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RESEARCH ARTICLE

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Analysis of learning activities for children using smart phone applications in private schools

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Abstract

Objectives:To implement the Smart phone applications towards the learning activities of both primary and secondary level education. **Methodology**:Primary data was collected by firsthand (Primary source of information) producing the set of questions in English language consisting of two factors of variables using five point measuring scale (strongly agree, agree, neutral, disagree, and strongly disagree). Whereas, Secondary data has also been used for literature review that justifies our research work; in the light of numerous academic articles of various authors. Random sampling method was used by collecting the data from the 248 respondents including both students and teachers of Private schools. We checked the reliability of the instrument by using spss18 through Cronbach's alpha and further justified the results by using regression analysis. **Findings**: Smart phone applications are the debatable and burning issue of different organizations during covid-19, which is focusing on learning activities of students. Smart phone applications need not be successful unless the effectiveness and usage of these applications are ensured. In this perspective, smart phone applications are directly related with academic activities.

Keywords: Smart phone application; learning activities; private schools; education; children; teacher

1 Introduction

Children are in a middle of a massive, unplanned challenge and is confronted by digital technologies that were not accessible five years ago. Smart touch screen devices also known as tablet technology[1] are revolutionizing young children's mobile multimedia interactions.

The children under the age of two will use handheld devices and multi touch screens to play and learn. Those children as young as two would engage instinctively with a computer, like them, as well as will use normal impulses to play with it as a new toy.

In order to obtain exposure to digital material specially developed for them, preschool children do not need to learn the manual handling skills to use different keyboards and mouse needed by computers of general usage. Touch screen technology at its finest supports the normal constructivist learning of the infant. Ideally, software supporting mobile devices would be built with engaging and efficient learning opportunities for early childhood development and training.

Developers are developing more and more educational application addressing this demographic age. A content analysis in the 'Education Section' of Apple's app store, conducted by Shuler in 2009, found that nearly forty-seven percent of the top hundred selling applications were aimed at nursery and elementary school age children. Mathematics and literacy apps were the most popular categories of applications. In a 2012 report, the same researcher noticed that the amount of devices targeting nursery and elementary school age children rose to seventy-two percent from forty-seven percent in 2009. Within the android operating system, educational applications are among the top four types of software that users use frequently and rank sixth within terms of a cumulative amount of paying devices that users buy.

There are currently seven instances of well-designed devices for young children in the education field. Selecting the correct device is really critical because it will be the difference between the 'internet babysitter' and the platform to promote learning and growth for children [2]. As several of self-proclaimed educational apps are rather entertainment-oriented, they ignore an instructional effect on child cognitive growth for many reasons.

While certain parents are experienced and competent consumers of technology, this does not automatically imply. They grasp the complete ramifications of ICT goods and services as utilized by small children. At this point the question of choosing the right devices such as apps that promote children's active and innovative usage is becoming bigger for parents and educators alike. It is therefore important to remember that not all devices of the same nature and costs do not automatically equate with efficiency.

Nowadays, child constantly utilize a multitude of interactive tools such as smart boards, iphones, ipads, ipods, e-toys and more to play, study and connect in different forms and spent relatively more time in front of the displays. This involves media in both the foreground and history. Since apple launched the first tablet computer (iPad) in 2010. Tablets have risen steadily in popularity among young children. New results from the various studies indicate the rising trend of using technological tools to facilitate normal life and activities, not limited to doing online business,during pandemic like covid-19. Online education have been encouraged during these days and therefore in this research we investigate the effects of smart phone application on the students learning activities.

2 Literature Review

Mobile learning originated as an area of instructional study in the mid-1990, early methods seeking to describe mobile learning were firmly rooted in the usage of mobile devices rather than in the pedagogical outdoor experience meant to help mobile technology. For some time, techno-centric opinions of online learning [3], like equating the word web with mobile technology has been accomplished by a number of technology-driven undertakings with week educational backgrounds [4].

Many professionals and researchers have done study on measuring the effectiveness of Smartphone applications facilitating the online business and global social interaction. Papadakis (2017) suggested that Smart mobile devices are rising in popularity rapidly in various fields of life such an education etc [5]. Such an interactive platform reflects a new age of innovative technical resources providing excellent content exposure as well as incentives for young children. Many of the best-selling paying applications are directed towards children in the education category. At the same time it is difficult to determine the educational value of those applications. Parents and educators, who turn to these devices for the future educational benefits, have a small range of resources to test these applications. The study suggests that there are thousands of applications available today; it is difficult and troublesome for both teachers and educators to select the most suitable educational ones for children.

Rahman (2018) described that the expectations of students and teachers of using smartphones for teaching and learning activities was examined through a cross-sectional qualitative exploratory analysis in private sector universities of Islamabad [6]. The interviews were directed from students and teachers using self-selection sampling methodology. The present research was motivated by grounded theory for which the semi-structured questionnaire has been adapted and amended. The findings have proposed two categories of teachers, Realistic and Idealistic. Realistic teachers feel they have to obey the standards of truth that exist on the ground and behave accordingly. Idealistic teachers claim their role is to broaden intellectual capacity of students with an emphasis on academic growth rather than vocational training. In summary, the introduction of new technology such as smartphones encourages the adoption of creative and innovative forms of teaching and learning practice due to its reciprocal, media rich existence and the sharing of information required to achieve competitive advantages.

Ngesi (2018) concluded that the insufficient contact time between teachers and learners and between learners and understandable feedback in English is one of the major challenges in teaching in English to speakers of other languages. A methodology of qualitative research was used, which is an interpretative nature. The study used the research design for a

descriptive case study. It used a sample of 44 learners in an Eastern Cape school drawn from grade 9 English First Additional Language learners. The participants were analyzed using methods of purposeful and voluntary sampling. For data processing, cell phone was used in the form of short message services and Mxit Calls[7]. An open-ended questionnaire was also used to gather data on the opinions of the learners on the use of such tools in the instructional process. The results were analyzed by combining aspects of both content analysis and study of debate. Although some participants claimed that SMS would distort their language and spelling, finding suggest that most participant produced SMS and Mxit texts showed complete sentences, punctuation marks, accurate spelling of most words, appropriate grammar and proper usage of sentences. However, results showed that SMS and Mxit correspondence were primarily marked by short hand and casual language. The conventional principles of formal writing were implemented while learners became informed that they were using these channels for learning processes. They believe that mobile apps can improve language acquisition of second language learners.

Shuja (2019) stated that the Conventional education in the classroom had already been converted into online teaching and learning processes. Use of Mobile device is changing in the global and local scenario as is the case in Pakistan. Building on perspectives from Media Richness Theory, the study seeks to explore how m-learning pedagogy open opportunities for learning to students and improves their educational success, assisted by dialogue facilitation and versatility[8]. Data were obtained from students at private universities in Lahore in this cross-sectional analysis. Drawing conclusions from the simulation of structural equations, the results showed that the use of mobile devices is very much in demand to provide students with versatile and discussion-oriented learning and to improve their academic performance. Discourse facilitation and versatility play a robust role in generating marked impact of m-learning on the productivity of learners.

The number of mobile learning activities, recording and experimental case studies is high and is growing exponentially, spanning a range of various target audiences, pedagogical styles and learning contexts[9]. We distinguish the studies among mobile learning activities for children of both primary and secondary level education.

3 Problem Statement

The usage of technologies is the main cause of successful learning in the era of 21st century. Both individuals and organizations aim to spread the information resources across various interactive platforms. Globalization encourages open teaching and learning resources which are free and low cost. Recently, in Pakistan, it has been observed that in academic and technological fields, there is an urgent need for technology and the same activity has moved quickly especially during current covid-19. In comparison, the literature analysis of different study indicates that the majority of countries have established themselves through the appropriate usage of technologies. They have well-equipped technology schools and that allow for the opportunity to facilitate education. Technology offers teachers and students with high quality, continuous input that will better direct the learning process. With the advent of technology academic performance, community participation, management services and training and shared growth would enhance. Expertise should be intended to deliver integrated erudition experience and student's evaluation. Technology which is most essential for student-centered learning, may allow results that differ based on the student abilities, preferences and efficiency. New results from the various research studies indicate the rising trend of using technological tools to facilitate normal life of citizens and doing online business or work during a pandemic like covid-19. Online education have been encouraged as it is the only alternative for continuing education, we are investigating the effects of smart phone application on the student's learning activities in this study.

4 Objectives

The goals of the study will be:

- To implement mobile applications in primary and secondary level.
- To observe the effect of smart phone applications on private school education.

5 Research Model

The conceptual research framework shows the impact of smart phone applications on the learning activities especially in education sector as shown in Figure 1.

Hypothesis:
H1: Smart Phone Applications are positively related to education of private schools
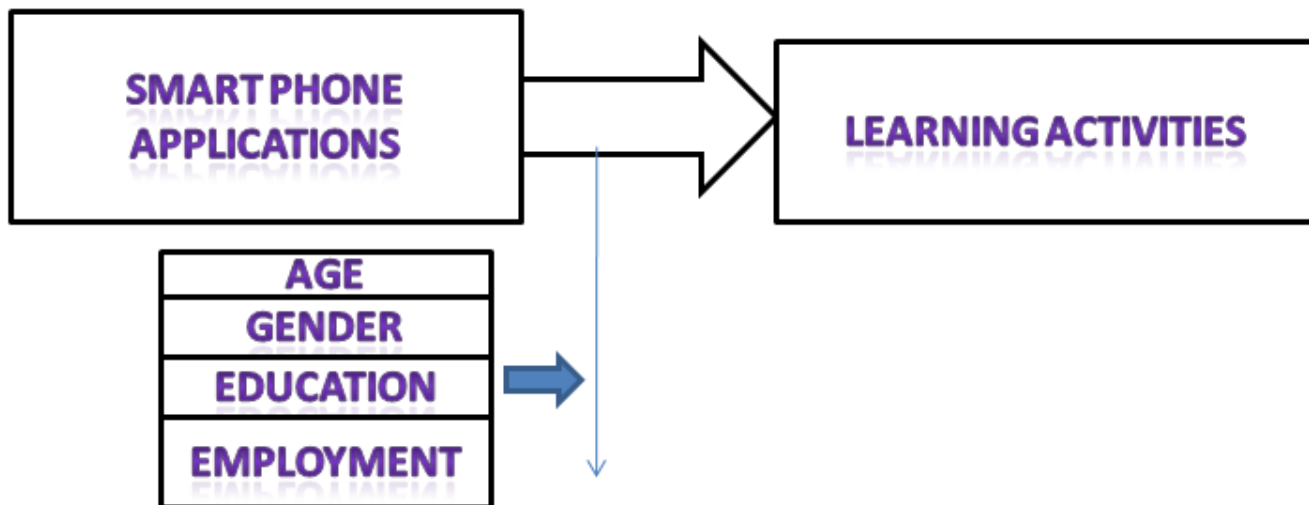
Fig 1. Conceptual research framework

6 Research Methodology

Primary data: Primary data was collected by firsthand (Primary source) information producing the set of questions in English language consisting of two factors of variables using five point measuring scale (strongly agree, agree, neutral, disagree, and strongly disagree).

Secondary data: Secondary data has also been used for literature review that justifying our research work; in the light of numerous academic articles of various authors.

Sampling: Random sampling method was used by collecting the data from the 248 respondents including both students and teachers of Private schools.

Statistical methods: In starting, we checked the reliability of the instrument by using spss18 through Cronbach's alpha and further justified the results through regression analysis; we used confirmatory analysis for following two variables.

1. Smart Phone Applications
2. Learning Activities

Validity/Reliability Analysis

The peer review and expert opinion offered validity for the research tool. After testing, several changes were made to the analysis instrument claims. To test the effectiveness of tools, the following final draft of the questionnaire was used as shown in Tables 1 and 2.

Table 1. Questionnaire for smart phone applications

Smart phone applications	
Q1:	Is smart phone of help to educator to build a new learning environment?
Q2:	Is smart phone unlocking the way for new modes of learning?
Q3:	Do you believe that Mobile technology is an important learning resource for the advancement of cognitive and social learning skills for adolescents?
Q4:	In your organization, the smart phone educational devices help parents to direct their wards?
Q5:	Are you satisfied that smart phones enable the teachers to give a lecture to the learners on the subjects?
Q6:	Are teachers continuing to use this device to train learners?
Q7:	Is smartphone helpful not to waste learner's time?
$\alpha = .677$	

Table 2. Questionnaire for Learning Activities

Learning Activities	
Q1:	Would you say learning activities are really exciting and offers new avenues for children by using smart phones?
Q2:	Is it easy for children to understand, as it offers a broad variety of activities?
Q3:	The use of mobile technology will expand young children's minds.
Q4:	Are Children enjoying group discussions on studying?
Q5:	Mobile learning is providing personal, volunteered and located informal learning.
Q6:	Are Children pay slight cares to parents with mobile expertise?[ds1]
Q7:	Are Children happy to receive the distinction?
	$\alpha = .716$
	Total $\alpha = .783$

Regression Analysis and interpretation of data:

Table 3. Regression Analysis

Adjusted R^2	.629		
Significance	.000		
Independent Variable	Stanarized B	t value	Significance
Smart Phone Application	.429	8.107	.000
Dependent Variable: Learning Activities			
H1 learning activities will increase only because of increase by the usage of Smart Phone Application			

In Table 3, the adjusted R2 is 0.629 at the significance level of 0.000 which indicates that our model of both, "Smart Phone Application" independent variable along with dependent variable "Learning Activities" suits well at 62.9%, at confident interval of 99.99%. Although the standardized beta is 0.429, this indicates the modest positive impact of relationship between Smart Phone Application and Learning Activities and this results is significant at both the p value (.000) and t value (8.107). According to the statisticians the minimum norm of P value is 0.05, indicating that there are only 5% chances of error term to accept the findings and t value must be significant at 1.96% in order to accept our first hypothesis.

7 Conclusion

Smart phone applications are the debatable and burning issue of different organizations. Before covid-19 ,many research studies focused on the technological advancement towards facilitating online business and social interaction. But during covid-19, it has been very crucial to focus on learning activities of students through different channels of technology such as by smart phone applications. This study shows that the effectiveness of these application usage matters especially for academic activities.

8 Limitation & Recommendation:

This research was carried out at the premises of private schools located at Taluka Sobhodero District Khairpur Mir's, Sindh, Pakistan during the time of depress Covid-19 conditions. Whereas, the results may vary over time as per conditions. This research contributes only 63% based on two variables Smart phone applications towards learning activities; whereas remaining 37% needs further to be explored by the researchers.

Acknowledgment

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