

# The effects and limits of teacher-parents communication by Mobile Device—The View of Teachers

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**ABSTRACT:** This study discuss the effects of teacher-parents communication by Mobile Device and its limitations after the project done by thirty-three elementary schools on the m-homebook in Kaohsiung City. This study interviewed 10 teachers of elementary school from dfferent district. We find that mobile device is helpful for communication but it is not the main way. The digital discrepancy, consumers' choice, electronics preference, work loading and convenience all affect teachers' attitude on adopting m-communication model. While promoting Mobile Device communication system and satisfying users' requests, research finds it is necessary to simplify the communicating processes

**Key-Words:** - teacher-parents communication, e-communication, m-homebook

## 1 Introduction

Communication from e to m have been studied, tested and promoted. According to 2005 Taiwan Directorate General of Telecommunications, there are huge number users of telephone, internet, broadband, and mobile phone (see table 1),-and there are 22.2 million mobile phone users, which is the first place in the world[3]. Convenient telecom and internet systems might be the initial items for teacher-parents communication.

Table 1: 2005 Taiwan telecom user numbe and rate

telecom type	User number	rate
telephone	13,600,000	59.7%
internet	9,500,000	42.00%
broadband	4,600,000	20.21%
mobile phone	22,200,000	97.3%

The m-homebook wth internet and mobile communication function was designed by Neo-Asia Corporation and PHS Mobile Corporation to set up a

mobile-net society for teachers, parents and students. Education Beureau of Kaohsiung City Government started the project in 2004 and try to promote multiple communication models for teachers and parents. Hopefully, the project could establish a new communication net; to enhance the relationship between families and schools; and get a non-obstacle communication effect. This study focuses on the effects and limitations of m-homebook.

## 2 Literature Study

### 2.1 Reforms of teacher-parents communication

#### 2.1.1 Traditional communication

The traditional teacher-parent communication is still popular among families and schools. They are family-visit, teacher-parents interview and conversation, class and school booklets, phone-discussion and homebook. Homeboook and phone-discussion are the main models used in

primary school. They are also assumed the best communication ways [6] [8] [2] [15]. Class booklet and homepage are the best choices for dynamic activities [6].

**2.1.2 e-communication**

In Taiwan, e-communication for teacher-parents were developed in many deferent types. Lots of teachers designed homebook functions on websites. The others are as followings:

Net-phone book : Institute For Information Industry developed an E-homebook which can be applied from internet. LINC Digital Media Co., Ltd. and the Pathfinder Lab of Graduate Institute of Information Education of Tainan University are working on the input and maintaining of data for 「Mobile digital learning platform」 . There are also some homebook functions added to the websites of primary schools.

「 **Mobile digital Campus** 」 :National Tainan Teachers' College is originated from 「 Pathfinder Digital Campus 」 ( <http://pathfiner.ntntc.edu.tw> ) . Because of the allowance stopped by Ministry of Education and National Science Council, its name changed to present one and its system moved to website <http://linc.hinet.net/> [10].

**Mutual platform are built between a computer and a telephone for teacher-parent communication:**

Ming-Kult Tsai combines Internet and Interactive Voice Response System (IVR) , and establishes a 「Voice Interaction Electronic System」. Which helps the parents who don't know how to or aren't able to use cell phone on line can get messages of e-homebook by calling telephones. Lujhou Elementary School of Taipei County is proceeding the system at present[13].

Chao-chun, Wang who applies **VoiceXML** to integrate computer and telephone system, and build up a communication platform suitable for teachers and parents of elementary schools[14]. There is also one class of a primay school is taking the system.

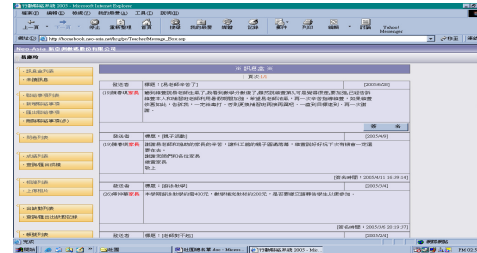
Though m-homebook is equipped with many functions and the delivery is instant, we still have question on it? Can m-homebook replace the traditional communication model? We don't know yet.

**2.2 Function and features of m-homebook**

The m-homebook is a combination of MobileCom and Internet. The interaction is based on computer-mediated communication (CMC)

of PHS and GPRS cell phone( see pictures A /B ). Teachers key in messages from Internet, and parents receive them from Internet via computers or PHS cell phones.

There are twelve functions of m-homebook :message box, communicating items, questionnaire system, grade system, online album, record of absence and presence, account control, online number of PHS, life notes, students information, class' names management, address books of classes, personal data correction ( see pictures 1 & 2 ) [11]



( picture 1 : message box )



( picture 2 : homepage of homebook )

When schools encounter emergencies, parents can understand the whole situation through computer ( picture 2 ) , television ( picture 3 ) and cell phones...etc.[11], and



( picture 3 : digital TV service )

m-homebook offers another way for teacher-parents communication. Parents can get into the system, understand the issues of schools, and studnets' performance via Internet, is instant and secret [8][9].

m-homebook designed and created from website can load lots of messages, such as homework, grade record, school information and sepcial hints; it can link the email box, has space for interactive discussion, integrates class website and teaching materials, and then offers long distance

learning[8][12]. Message issued by teachers on website is clear and accurate, which reduces mistakes made by students when they copy the notes [12][13]. There are many advantages of virtual world through the development of m-communication for teachers and parents. The way from website to cell phone makes loading tool easier to be carried and smarter to be operated. The width of system contents gets upgrade, too. PHS offers many givebacks for those teachers and parents who join the project. But, how about the effect ? Are consumers satisfied with it?

**2.3 Limits and related study on m-homebook**

The system design of m-homebook has been improved and promoted since ten years ago. However, the time for carrying out is still short. Limitations carrying out are [8][12] :

- \*Parents are not skilled enough on computer operation. Besides, they aren't accustomed to checking m-homebook on line in time. Thus, timing efficiency is lost.
- \*The lack of computers or related equipment for students at home makes the practice difficult.
- \*Much more loading for teachers.
- \*Unexpected happenings hinder the communication route.
- \*On-line jam makes the practice hard.
- \*The convenience of homebook is abate.
- \*The effect of instant interact is not better than telephone talk, time of computer's work is too long.
- \*After-service of system suppliers is not active.

Except the above mentioned, there are same responses from teachers and parents of five schools after taking 「 e-communication net ( net for schools and parents ) 」 hosted by the Education Bureau of Kaohsiung City in 2003.

Above limits are inducted into factors of system, users' psychology, and digital culture. Can all factors be changed because of the use of telecom and Internet?

**3. Methodology**

The project of m-homebook in Kaohsiung city is held under senior high school in every district. There are 33 elementary schools ( 37.5% ) , 13 junior high ( 32.5% ) and 4 senior high or vocational high ( 11.1% ) . Each school chose one class to join the project. We interviewed 10 teachers of elementary schools. They are from different district. The content and analysis was double checked by two teachers. Then edited and inducted the interview script to be the study results.

Table2. Data of intervieweres' classes

Code	Gender	Grade	students	Number of applying	Applying rate (%)
T1	F	5	31	16	51.6
T2	F	5	25	20	80
T3	F	2	32	16	50
T4	F	K2	20	20	100
T5	F	3	32	12	37.5
T6	M	3	27	26	96.3
T7	F	5	25	20	80
T8	M	5	35	22	62.9
T9	F	4	20	2	10
T10	F	3	35	35	100
TTL			282	189	67

Questions for interviewing are according to those inducted from related literature.

- a. Can m-communication model replace traditional one?
- b. How are teachers satisfied with it?
- c. What are the difficulties of keep carrying out m-homebook ?

**4. Study results**

**4.1 The m-homebook didn't take place of the traditional one**

Teachers use m-homebook and traditional one together, some students can't be on-line at home, and some parents don't participate the practicing. That's why m-communication model still didn't take place of the traditional one.

All interviewers keyed in class messages every day in the first semester, teachers of kindergarten did it each week. But they didn't do the same from second semester. Some teachers depend on their time, some did while emergency.

We found that teachers and parents communicate with each other by multiple tracks. Teacher's still write message on traditional homebook every day even traditional one isn't the main contact way, they never give it up.

Parents seldom read the m-homebook messages. The reading rates are low. There is only one class higher than 90% in first semester. Then, the rate goes down because of the loss or breakdown of cell phone. In general, there are more parents read messages by m-homebook of first semester than the second and then goes down. Moreover, there are less than 5 parents reading mobile messages each day. Parents check messages by cell phone

more than computer. The main reason is that not so many students have computers at home. Those who have computers still can't be on line if they don't have Internet.

*「There are lots of parents use m-homebook in the first year, because the first grade students are so young. They don't know how to write down messages. I used to stick a post-it on homebook. But the next year fewer parents read the m-homebook message because my students are getting familiar with writing.」 (T3)*

*「There were 20 parents a day (use m-homebook) from the start, then 11 or 12 a day. Now, there are about 8-10 a day.」 (T6)*

*「There were about 11 persons read by cell phone during last semester, but now there are about 2-3 unless emergency, such as, students get hurt. Parents will be more cautious if it happens.」 (T8)*

*「It (Reading rate) is not high. About one or two persons.」 (T9)*

#### 4.2 The teachers' reflections

Teachers understand the value of using m-homebook and show their affirmative attitude to the idea, but problems from systems and parents become the limitations for using it. Therefore, interviewed teacher express their ideas, opinions and suggestions after using. It will be referenced and implemented in future.

##### \* Positive feedbacks as following:

*「The idea is good and worth promoting.」 (T3)*

*「Writing space of traditional one is small and allows for few words, but m-homebook allows more.」 (T4)*

*「Receiving condition of cell phone is great, even better than mine, waiting time is long enough. It makes my cell phone seems unnecessary.」 (T10)*

*「Parents like m-homebook because they can control instant message. They response well, and the contents are clear.」 (T4)*

*「Cell phone can be on line and used to check teachers' message. It's convenient.」 (T5)*

*「Many discounts and rebates for using cell phone」 (T1)*

*「Questionnaire system is easy to use. When there is questionnaire from school, the system calculates*

*the answering condition and save time. We don't have to wait as we did before.」 (T6)*

##### \* Problems and limitations

The m-homebook is still under experiment. There are problems, such as: unsteady system, parents' using habits, cell phones are too popular, the care of rebates, and the communication problems of PHS cell phones.

*「During the semester, the system broke down. I e-mailed the maintenance staffs for three times. Sometimes parents cannot get message from the same m-homebook system. Besides, receiving conditions at office and at home are different. They wonder if the operation is bad? I asked students to bring cell phones to school for receiving test, and the result is negative. It will become disturbance if it keeps happening.」 (T6)*

*「In the beginning companies keep frequent contact but later they never show up again.」 (T9)*

*「Cell phones malfunction easily. About 5-6 parents say that their phones can't work and take time for fixing. Moreover, some say that theirs are lost and they assume m-homebook is a trouble.」*

*「For parents, their problems of using are too much trouble, too many keys, and complicated route. They don't like it unless there is emergency.」 (T9)*

*「Parents have too many cell phones and need no more.」 (T1, T4, T6)*

*There will be conflicts if we want to add more homework after school and send the message by m-homebook only. Students who don't use it won't get the message and do assignment. Therefore, we don't add assignments after school.」 (T6)*

*「Receiving is good in Kaohsiung, but it doesn't work in Ping-Tung county.」 (T10)*

*「Students study in different districts can't get same message by PHS at home unless they have a computer and can get on line. But, some parents are lazy to check on line message. About 3/4 of them ask for traditional way.」 (T6)*

*「Parents feel it's troublesome while using it because of the using habits. They say there are too many keys and complicated routes. They don't want to use it unless urgent events.」 (T8)*

#### 4.3 Difficulties of putting m-homebook into practice

#### 4.3.1 The system factors

There is a defect on system design, that is  
 「*Teachers can't read the messages by mobile device but only parents. We have to be online.*」  
 (A11) While teachers communicating with parents, they can't search the details with cell phones as parents do, it's a communication dead spot.

System is not stable and can't be reached sometimes. It crashes once in a while and misses to deliver message, too. The defects decrease teachers' confidence. So, parents prefer traditional one and become accustomed to it. T9 showed an example : 「*Some parents don't get my message because of the unsteady system. I asked students to bring their parents' cell phones to school for test and got the same result. I also asked the supplier for fixing. It happened twice in the passed semester and once in this semester, which is really annoying.*」

#### 4.3.2 The human factors

We found that m-homebook can't replace the traditional one. For teachers, they put the same messages to both traditional homebook and m-homebook, they do double work. Discovery is the same with written literature [2][7]. In another word, m-communication model still can't be the only way of teacher-parent communication at present.

Besides, some parents are not familiar with operating cell phone, some don't use it because of many keys and feeling troublesome.

#### 4.3.3. The factors of digital culture

Cell phone is much popular than Internet, parents who use cell phones are more than Internet. But they don't always use the PHS cell phones.

「*Most parents check messages by cell phones, there are only 6-8 students of 1<sup>st</sup> grade have a computer at home. And, some of them can't be on line.*」 (T10)

Some parents against to settle the PHS cell phone bases in school. Therefore, the project can't be put into practice :

「*Some schools wanted to join the project but quitted because parents were against the settlement of bases.*」 (T9)

And cheating through electronic equipments becomes a tough problem of digital culture. Some parents worry about their data being blabbed and refuse to apply for it.

「*Applying number is 2 only in the beginning. Parents are afraid of data being blabbed.*」 (T9)

### 5. Discussion

#### 5.1 Mobile communication is a trend

Mobile communication is a trend. Teacher-parent communication routes change also from family-interview, written notice, telephone, class homepage, to e-system, and the m-homebook created. After the promotion of m-homebook with homepage and e-mail, the system has been developed to a combination of Internet and cell phones. Though the project in every county or city is about to the end, the result is approved by some teachers and parents. The finding is same with what studied by Ting, Li-Ying [12].

#### 5.2 Think back to the original value of function for teacher-parent communication

Traditional homebook is write to remind students of their homework and preparation for next day, it offers parents their children's performance at school, too. The delivery ways are regular and not so urgent actually. Do we need the features of m-communication function? How about the good and weak points of m-communication on message delivery? What message does it deliver? Followings are some inductions :

##### (1) The most important functional value of homebook is message delivery

Homebook is functioned with communication already by writing. Teachers usually phone parents when there is urgent case. The benefit of m-homebook---cell phone---becomes the contact tool of parents and children. -- 「*Now we find students bring cell phones to school, because their parents prepare for them.*」 (T7)

##### (2) The demands of communication is simple, efficient without more consumption

A traditional homebook costs less than NT\$50.00 and can be used for one semester. The shortage of timing can be improved by telephone. Suppliers offer what parents and teachers need from the project started, and free budget of NT\$200 a month for communication. But, from view of consumers, they still have to worry about the phone fees and the loss of rebates after project.

#### 5.3 The problems of using m-homebook

The function of m-homebook is not equal to contact efficiency; there are factors of people and system to be considered. The m-homebook relies on 「power」 and delivery media--- 「Internet」, 「computer」 and 「cell phone」. When it breaks down or receives badly due to unsteady platform, its features of being instant and convenience disappear immediately. This study found that the digital discrepancies affect parents' attitude of using m-homebook. Thus, parents have rights to choose the ways they can control.

**And parents' initial demands are: be safe but not to be disturbed.** In information time, all messages are easy to be taken. However, problems of hackers, holding up and change on message, cheating via cell phone, leaking of personal data also become a menace to privacy and personal profit. Simple teacher-parent communication is based on equality, safety, convenience and not being disturbed by others and executed smoothly.

## 6 Conclusion

Information communication is a trend and m-homebook becomes the tool of development, The functions of recording, sending message, more contents on m-homebook earn the understanding and confirming of users. M-communication model is worthy for multiple communication.

The m-communication model is not the main way and still can not replace the traditional one. The main factors are : immature environment, digital discrepancies between families, and the using habits of electronic products affect the efficiency ; teacher's loading and convenience of system option affect teacher's attitude of adopting m-communication model.

The difficulty of keep applying m-homebook is the imperfect control on the nature of teacher-parent communication. We should think of the original requirements and the urgency of teacher-parent communication, understand the function of traditional homebook, Then, provide a convenient interface for parents' reading and satisfy their request with comfort.

Communication requests easy, efficient, safety, no more consumption, and consumers can be protected properly,

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