Educational Game Design Sex for Early Childhood Based Android application to Prevent Sexual Harassment and Bullying in Children

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Info Articles	Abstract
	Sex education is effort teaching , awareness , and giving information about problem sexual . The information provided includes _ knowledge about reproductive organ function with instill morals, ethics , commitment , religion so as not to happen abuse of reproductive organs the . Knowledge about sex in children can prevent happening deviation sex in children . Sex education in children can also prevent children _ No become a victim of abuse sexual , with provided knowledge about sex , they become understand which behaviors are included abuse sexual . Study This aim For produce android application in the form of educational games sex For child age early and Develop a guide use application as well as test effectiveness product . Study This belong in Research and Development (R&D), using steps _ _ following : Define, Design, Development , and Dissemination or abbreviated with 4D. Research results This form android application in form of educational games sex For child age early , or called " GmES " Educational Game Sex for Early Childhood . Has 4 main menus , namely : 1) Main page containing information about applications , 2) Educational videos containing song touch may and touch No yes , 3) Educational game containing part body touch may and may not can child lali - male and female , 4) Evaluation Menu question based quiz you can done with parents . _ kindly appearance and function showing good results , however _ Still need development next . Conclusion in This research is research to produce sex educational games for early childhood based Android application that contains 4 main menus namely : Home Page, Educational Videos , Game Touch Yes & No OK , evaluate with Parents . _ Educational Games Early Childhood Sex delivers _ education through video, train child through pictures and sound , evaluation with parents . Suggestions for next can developed more game forms interactive and interesting , as well can added appearance based on Augmented Reality.

INTRODUCTION

Every year case violence rampant sex _ happened in Indonesia experienced increase , even the victim is not only from adults _ but child age early . Tragically perpetrator violence sexual most from environment family or environment around child That are . If you look at the data from KEMENPPA, note 2020 case _ violence sexual reached 7,191 cases while in 2021 on the moon June there were 1,902 cases violence sexual to children and women . one _ possible effort _ done is through educational game development sex For prevent violence on children age early android based with smart apps. With give education sex through the game becomes one of the interesting and easy learning media understood by children age this .

Learning media used as tool no communication _ will Once free in the world of education . According to (Zaini & Dewi , 2017) learning media own other benefits viz can stimulate aspects development in children and for media child made as tool For play . With media , delivery information about education sex expected easy understood by children . Child is gifts given and entrusted by God Almighty _ _ The eternal One must guarded , built with Good with full love dear . Parent very needed by children because of parents is environment social First child and close in his daily life . So parents and children _ can do communication .

Sex education is effort give information related matters _ with tool sex , reproductive health , introduce (name and function) members body , understanding difference type gender , description behavior (relationships and intimacy) sex , as well knowledge about values and norms that exist in society related with gender (Nawita , 2013). Doctor obstetrics and gynecology specialist Boyke Dian Nugraha disclose various reason Why give education sex since early in children very important . In order to get protect child from abuse sexual (behavior sex free , pregnancy that is not wanted , abortion , rape until transmission disease sexual). Generally Indonesian people still looking at taboo, porn and reluctant For talk about about education sex in a manner open . For example when child No on purpose see scene kisses and hugs parent only close the child 's eyes or scold him without give explanation . In fact , some even think talk about sex The same with teach child relate sex . Whereas No so , of course education given sex _ in accordance age child .

Objective special study This is on the development of educational games sex For child age early based android application use prevent violence sexuality and bullying in children . Application will be tested for effectiveness and feasibility to be ready used society . Study This aligned with field focus or strategic plan study college high , where the university ivet that always Contributive , Innovative and Technopreneurship . Study This including in development technology For education.

Educational games is one _ the type of game used For give teaching / adding knowledge the user through a unique and interesting media . According to Putra (2016), games have functions and benefits positive for children , among other things , children know technology computer , lessons For follow directions and rules , practice solve problem and logic , train nerve motor and skills spatial , intertwine communication between children and parents moment play together , as well give entertainment . Educational games superior in a number of aspect If compared to with method learning conventional . one _ significant advantage _ is exists possible animation _ increase Power remember so that child can keep material lesson in longer time in comparison _ with method teaching conventional .

Educational Games is one _ the type of learning media designed in draft purposeful play _ For give knowledge , skills , dexterity and display in unique and attractive shape . _ Educational Game Media is a learning media that is arranged in form designed play _ For give experience education or experience Study presented to the players _ in a manner fun and is characteristic way _ educate (Abdullah, 2015:298)

Problem moral and character crisis is serious and ongoing conversation _ continuously . The Indonesian nation is in an extraordinary crisis of morals and character normal . A number of year even month final intense served How the destruction of the morale of children , began from abuse sexual , obscenity everywhere, even though fate nation This depend to them (Ridwan, 2016:95)

Sexual education child by age early in Indonesia still become taboo things to talk about . Frequent problems _ happen is materials education child age early during This not enough touch on education sex . Sexual education in children age early is education covering base _ introduction function parts _ _ the child 's body . Possible sex education _ delivered to children kindergarten and elementary school age introduction identity self and kind gender , relationship between male and female , reproductive organs and their functions , how guard health of the reproductive organs , as well Skills avoid self from violence sexual . Sexual education should given when child first time already start ask function anatomy body them .

Violence sexual No free from role family and school . School and family have not quite enough answer For help children in understand health the sexual . However with limitations access school , family precisely have role important in give education sex since early to his son . However in fact , parents Still need support and facilitation For have ability in give education sex to his son . Sexuality education must applied with right , started from easy learning _ especially formerly that is about introduction member body . Sexuality education should given to child since from early , with information that so you can make child understand ban " member which body does not can touched by others.

Learning process is activity planned For reach maximum results , so _ capable deliver to objective desired learning , therefore _ requires a creative and innovative learning process To use reach That all including give A educational game - based learning . as is known that the child is in age school early is something period the most important and fundamental beginning throughout range growth as well as development his life . Many concepts and facts have been found give explanation that most important period was in childhood , where at the time Still become children potential possessed by children _ will growing the fastest . Build education still child _ age early will capable give impact significant positive _ form values honesty , responsibility answer each other appreciate and still Lots again , where later dependency child on technology No will again over.

Application is a computer program created _ For do and carry out task special from user . Android is a Mobile OS (Operating System) that is currently developing . Androids are A system operation For based mobile device linux that includes system operations , middleware, and applications . Android provides an open platform for developers _ For make application they alone . Development technology in today's all - round era sophisticated , necessary utilized For give constructive education _ development child at age early , like case For build intelligence child become more Good again . Refers to growth child age early to teenager even until adults nowadays , where _ rampant teenagers in today 's level his mischief Can said too much, p This proven with rampant child addicted youth _ to narcotics from every the year increase , tauran youth , violence between youth and abuse neither sexual _ Can avoided again . Need exists application technology information and communication available _ prevent abuse sex in children age early .

Relevant Research _

Research Conducted by Pangesti , NA, & Wahidin, W. (2021) with title Application of Sex Education Parenting as Anticipatory Guidance of Violence Sexuality in Children during the Pandemic . About Anticipatory guidance is form from guidance provided _ for parents _ as anticipation happening violence sexual . However , the problem parents in Indonesia consider education sex become taboo and yet proper be delivered to children , as well as parents feel No Ready For teach education sexuality . it _ on make reason that importance Sex Education Parenting

application as instruction for parents _ in give education sex to children so that increase parental protection _ to action violence sex in children .

Research conducted by Ratnasari , RF, & Alias, M. (2016) regarding Importance education sex For child age early . Conclude that Knowledge about sex in children can prevent happening deviation sex in children . Sex education in children can also prevent children _ No become a victim of abuse sexual , with provided knowledge about sex , they become understand which behaviors are included abuse sexual . Next , knowledge about sex too _ prevent children dabble the things it should be Not yet can they do Because his ignorance .

Research conducted by Elvira Devina Neysa Fidela (2015) entitled Application Education Sexology Against Android - Based Early Childhood Studies The case of the Yogyakarta Child Protection Agency with Conclusion : Application Education Sexology Against Android - Based Early Childhood _ can used as a medium for get information about education sexology with fast and practical . Can used For child age early and also parents . Application This capable provide automatic update features and features search on the terms menu .

Research conducted by Kartikasari , M. , Alfianti Oktavia , C., & Maulidi , R. (2018) entitled Educational Game Effectiveness As Socialization Media For Early Childhood with _ results Delivered outreach _ in form of game media education . Game education provided _ contain content education Where interaction process occurs between child , parent as well as teachers or other people in something environment For help child in catch the message conveyed in game . Before starting the game level , the player will get material about possible socialization _ support understanding child about anti- harassment sexual Tests performed _ based on testing game functionality , content educative on games as well testing the impact of games on respondent . [8]

Research conducted _ Chaulina Alfianti , O., & Rakhmad , M. (2018) with title Development Game Education Use Fuzzy Logic For Early Childhood . With results planning rules of the game and scenarios in the educational game "I Can" using Sugeno's fuzzy logic made in a number of stages namely : analysis requirements , design and implementation , and testing . Based on results platform testing shows that games can be walk with minimum android version 4.2. Testing testing game components suitability of the output generated by the game components it consists of from buttons , logos and icons in the educational game "I Can".

Research conducted by Rimawati , E., Nugraheni , SA. (2019) entitled Sex Education Methods Early Age in Indonesia with Conclusion : Method education sex age done early _ Still conventional in form modules , activities counseling Not yet in a manner maximum use technology and digital media. However thus the interactive model has done with using game media . Target education sex too _ addressed to parents , teachers and children age early . In the current digital era This need developed learning media sex with more ways _ interesting , full fantasy , interactive with utilise development technology information .

Framework Theory

Learning media consists from various type such as learning videos , power points, tools props , games , etc. Games are often played child as entertainment and fun For obtain satisfaction . Development rapid technology _ make children often playing gadgets makes parents and educators _ responsible answer as well as direct child in choosing games (Erfan , M. et al., 2020). There are many once game often played one of them is educational games as a game for entertainment and teaching in field education , educational game can make it easy child in catch and remember submitted material _ when children learn . This is in line with (Purnomo, II, 2020) Educational games is game designed in a manner special as a learning medium For convey material through sound , text , images , videos and animations done with play while Study with easy . educational games can used in give teaching For interesting and create child like when learnme

Sex education is education For introduce type sex , care member body , guard cleanliness as well as protect self Alone from other people (Rahmawati , R., 2020). According to (Muhammad et al., 2020) one given knowledge _ For stimulate child since early is education sexual For make child individual who can keep and protect self from various threats and deeds despicable . (Marlina , S. & & Pransiska , R., 2018) stated that teaching education sex on children No teach about connection gender , but more to direction development sex like functions body , take care body , part body that can touched and part body that doesn't can touched by someone else. Based on description on can concluded that gift stimulation understanding education sex is effort give defense as well as not quite enough answer to child For guard yourself to avoid from violence sexual especially in introduction type gender , member the body and its functions , ways nurse member body as well as Who that 's okay touch member body us . this _ reinforced by (Pramitasari & & Ningrum , MA, 2018) that every child own not quite enough answer to himself to part member body we can _ touched and part body that doesn't can touched by other people except parents (mother) and doctors . In research (Sulistiyowati et al., 2018) proves that enhancement knowledge child about understanding education sex at age preschool after given stimulation about education sex as stock beginning give defense self to child

Age child early is children aged 0-6 years . _ At this time child currently experienced a process of growth and development rapidly in lifetime _ next , so child ages 0-6 years often called the golden age (golden age) because child always do activity unique and exploring activity _ every activity he saw (Pramitasari & & Ningrum , MA, 2018). Curiosity _ child about what did he see cause child often do thing they are want to know without think about the risk that happened to him . According to Montesori in (Sarasati , TP & Cahyati , N., 2020) children always try matter just saw it and was happy very when learn . Son of one asset valuable in successor generation nation in the future future , son No can develop in a manner Alone but with guidance environment closest they like environment family , school as well as public

Progress increasingly technology _ rapidly make child more easy access thing they are want to know through internet network with easy , p This impact positive but also exists impact negative If abused . Height case violence frequent sex _ experienced by children age early , got seen commission data _ protection child that number violence sex in Indonesia still increase tall in 3 years final this . In 2018 figures _ violence sexual there were 181 children , in 2019 cases violence sexual there are 190 children became victims , while in 2020 there was a dramatic increase of 419 children who were victims of violence sexual . this _ cause field education become role main in stimulate understanding education sex on children because in today 's parents always taboo or _ No worthy For introduce education sex on children since early , they think that education sex is something connection introduced sex _ child moment enter age teenager . this _ reinforced by research (Susanti , AI , 2019) that parents must role For stimulate education sex since early , parents Still Confused in give education sex between children and youth as well as No know method give education sex on children . Though , it should given since child age early For avoid happening

Introduction material about education sex in field education be one _ effort prevent violence sexual behavior that occurs in children , teachers and parents must cooperate in introduce education sex (Yuniarni , 2022). Sex education given child as early as Possible especially in level education child age early , based on regulation Constitution number 20 of 2003 concerning Article 1 paragraph 14 of the National Education system states that education child age early is something effort in gift indicated construction _ from child born until age six year , done with gift stimulation as well as stimulation education to help the process of growth and development from physically and spiritually to have preparation and maturity as well as Skills For stage obtain more education _ high (Khotimah , 2020) with introduction education sex can stimulate child in guard self as well as anticipate happening violence sexual

Application is a computer program created _ For do and carry out task special from user . Android is a Mobile OS (Operating System) that is currently developing . Androids are A system operation For based mobile device linux that includes system operations , middleware, and applications . Android provides an open platform for developers _ For make application they alone .

Androids are A system operations on cellphones that are open and based on the Linux operating system . Androids can used by anyone who wants use it on the device them . Android provides an open platform for developers _ For create application they himself will _ used For various device move . programming Android- based smartphone and tablet PC mobile applications .

one _ the right media type in the manufacturing process teaching materials namely Google Sites app . Device soft dynamic is mediayang can give opportunity for teachers to improve their abilities . Learning media that provide opportunity for teachers to manipulate object , got increase teacher understanding . this _ in accordance with that raised by Piaget (Piaget & Barbel, 2010) which states that knowledge formed somebody through interaction with experience to object . this _ in line with Romlah (2010) stated that important hook life experience real child with mathematical ideas in learning in the classroom so that teachers learn with meaningful (Aminah et al., 2021).

Appsgeyser is a site that can accessed free on the internet and can support making application online . Appsgeyser is one of the application sites that can accessed for free. Although it 's free appsgeyser own Lots advantages , among si maker application can choose Alone appearance from application to be made Good from facet colors , images , models, and emblem . Besides That from facet content can too free choose want to include videos, images , text, calculators , space discussion and still Lots again . With excess That so apssgeyer very suitable For used make something application learning , because can offer various type variations and creations in accordance wants as well as needs si user . (Yushtika Muliana & Pubian Herpratiw 2022).

METHOD

Refers to the goal research , method research used _ is R&D (Research and Development). Borg & Gall in Sugiyono (2015) states that , research and development . (research and development) is method research used _ For develop or validate the products used _ _ in education and learning . Whereas according to Sugiyono (2015) research method development (research and development) is method research used _ For produce product specific , and test effectiveness product the .

Research procedures are steps that become stages in research activities. The procedure in this study uses the Thiagarajan (1974) procedure in Sugiyono (2015: 37-38) which suggests that the research and development steps are *Define, Design, Development* , and *Dissemination* or abbreviated as 4D. The steps of this research are described as follows:
a. *Define* , contains activities to determine what product will be developed, along with its specifications. This stage is a needs analysis activity, which is carried out through research and literature studies.
b. *Design* (Design), contains activities to create a design for a predetermined product to determine the process and data required by the new system, accompanied by logical and creative thinking through several stages of visualization embodied in form sheet Work through identification of problems, analysis and efforts of several alternative solutions to problems that are effective and limited by certain things, thereby achieving maximum results.
c. *Development* (Development), contains the activities of making a design into a product and testing the validity of the product repeatedly until a product is produced according to the

specifications set by a process that can be creating growth, progress, positive change or component additions.

d. *Dissemination* (Dissemination), contains the activities of disseminating products that have been tested for use by others aimed at target groups or individuals so that they obtain information, raise awareness, receive and finally utilize the information.

The research procedure is adjusted to the needs of the research so that the stages are as follows:

1. Studies Literature and Studies Field

At stage This researcher do studies literature analysis theoretical This researcher study various literature , journal research , reports research , books , and other related information with topic study , namely : Educational Games Sex in Early Childhood and Purposeful Android Applications describe results research that has conducted in Indonesia concerned method education sex child age early . do study theory , results study before , result studies preface , next arranged Educational Game development Sex for Early Childhood based _ android application .

2. Designing Educational Game Application

Designing Educational Games Sex - based Early Childhood android application , Arranging parts - parts main in application . Determine part page main , educational video section touch yes , educational game menu part body child men and women , Compile evaluations that can _ done with parents . _

3. Expert Validation and Refinement Product

At stage This results design Educational Game android application Sex is validated by experts For obtain input To use repairs and improvements product . Validation covers in a manner display , function application as well as convenience in usage . Repair design to be more easy used child age early and make it easier for parents in guide use application .

4. Final Product Results

At stage This product so Educational Games Sex - based Early Childhood Android application already done validation and development , next can done publication to Mr. Mrs. Early Childhood Teacher , Parents child age early . Accompanied by ordinance _ use application For make it easy user .

RESULTS AND DISCUSSION

RESULTS

The results of this study are sex education games for early childhood based on Android applications. Making design beginning using the google site , compiling menus, input the features needed . After all component enter then publish . order display can become application android , we used the site Apps Geyser then make as application android . The application download menu will appear , you can via QR scan, URL address as well direct save on Computer in format. Apk .
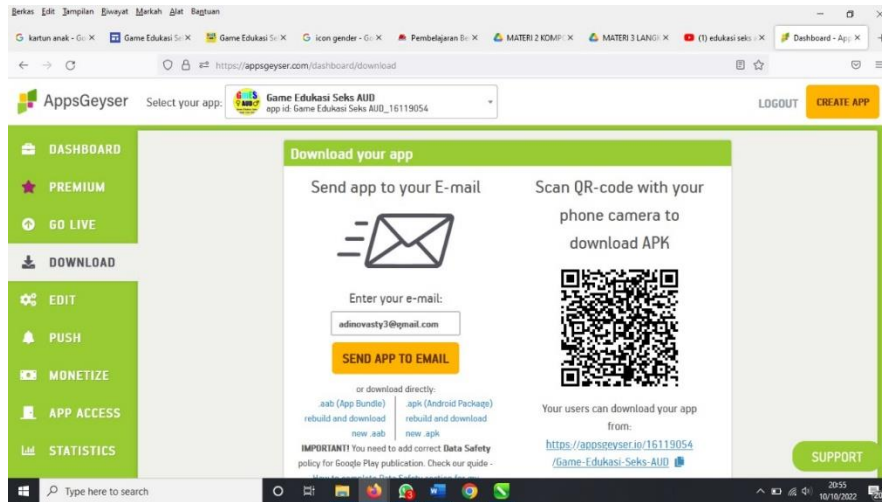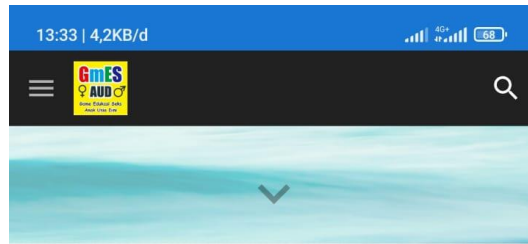
Image Display Download the Application and Scan the QR Code

The application that has been downloaded on the Android Smartphone, then install the application , do it setup allow access from source outside the Play Store. Follow channel the process until application succeed installed .

Game ini bertujuan untuk memberikan Edukasi Seks Anak Usia Dini, terutama mengenal bagian tubuh yang boleh disentuh dan yang tidak boleh di sentuh orang lain
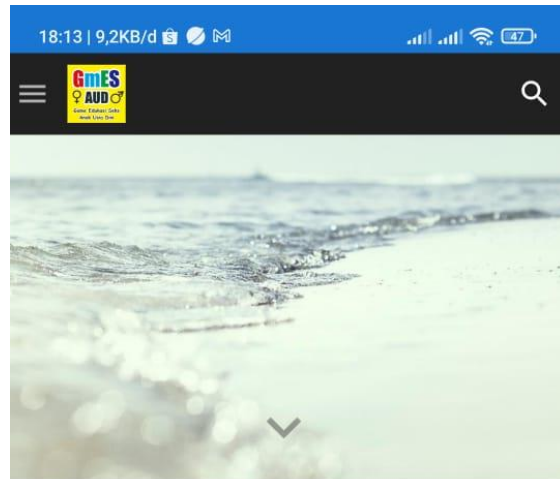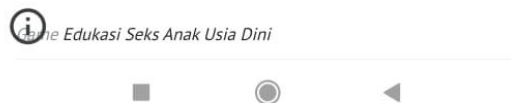

Game Edukasi Seks Anak Usia Dini

Main Page Display Image

After application succeed installed , open application will appear appearance page main , contains information main educational game application sex . Then enter to menu page and select the educational video menu .

Educational Video Display Image

Educational videos integrated with YouTube so can played immediately , can be paused or turn repeat . Furthermore enter to the educational games menu . will appear appearance like following :
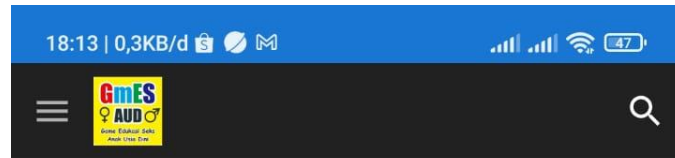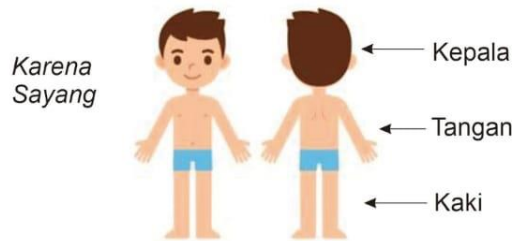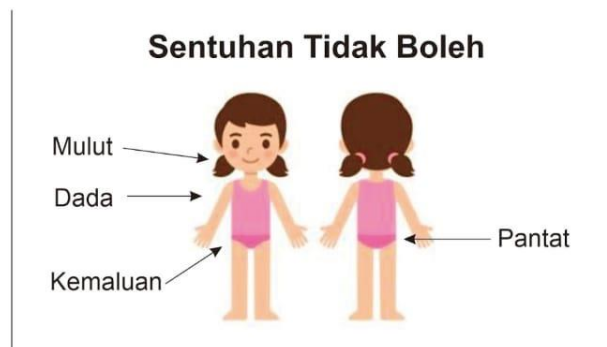
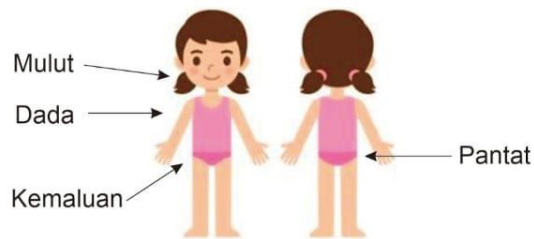Display Image Touch May and Touch No Can

On this menu will appear parts _ _ body that can touched and the part that is not can touched by others. Furthermore enter to the evaluation menu , will be appear appearance like following :

Evaluation Menu Display Picture

Evaluation Menu Display containing Google Form integrated online forms as quiz , where There is stuffing identity , choice double and pop score after charging For know level understanding about education sex child age early .

DISCUSSION

The analysis carried out , with the more development era , the role of digital media and technology very useful for education child at age early . Where is the perception of parents to digital media and technology more positive . (Parent relationship _ with positive child _ during childhood _ influential to development positive throughout life child . On the other hand , children who have

connection negative with parents _ they often experience various problems _ including performance low academic , relationship _ social negative and delinquent . Sexual education for child have role important in health reproduction and health they in a manner whole . Parents and school _ need cooperate in share not quite enough answer . A number of influential factor _ to behavior sex and educational programs sexual including the values that apply in the family , parental relationships , the environment society and still lack of information and knowledge about sex .

Age early identical with play , besides That play is default culture humans and children . Benefit play for child age early Lots variety . Besides it , play can motivate and improve growth cognitive and socio-emotional children , and by Ginsburg described that play very important For development aspect cognitive , physical , social and emotional . Consequently , play must be the basic pillar in education and development child .

as stated in the formula and objectives research at the beginning , research This focused on implementation sex education learning through Gmes AUD in children age which was carried out on two sub- themes i.e. " touch" . No may " and " touch may ".

Application logo Andorid

Android Application Logo

Game Logo This Early Childhood Sex _ own attractive color and design _ attention child so that can used as the main icon . Symbolically already _ showing about education sex child age early .
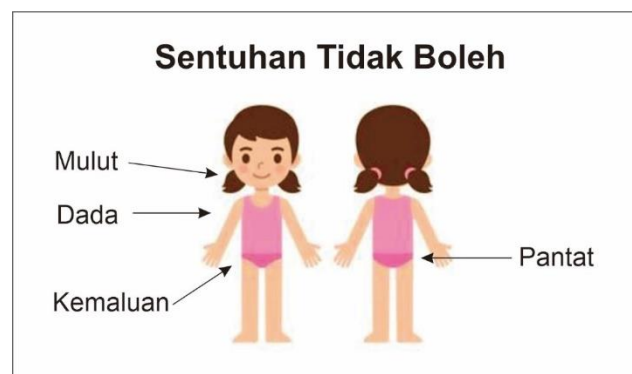
Sub Menu " Touch No may "

Table Touch No Can

Sub menu " touch No may " teach child that There is part body that doesn't can held by someone else. Covers Mouth , chest, genitals and buttocks .
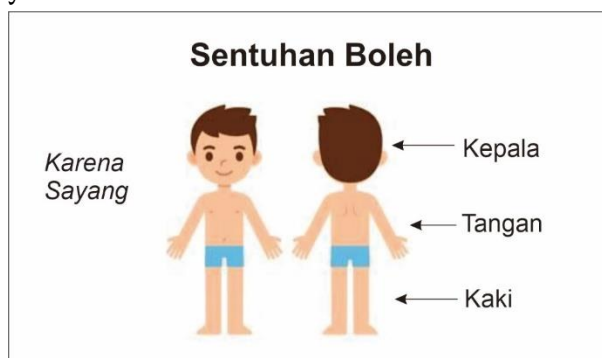
Sub Menu " Touch may "

Table Touch can

Sub menu " touch may " teach child part body that can touched by others, like Head , Hands and Feet. kindly more clear can seen in the following table :

Body Parts	Touch	Information
Head	Can	Can touched Because Darling
Hand	Can	Can touched Because Darling
Foot	Can	Can touched Because Darling
Mouth	No Can	Only self yourself , parents or the examining doctor
Chest	No Can	Only self yourself , parents or the examining doctor
Genitals	No Can	Only self yourself , parents or the examining doctor
Butt	No Can	Only self yourself , parents or the examining doctor

Validation Educational Game Application Early Childhood Sex _

Part	Input
Main Page Display	Give information related application
Educational Video Menu	Displays the music video of the song touch may be connected to YouTube
Educational Game Menu	Showing part body child boys and girls _ _ as well as possible explanation _ touched or not may .
Evaluation Menu	Showing guide use and appear question evaluation based connected quiz _ to Google Forms
Appearance kindly Whole	Give appearance interesting For user especially child age early
Overall Game Functions	It works with Good in accordance with the main menus , necessary development in the educational game menu section so that it is more interactive and tiered give challenge for child .

CONCLUSION

The conclusion in this study is that research produces sex educational games for early childhood based Android application that contains 4 main menus namely : Home Page, Educational Videos , Game Touch Yes & No OK , evaluate with Parents . _ Educational Games Early Childhood Sex delivers _ education through video, train child through pictures and sound , evaluation with parents .

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