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# Supporting Communication among Pakistani Parents, Teachers, and Students at School Level

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## Abstract

Students, teachers, and parents formulate a tri-partite relationship to effectively manage child education. A strong communication among these stakeholders is pertinent to monitor the progress and address the issues to teaching and learning. In this paper, we highlighted the challenges parents, teachers and students face at school level while disseminating critical information relevant to activities in schools. We found out that supporting communication with the effective use of ICT at school level shows initial promise. Further, a web and mobile based solution is proposed for spreading instant communication between all three stakeholders which share critical information such as results, attendance, file sharing and grade forecasting in the English Language. Challenges faced by the teachers, parents, and students are highlighted and identification for such a system is made. In future, we aim to extend the current version of our system in Urdu version so the major issue raised by parents from rural area regarding language as a barrier can be addressed. Which places an immense demand for the required support from technology.

## Author Keywords

Support; Communication; School; Pakistan

### **ACM Classification Keywords**

H.5.m. Computers use in education, Prototyping, evaluation

### **Introduction**

Pakistan has a growing education sector but the challenges faced by the education sector vary from the large amount of factor from the quality of teaching to communication level among teachers, parents and students [1]. The challenges and barriers in the education of the students can be reduced if parents are involved in homework and other educational activities with their children [2]. With the digital means available today in the information technology, the communication gap can be reduced in the educational system between all the stakeholders of a school system.

In this research, we have proposed an information channel named "School Board" to support approachable communication using web and omnipresence of the smartphones among teachers, parents, and students. To address one of the problems relevant to communication and notification of the educational activities [1, 3] an easy to use the web and mobile system is proposed. In future, we aim to extend the system into Urdu language because of the language issues raised by the parents of the rural area. Apart from the educational aspect, there is a need to address the issues related to bullying as well that can lead to life changing circumstances for the children [4]. This thing also indicates the importance of the proposed system that acts as an immediate notification system between teachers, parents, and students.

Especially with the incorporation of the notification system in the smartphone, all three stakeholders will be kept on the same page because of the omnipresence of handheld devices. Similarly, there have been studies conducted that proves that ICT intervention among teachers and students are welcomed [5, 6]. Whereas systems like "School Board" are useful not only in reducing the communication gap among teachers, students and parents instead they also provide an opportunity for learning.

### **Research on all three users (Parents, Teachers and Students)**

In this section, we conducted research on all three users which include parents, teachers, and students. Then we tried to understand the challenges and opportunities faced by all three users for using the ICT system. The interview from all three users was conducted from two English medium schools in the Lahore; one in urban setting and other in the rural.

#### Participants Interview

##### i) Teachers

The interview was conducted by over 50 teachers who have teaching experience of at least two years. The schools chosen have already been using ICT integrated lectures in their curriculum. Only those teachers were interviewed who had exposure to using ICT in their lesson.

##### ii) Students

From both the schools, we asked students from middle and senior schools about the need of ICT intervention as a notification system in their studies. Over 100 students participated in the discussion from different classes and sections.

iii) Parents

Parents were also interviewed with open-ended questions and around 35 parents were interviewed regarding the need of a notification system.

**Results from all three users (Parents, Teachers and Students)**

i) Teachers

*Need for the system:* The results from the teachers interviewed showed there is a need for the notification system to be used for the better communication. Teachers suggested that notification system will also serve as a purpose of reinforcement learning for the students. Those students who tend to forget their homework will be helped by the proposed notification system by reminders about the deadlines. Teachers indicated that with parent's engagement the productivity of the students will be enhanced.

*Time Productivity:* All teachers agreed that incorporation of such systems will lead to saving their time. As for writing, a notification in the diary of each student is very a tedious work. Using the notification system will take one click to send a notification to all students and parents.

*Need for training:* The teachers highlighted that they would require training in order to use the system effectively.

*Lack of Resources:* The teachers also suggested that there is a lack of internet and smartphone resources available to them all the time. It can be hard for them to monitor and respond to the student activities all the time.

ii) Students

*Online Grading and Notification:* The students welcomed this approach, especially the students of the middle school encouraged this idea through which they can view and discuss their result immediately with the teacher.

*Privacy:* Students were found very concerned about the privacy of their results, information between their class fellows.

*On the fly learning:* Students said that they would be able to learn on the go especially using the omnipresence of the smartphone. They will receive the teaching material and guidance from a teacher at any instance.

iii) Parents

*Cloud Notification:* Parents appreciated the need for an instant notification system. Especially as they will be notified about the attendance of their child every day and all the activities related to their child.

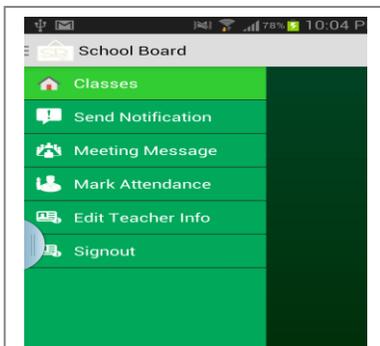


Figure 1: Teacher side Home screen

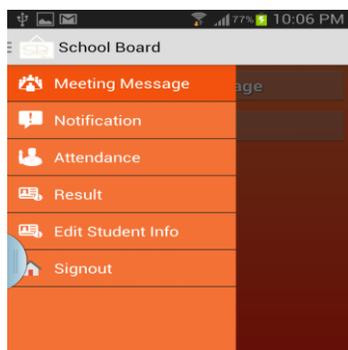


Figure 2: Student side Home screen

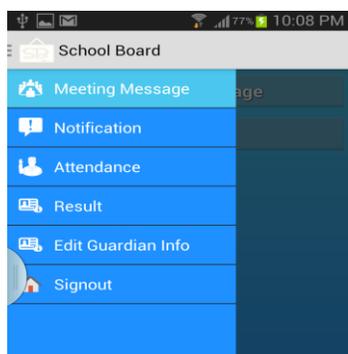


Figure 3: Parent side Home screen

*Need for Training:* Many of the parents were afraid of using notification system because they did not have any prior experience regarding the use of such application.

*Language Barrier:* When we interviewed the parents of the school from rural setting. They highlighted the need for the system in the Urdu language. The parents of the children had no exposure to English language and this could abstain them from using the proposed system.

## Design and Evaluation of the System

Firstly, we designed the web and mobile system "School board" in English version to make easy communication accessible to all three major stakeholders; teachers, parents, and students. The ubiquitousness of the smartphone was one of the main reasons behind using the smartphone application.

The main features of the "School board" involves the following:

- i) Separate login account for all three major stakeholders.
- ii) Cloud notification, this will provide instant notification for the parents, teachers and students.
- iii) Mark attendance: When teacher will mark attendance using smartphone or web portal then it will be automatically uploaded on the parents and students side.
- iv) Mark result: When teacher marks the result of the student, it will be sent to parents and students.

- v) Grade Prediction: Forecasting about the future grades is made on the basis of the previous results.
- vi) Meeting appraisal: A special meeting appraisal is sent to parents for an urgent meeting from the teachers.
- vii) Material upload: Guidance material can be sent to students by the teachers.

Results of the first evaluation showed a necessary need for such a system involving all three stakeholders for disseminating information effectively and in a timely manner. The design of the system was appreciated by all users as it was kept simple and information was projected in using atomic simplicity [7]. After using the system for the first time, the participants gave a very positive response. Parent's participants repeatedly raised this concern that they would need training in order to use this system. Especially parents from the rural settings highlighted the need for the system version to be in Urdu. So that they can use the system with ease. In figure 1, 2 and 3 home screens of the all three stakeholders are shown in the English version of the School Board on hand held device. Another concern regarding usability was raised by few of the teachers who were reluctant of using computers from the beginning. Overall, the proposed system received a very warm welcome from all the three stakeholders.

Apart from the information channel system, we came to know that parents need other supportive mediums involving the use of technology also. Especially online learning systems from where the teacher can teach their children while at home if they need any extra assistance. So the requirement of supportive learning for students using ICT is raised by the parent body.

### **Work in Progress**

To promote such supportive systems in Pakistani education, more concrete means are required. We investigated how parents, teachers, and students like the perception of using an instant information channel. In the first step, we designed a web and mobile based information system called "School board" in the English version, which was found to be well accepted by students, teachers and urban parents excluding rural parents. The system is still under developmental phase and in each increment, it is going to be improved. In future, we aim to extend the working system version for the Urdu language so parents from rural areas can use the system with satisfaction. There is still a need for a major evaluation of the system so that its effect on all socio-economic classes of Pakistan is understood. Whereas the need to disseminate important information also raises an important concern of the parents from all South East Asia region.

In Pakistani school system, the communication methodology followed is through "Diary system" where parents and teachers communication with each other and the transparency of the message is not maintained. Supporting communication among Pakistani parents, students, and teachers will happen first time especially customized according to the need of Pakistani people. We might incorporate the tutoring facility into the system so a more broad support to students is provided.

We would like to develop collaboration with the researchers from around the world with the participation in the conference. This will help us to learn from their ideas and implement them in our regional society. We would like to extend our ideas of the field

with other conference participating bodies as well. The participation in this conference is mandatory for us to learn and explore more about the field.

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