reminding children of religion and Allah's commands and prohibitions, and also taking care of children's safety and health when children are playing internet games. There are also important issues raised by parents about children’s safety when playing games such as abusive words, bullying, game addiction and pornography.

**Conclusion**

The findings of this study are crucial as a guide to parents in monitoring the safety of children from threats found in the cyber world. The method of parental monitoring, whether technically in the setting section of each browser and games used or in the form of advice to children, is crucial. Cyber ethics education for parents and children is necessary so that there is awareness about cyber ethics in addition to the government’s role to strengthen the censorship system against games and any application that poses a threat to children. Parents’ advice to children from an Islamic point of view coincides with the Islamic Psychospiritual method stated in the literature review section can be developed further to produce a module that can be used by parents in advising children about cyber ethics which greatly requires mental strength and faith.

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