

# Parent's Interest Towards Developing Apps as a Tool for Student's Control in Physical Education and Support Communication with Teacher

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**Abstract.** This study was conducted to find out parent's interest in developing cellular-based application designs that make it easier for them to monitor their children's performance in school, especially in physical education. This study was conducted on parents, by paying attention to their experiences in using application products. The methods used in this study is a case study with descriptive qualitative research. The data has been analyzed through the stages: Data Collection, Data Reduction, Data Presentation, and data Verification. The results in this study are the responses of the parents regarding the application designed to control student performance in physical education based on test the number of percentage show 90,39% are strongly agree with this design. Based on these results, it can show that parents are very supportive of the development of a prototype or a model that is used to support the learning process of children in schools, especially in physical education, and they need it. The conclusion is that cellular-based apps can be an innovative medium to intervene in changes and students' abilities in physical education learning. Parents really need the development of apps-based technology to make it easier for them to supervise their children during the physical education learning. This research can be used as the basis information for further research to create or develop more mobile applications or web-based apps in physical education.

**Key words:** cellular-based apps, parents' interest, physical education, students' performance

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## INTRODUCTION

Parents' attitudes towards the development of technology and science play an important role in shaping children's aspirations. Parents must provide more support for their children so that they are able to compete in this era of globalization. Parental support will influence the educational development of their children (Halim, Abd Rahman, Zamri, & Mohtar, 2018). Teachers and parents need to realize that in essence the stimulation of physical literacy must start from the time the child is born and needs supervision from parents (Rihatno & Nuraini, 2021). In previous research, it was found that parents thought they were generally sufficient in communicating with students (Özkan Yıldız & Yılmaz, 2021).

Mobile technologies are one of the most popular things today. Various groups ranging from workers to students have used it (Domingo & Garganté, 2016). Today, information technology and various communication, ICT, have provided alternatives or new methods to collaborate parent-teacher communication. Parents can get information about their children's performance for example through school web pages, email, text messages and online chats (Oinas,

Vainikainen, & Hotulainen, 2017). The use of interactive technologies with accessible resources can help in developing online involvement of parents in function of their children in school (Blau & Hameiri, 2017). Parental involvement is correlated with student performance, though the causal relationship is less well established (Ziden, Rahman, & Ching, 2020). Recent research on young children and technology shows relationships that are sometimes positive, educational, and valuable, and negative, limiting, and threatening. A study result said utilize parental reports and observations to show that interactions with technology can support four main areas of learning: operational skills-based learning, broadening knowledge and understanding of the world, developing dispositions for learning, understanding the role of technology in everyday life (Cattivelli et al., 2020; Siregar, 2023).

What is needed is a systematic and holistic study specifically done to report families' and teachers' beliefs about the use of digital media for pedagogical communication to obtain a more comprehensive overview, because beliefs, bound up with personal experiences, emotional feelings, and intrinsic values and evaluations are considered prevailing determi-

nants of people's behaviour (Bordalba & Bochaca, 2019). Parent-teacher communications have been considered having an important effect on children's education. The education authorities devote to induce parents participating in the school management and build effective communication channels between parents and school teachers in many countries (Ihmeideh & Alkhalwaleh, 2017). Researchers suggested that students' academic performances and social competence are influenced positively by parent involvement and the effective communication between teachers and parents can significantly affect the education performances (Yushawu, 2020). Physical exercise is especially important for efficient mental work for a long time or under neuro-psychological stress, this activity is in physical education and certainly deserves to be one of the points that should not be separated from parental supervision (Kokun et al., 2018).

Parent involvement can be either reactive or proactive. Reactive involvement in schooling includes activities such as attending meetings, family activities, or volunteering. Proactive involvement in children's learning includes activities such as helping with homework, staying informed about school events, and following a child's progress (Librianty, Yufiarti & Yetti, 2021). Parental involvement in their children's learning not only improves a child morale, attitude, and academic achievement across all subject areas, but it is also promoted better behavior and social adjustment. Parental involvement means the participation of parents in regular, two-way, meaningful communication involving student academic learning and other school activities, including ensuring three main points such as: a) Parents play an integral role in assisting their child's learning; b) Parents are encouraged to be actively involved in their child's education at school; c) Parents are full partners in their child's education and are included, as appropriate, in decision making and on advisory committees to assist in the education of their child (Turner & Turner, 2018).

Mobile learning is a learning method where the learner is not fixed or in a predetermined place or takes advantage of learning opportunities offered by mobile technology. Mobile learning helps students about the development of learners' literacy and numeracy skills, taking help and support in the fields they need and the development of their ability to use information and communication technologies (Bello et al., 2017). In the social media space, expressing oneself in and through the creation and sharing of multimedia and audio-visual recordings is a common activity, especially among young people. This is one of the most likely reasons for including technology in

a learning activity (Leinonen, Keune, Veermans, & Toikkanen, 2016).

According to previous research, the relationship between technology and children is very close, even surveys have shown that based on parental observations of children's activities with technology, they see that it greatly affects children's skills and knowledge in various fields. The main purpose of this study is to find out how much interest parents have in the use and development of technology design in the form of mobile applications that can make it easier for parents to control their children's performance in physical education subjects at school. The scope of this research is how much interest the parents of students have in product development in the form of a mobile application that is used to see the performance of their children in physical education. How are parents' comments on the variety of mobile application-based technology development, and how far are parents interested in using it. The limitation of the problem in this study is shown through a list of 5 questions that lead the respondents in this case are parents to comment on how they are interested in the development of mobile application-based technology that is used to monitor their children's performance in physical education at school.

## METHODS

### Participants

The participant consist of 30 parents of students who are in primary and junior high school by random sampling, whos active in using smartphone technology by providing one prototype developing product link and questionnaire. all participants will filled some value and give evaluations, suggestions, and comments about their interest in using a mobile-based application to see their child's performance in physical education lessons at school using the form provided.

### Procedure

The instrument used in this research is a list of structured interview questions that are expected to be able to explore the responses and comments of parents regarding how much they are interested in developing mobile-based applications. In previous research can also use the TAM Theory. The Technology Acceptance Model (TAM) has been use numerous researchers to predict the acceptance of visitors towards the use of interactive technology in Information System (IS) studies. The consistency and validity of the TAM model are proven by many types of research in

various of discipline (Aziz, Harun, Baharom, & Kamaruddin, 2020).

The questionnaire through the Google form is used to collect data filled in by users or test subjects. This questionnaire is used to discuss the opinions of parents on the use of smartphones and the design of mobile applications to support physical education learning. Description are used to illustrate participants responses. Describing all the responses data done to explore the perspectives of parents on the mobile way applications that support student learning and the best ways to apply in practice. In this case, researcher use one of the prototype products which is the one of product research in previous study called "BESCOPER".

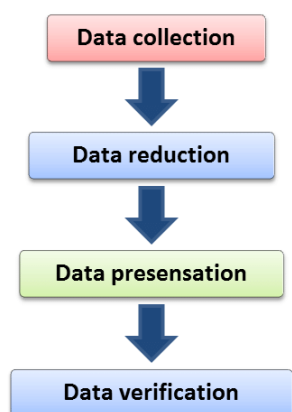


Figure 1. Stages for Data Analysis

Test was carried out by sending the prototype link to the participants and sending a google form link to get an assessment from the participants regarding the interesting and usefulness of the design that was made.

The following is a list of questions used in data collection:

*Question for parents:*

- 1) BESCOPER Apps helps to see children's learning outcomes.
- 2) BESCOPER Apps facilitate children's learning.
- 3) BESCOPER App helps communication with teachers.
- 4) Easy to use.
- 5) Interest in using BESCOPER Apps

Each question has a rating scale range from 1 - 5:

- 1: Strongly Disagree
- 2: Disagree
- 3: Neutral
- 4: Agree
- 5: Strongly Agree

In addition, participants were also given the opportunity to provide suggestions and comments.

**Data collection**

The data collection with all questionnaires containing 5 questions related to the design of a mobile application BESCOPER, using 30 parents. The following are the results:

**Table 1. Parents Responses**

Qst.	1/ (Strongly Disagree)	2/ (Disagree)	3/(Neutral)	4/(Agree)	5/(Strongly Agree)	Interpretes
Q1	0	0	1	11	18	91,33%
Q2	0	0	3	7	20	91.33%
Q3	0	0	1	11	18	91,33%
Q4	0	0	2	10	18	90,66%
Q5	0	0	4	11	15	87,33%

Based on the results, it can state as follows: Q1, 91,33% can be interpreted on "Strongly agree"; Q2, 91,33% can be interpreted on "Strongly agree"; Q3, 91,33% can be interpreted on "Strongly agree"; Q4, 90,66% can be interpreted on "Strongly agree"; Q5, 87,33% can be interpreted on "Strongly agree". Based on these results, it can be shown that parents are very interest in developing mobile application designs/ prototype.

**RESULTS AND DISCUSSION**

*The Effects of Young Children's Smartphone Use Experience on Their Parents' Perceptions and Needs and Their Self-Regulation:* by J. Kim, Young-Sik Kang: Published in ITCS 28 November 2015. The results of this study were as follows. First, young children are using a smart-phones at around the age of 25 months. Most of them are frequently using it for about 60 minutes once a week whenever they can. Second, most parents have high expectations for their perceptions and needs. They have high perceptions and expected needs for their young children's smartphone use. They have a high air of encouraging their young children to use it because they have higher expectations and needs for their young children than the demerits of its use. Third, young children's smartphone use experience don't have a big effect on their perceptions of emotional intelligence related to their self-regulation. Fourth, in the effect of parents' perceptions and needs for smartphone on their young children's self-regulation, their emotional expression and empathic ability have no effect on their young children's self-regulation. Their emotional control

reduced the demerits of their young children's smartphone use, and it has a little effect on their young children's inhibitory regulation. As for the results stated above, young children's smart-phone use is expanding to the age of 2. Especially, parents have high expected needs for encouraging their young children to use a smartphone early (Kim & Kang, 2016).

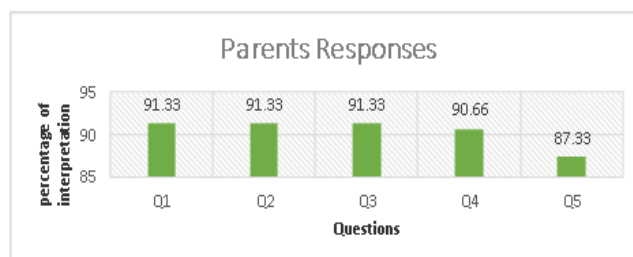
*Parents' Perception of the Presence of the Digital Technology Era Among Early Childhood:* by Muhammad Zaini 2019: The presence of the digital technology era among pre-school age children is a big challenge and a great concern more for parents, teachers, and the government in guiding them. Based on the results of the study, it shows that almost every early childhood is now familiar with digital technology, there are 42 out of 45 kindergarten children aged 4-6 years already playing smartphones and tablets. The main factor that causes the high level of gadget use in children rather, it is because parents lend their personal smartphones and tablets to their children. There are several reasons why parents allow their children to play smartphones and tablets in kindergarten aged 4-6 years, including: 1) smartphones and tablets as a means of introducing information technology and communication; 2) smartphones and tablets as educational media to broaden children's knowledge; and 3) smartphones and tablets as a means of entertainment so that children are not fussy and fussy. The reason that stated by parents is certainly aimed at the good of their children. However, without wise controls such as: the selection of educational applications, positive content, children's songs, children's stories, children's videos, educational games, time limits, supervision, and other appropriate portions for kindergarten children aged 4-6 years will have a negative impact on children's development (Zaini & Soenarto, 2019).

*Parents' Perceptions of Educational Apps Use for Kindergarten Children: Development and Validation of a New Instrument (PEAU-p) and Exploration of Parents' Profiles :* by Julie Vaiopoulou : MDPI 2021: The theoretical and practical implications derived from the findings of this study contribute to the relevant research field by providing early childhood researchers with both an enriched theoretical premise to interpret empirical data and a valid instrument to capture parents' perceptions, which probably change over time. Additionally, educational organizations might use the current findings to develop programs to inform parents about educational apps by preschool children, emphasizing the specific issues raised by each profile. This is especially important, as screen

time and technological devices have increased due to the demands of the current period of the COVID-19 pandemic, establishing new behaviors and habits for young children. Finally, parents, being aware that using developmentally appropriate technology at home promotes young children's early development and learning, should re-examine their decisions and choices based (Vaiopoulou, Papadakis, Sifaki, Stamovlasis, & Kalogiannakis, 2021).

*"Teachers' and parents' perceptions of the role of technology and digital media in developing child culture in the early years"* 2017 by Fathi Ihmeideh: The main purpose of this study was to examine the perceptions of preschool teachers and parents on the extent to which technology and digital media (TDM) contribute toward developing child culture in Jordanian early years education. A random sample of (170) preschool teachers and (310) parents of preschoolers participated in the study; 10 teachers and 15 parents were later interviewed. In order to achieve the aims of the study, the researchers developed a 26-item questionnaire covering seven aspects that measure the goals of child culture. Results revealed that teachers and parents considered the contribution of TDM to child culture as relatively high. However, there was a disagreement on the level of child culture aspects among study participants. Moreover, results of the independent t-test showed statistical differences between teachers' and parents' perceptions of the role that TDM plays in developing child culture as parents responded more positively to the contributions of TDM than teachers. Within the context of the findings of the study, implications are outlined for expanding the use of TDM in early years education (Ihmeideh & Alkhalwaldeh, 2017).

Based on the interperinterest showed on **Table 1**, it was found that there were changes in the response of user ratings of interesting towards the design became more visible.



**Figure 2.** Parents Responses

Based on these results, it can show that parents are very interested in the design in the form of a mobile-based application, in this case, for example, the

BESCOPER design is suitable and easy to use to control student performance in physical education in schools.

Parent-teacher communication about the child's functioning in the classroom with the teacher, this can put value on the teacher's knowledge and may have created a fairer working relationship between teacher and parents (White & Levers, 2017). Many previous studies have shown that collaboration between parents and teachers is important in promoting student well-being and academic achievement (Kuusimäki, Uusitalo-Malmivaara, & Tirri, 2019). Based on these previous result study, reseacher with 5 questions try to get information about parent interest toward developing mobile apps to support parent teacher communication also to control their children's performance during PE lesson at school.

**Question 1:** Generate responses related to how easy it is felt by parents to be able to see the learning goals that must be achieved by their children in physical education, in this part get percentage 91,33% based on likert scale and these results can be interpreted on the criteria of "strongly agree".

In this question: Suherman, a parent of grade10 students, he said: "I feel very helpful, and it is easier for me to see my child's development at school, especially in physical education".

The same statement was also expressed by Pujianto, a parent of grade10 students, he explained: "if many development designs like this were made, then I would be very happy, and it would be helpful for me to monitor my child at school in achieving his physical education learning".

Kurniasih as the student's guardian also conveyed her perception: "I find it helpful if many application designs such as BESCOPER are developed, because it really helps me in communicating with teachers, even though there is WhatsApp social media, but with the help of applications that specifically monitor student performance, it will be easier communicated and witnessed directly by my child, so that my evaluation with my child was easier". Good parent-teacher communication can be threatened, if parents do not know what material their children should learn at school (Oinas et al., 2017).

**Question 2:** The researcher tried to explore the response of parents' interest about the easy of accessing and seeing what material students had to learn at school, in this part get 91,33%, these results can be interpreted on the criteria of "strongly agree". Recent research shows how adolescents show higher motiva-

tion to practice PA because of the variables of competition, challenge, fun and well-being. there needs to be supervision from the parents of students (Lizandra, Valverde-Esteve, & García-Massó, 2020). In this case, parental supervision is required. Meanwhile, to supervise this, parents need to establish good communication with teachers at school, one of which is through the development of an application-based media called BESCOPER.

Susanto one of participants comments: "if there is an application development like this, I will be helped in helping my child to prepare for each learning material. because I also know what material my child needs to master, so I can help him".

Rukhayati, a parent of grade10 students, also said: "it would be very helpful for me if there was an application like this that showed what material my child should study at school. then I will always monitor the learning process just by opening the application, it seems very interesting and easy to use.

**Question 3:** How the development of media applications makes it easier for them to communicate with teachers at school. In this part, showed 91.33% answer in "strongly agree" criteria.

Irfandi in this question responded: although there are various social media applications, but if there is an application that specifically facilitates communication between teachers and parents in monitoring student performance, I personally find it helpful to see the teacher's evaluation for my child and I know what the material is and how the teacher comments on my child".

Siswanti as a parent who is busy as a trader in the market, also commented: "I find it helpful if there are many application design developments like this and real applications are actually made, because I need to see how the teacher assesses my child, and what the assessment criteria should be achieved by my child. so that in the midst of my busy life selling in the market, I can see how far my children are learning at school".

**Question 4:** is related to how an application development product is easy to use, so that parents' activities in monitoring their child's performance do not experience obstacles and are easy to access anytime and anywhere. This part get 90,66% of parents answer in "Strongly Agree" criteria.

Suryati commented: "the design of this BESCOPER-type application is easy to use, and if this is continued to make a real application, I will really support it, and for other teachers or educators, I

hope there will be more ideas like this because it really helps us in monitoring our children's learning activities at school"

Karnadi also said: "the development of an application that is easy to use will certainly help us as parents, but it is undeniable that parents like us are the main element, which is convenience that must be paid close attention".

Fatmawati also shared her comments about her interest in mobile-based application development: "I am very interested and happy if there is an application that is specifically for monitoring student performance at school. I as a parent, if there is an application development design like this, I find it very helpful especially one that is easy to use. we can see the achievements of our children anytime and anywhere".

**Question 5:** to find out the response of parents' interest in using *Bescoper* development product to see children's performance in physical education at school, this last question get 87.33% and also this number showed parents answer on "strongly agree" criteria.

Salim, one of the participants, stated: "I hope that many educators, especially teachers, will develop useful applications to support the teaching and learning process in schools. other than that, incorporating parental roles into the developed application will be much more useful".

Puji Astuti, also a participant in this study, said: "I really support if there are ideas for developing mobile-based applications to be used in student learning activities at school, moreover its function is to monitor student performance at school, and also we parents are given access to communicate with teachers."

As shown by the literature, the results of this study are in line with the results of previous studies that if parents are involved in their children's schooling, many positive results have been documented (Ford et al., 2016). Parental interest in developing media to monitor the process of student learning activities in physical education is one of the answers that the role of parents in learning children are needed it is interesting to conduct future research to see the relationship between parents and aspects of satisfaction, which hopefully will be able to provide valuable new evidence about the effects on the widespread development of application technology used in special learning in physical education. So it is necessary to do further research to find out whether each parent's interest in the development of mobile application

technology models will be proportional to their willingness to want to use it in everyday life.

## CONCLUSIONS

Based on these results, it can show that parents are very supportive of the development of a prototype or a model that is used to support the learning process of children in schools, especially in physical education, and they need it. The importance of improving student development in physical education learning, especially in the cognitive, affective, and psychomotor domains, and ensuring that students achieve the learning process is the main basis for people who express involvement in the development of a design in the form of a mobile application. The results showed that parent's very high interest in technology development as a medium for evaluation of physical education that refers to the student's performance at school and having communication with teachers.

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