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Postgraduate Students' Use of Information and Communication Technologies in Educational Research: A Case Study of International Centre for Educational Evaluation (ICEE), University of Ibadan.

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Abstract

The whole world can be regarded as small village where information sharing is becoming less cumbersome. The postgraduate students should not be left behind in this recent technology of information and communication. However, not all the postgraduate students use these Information and Communication Technologies (ICTs) in their quest to obtain a higher degree. Therefore, this study examines the extent of the use of the ICTs among the postgraduate students of the International Centre for Educational Evaluation, University of Ibadan. The students used in the study were one hundred and forty one (141); sixty-seven (67) male and seventy-four (74) female. Forty-two (42) were in the in-service programme and thirteen (13) were in the regular programme, sixty-four (64) were in the PGDE (part-time) programme and twenty-two (22) were in the M.Phil/Ph.D programme. The results showed that not all the postgraduate students could get information from the internet and very few students made use of mobile phone to seek information on

their research work. The implications of the study are discussed.

Key words: Use of ICTs (Mobile Phones, Internet, Television, and Video), Educational Research, Postgraduate Students.

Introduction

The structure of postgraduate teaching/learning is that the lecturer is not the only source of information to the students; the lecturer can be considered as a facilitator in a classroom situation. This implies that students need to seek information from different sources to complement the substances provided by the lecturer. These pieces of information are usually required in assignments and homework. Students may, therefore, consult different sources to get additional information on a particular concept. For example, they may consult textual materials in order to meet the deadlines for submission of assignments and homework. Unfortunately, some of these texts are old and it is likely that the information they contain may be obsolete. Another snag about textual materials is their availability; good textbooks are difficult to come by. It is either that they are expensive or that they are meagre. This researcher recommended a text to some postgraduate students; they went from one bookshop to another without success. They then decided to look for the publishers and unfortunately, the publishers relocated without any information on how they could be traced. The students were frustrated because they could not do the assignment, as a result of this, the class-pace was retarded as they could not cover the prescribed content within the time stipulated for it. Interestingly, the use of Information and Communication Technologies (ICTs) seems to provide a kind of relieve to the postgraduate students in seeking information (this however does not mean that text materials are no more relevant).

Some of the ICTs considered in this study are Internet, television, video tape, and mobile phone. ICT in schools {primary

and secondary} is not yet well developed in Nigeria (Adewale, Adesoji and Iroegbu, 2004). No example is known of a classroom in secondary schools where a teacher routinely uses the computer as a teaching aid. Such experiences could be observed when carrying out research {field work} on the use of ICT in promoting learning in secondary schools.

Nigeria has a well-developed telephone system (with the introduction of Global System of Mobile communication (GSM)) which gives a good Internet access from most parts of the world. Internet charges are lower than the local call voice. Although, there are some problems associated with the connectivity of internet in Nigeria, one of them is power generation. This problem could be solved by students through the use of cyber-café where generating plant are often used. As the Internet becomes a common feature in Nigeria, teachers and researchers have begun to search for ways to take advantage of its potential for students' learning. Kupperman, Wallace and Bos (2002) categorize the innovative uses of the Internet into two general classes: its potential use as an information resource, and its use as a setting for collaboration between students. As an information resource, a key challenge is to get students to pursue the acquisition of knowledge as a goal rather than focusing on completing discrete tasks. As a collaborative medium, a key challenge is to help students work as a group, aware of and benefiting from the work of their peers, rather than as a collection of individuals coincidentally working on similar tasks. For meaningful learning to take place, Scardamalia and Bereiter, (1996) believe that these two benefits should be combined into a single type of learning, collaborative "knowledge-building" where students work with the intention of adding to, examining, negotiating, testing, and improving group knowledge. However, students need to overcome many challenges before they are able to take advantage of the Internet as a tool for knowledge-building. The ability to use knowledge from diverse sources requires higher-order skills of evaluation and synthesis (Brown and Day, 1983; Moore, 1995; Moore and St.

George, 1991; Wineburg, 1991). Another ICT which has survived the test of time is television.

One of the remarkable applications of technology in the 70s (globally) was the coupling of the computer with television (Johansen and Schuyler 1983). The early instructional uses of television were limited primarily to TV classes (in the broadcast range) and to closed-circuit classrooms (in the closed-circuit range). The information-handling capabilities of the computer were harnessed to cable TV by assigning a device in each home a distinct *code number,* which was sent with the television picture for that home (Johansen and Schuyler 1983). Thus, the pictures were broadcast to all homes, but only the device with the proper code number would receive and activate the picture on its television screen. Ambitious experiments were undertaken to provide education in the home using computer-controlled cable TV. Apart from TV, the latest ICT facility is the cellular phone.

Although, personal computers (PCs) are becoming part of our daily culture, they are not portable and small enough to be a personal tool that each single student can use in school. Portable computers (laptops) and (Personal Digital Assistants (PDAs) are usually too expensive for use by all students. To address this problem, mobile phones are now developed. While there is still a lot to learn about uses of cellular phones for purposes other than phone calls, it becomes obvious that treating them only as a distraction to school and to the proper education is the wrong way to go. Mobile phones and **mobile learning** will allow students learn anytime, anywhere and with any media. The frequently offered content services offered on the cellular phone according to Yerushalmy and Ben-Zaken (2004) are: messaging – SMS (short messaging services – text only); EMS (enhanced messaging service – simple animation and sound); MMS (multimedia messaging services – unlimited messages that contain graphics, pictures, and video); chat POC (push to talk over the cellular) – direct connection without dialing, VoIP, Simplex connection; picturing video, sharing video, watching video on "real

time" video; download, video streaming, video phone, and video on demand, local and online games; animation and 3D; multi users games; online PIM (personal information management); tailored information & content presentation for different user interfaces; E-mails and internet services; wireless village solution; information about the user's location, availability, state, connection mode and more.

As important as these ICTs are, some of the postgraduate students still prefer using only textual materials rather than the ICTs facilities for assignments, homework and research work. Therefore, this paper is designed to determine the extent of the use of ICTs by some postgraduate students in the International Centre of Education Evaluation (ICEE), University of Ibadan.

Research Question

What is the frequency of use of the following ICTs : internet, television, video tape, and mobile phone by the postgraduate students of the International Centre for Educational Evaluation based in the Institute of Education (ICEE), University of Ibadan according to type of programme?

Methodology

There are many faculties, centres and institutes where postgraduate students receive trainings. The International Centre for Educational Evaluation based in the Institute of Education was purposively selected because the researcher had direct contact with the students and this is the centre where one can find at least six (6) different types of students at any given time. These are the PGDE (part-time), M.Ed regular, M.Ed (in-service), M.Phil., M.Phil./Ph.D and Ph.D programmes. The samples used in this study are 700 level students and they are PGDE (part-time), M.Ed regular M.Ed in-service and some M.Phil/Ph.D students offering all the 700 level courses (that is, M.Ed Courses) either at the regular or at the in-service level, when the data was collected. Therefore, the study made use of all the 700

level students (PGDE (PART-TIME) and M.Ed students), (regular and in-service and some M.Phil/Ph.D students. Sixty-seven (67) male and seventy-four (74) female. Sixty-four (64) were in the PGDE (PART-TIME) programme while forty-two (42) were in the M.Ed in-service programme (years I and II). Thirteen (13) were in the M.Ed regular programme and twenty-two (22) were in the M.Phil/Ph.D programme.

Instrumentation

Two instruments were used to gather data. The first instrument is ICT Utilization Questionnaire (ICTUQ) used to collect quantitative data and the second – ICT interview schedule (ICTIS) was used to collect the qualitative data. The two instruments were developed by the investigator. ICTUQ has two sections A and B. Section A sought information on questions that border on the respondent's gender (male or female), and type of postgraduate programmes (PGDE (PART-TIME), M.Ed in-service, M.Ed regular and M.Phil/Ph.D). The second section sought answers to such questions on the frequency of use of the ICTs on academic related issues. Such ICTs are the internet, television, radio, video tape, audio tape and mobile phone. The response format is very often, often, occasionally and never. The respondents were expected to tick the appropriate column that described their frequency of use of the ICTs. The instrument was given to colleagues in the Institute of Education for correction and modification (content validity). Empirical validation was carried out and a Cronbach alpha of 0.654 was established. This is a measure of internal consistency and construct validity of the instrument. The alpha value is low because the items in the instrument are few. The ICTIS addressed why mobile phones were not used by students in their academic and research work. The interview schedule was given to colleagues for face and content valididty.

Result and Discussion

Result and discussion based on the research question are presented below:

Research Question

What is the frequency of use of the following ICTs : internet, television, video tape, and mobile phone by the postgraduate students of the ICEE, University of Ibadan according to type of programme?

This research question was answered using frequency distribution, and percentages as presented in the following table. It is further illustrated with graph to show the pattern of the frequency of use of each of the identified ICTs.

Table 1: **Use of ICTs by Postgraduate Students According to Type of Programme.**

ICT	Type of Program	Never	Occasionally	Often	Total
Use of Internet	PGDE (Part-Time)	36 56.25	24 37.5	4 6.25	64 100
	M. Ed In-service	6 14.29	20 47.62	16 38.09	42 100
	M.Ed Regular	3 23.08	4 30.77	6 46.15	13 100
	M.Phil/Ph.D	1 4.54	3 13.64	18 81.82	22 100
	Total	24	54	63	141
Use of Television	PGDE (Part-Time)	5 7.81	12 18.75	47 73.44	64 100
	M. Ed In-service	4 9.52	10 23.81	28 66.67	42 100
	M.Ed Regular	1 7.69	4 30.77	8 61.54	13 100
	M.Phil/Ph.D	7 31.82	9 40.91	6 27.27	22 100
	Total	26	31	84	141
	PGDE (Part-Time)	30 46.87	16 25.00	18 28.13	64 100

Use of Video tape	M. Ed In-service	18 42.86	19 45.24	5 11.90	42 100
	M.Ed Regular	2 15.38	5 38.46	6 46.16	13 100
	M.Phil/Ph.D	1 4.55	4 18.18	17 77.27	22 100
	Total	42	44	55	141
Use of Mobile Phone	PGDE (Part-Time)	52 81.25	12 18.75	0 0.00	64 100
	M. Ed In-service	40 95.24	2 4.76	0 0.00	42 100
	M.Ed Regular	9 75.00	2 16.67	1 8.33	13 100
	M.Phil/Ph.D	19 86.36	1 4.54	2 9.10	22 100
	Total	119	13	9	141

Note: figures in decimals are in percentages.

Almost all the postgraduate students in this study had made use of internet at one time or the other for assignments. This is because, these students had come to realize the importance of internet in seeking information related to their academic work. However, it is amazing that there are still some postgraduate students who had never made use of internet in their research work in this 21st century. It is amazing because, many people at both secondary school and undergraduate levels have exposed themselves to the use of internet.

Fig.1 Postgraduate Students' Use of Internet by type of Programme
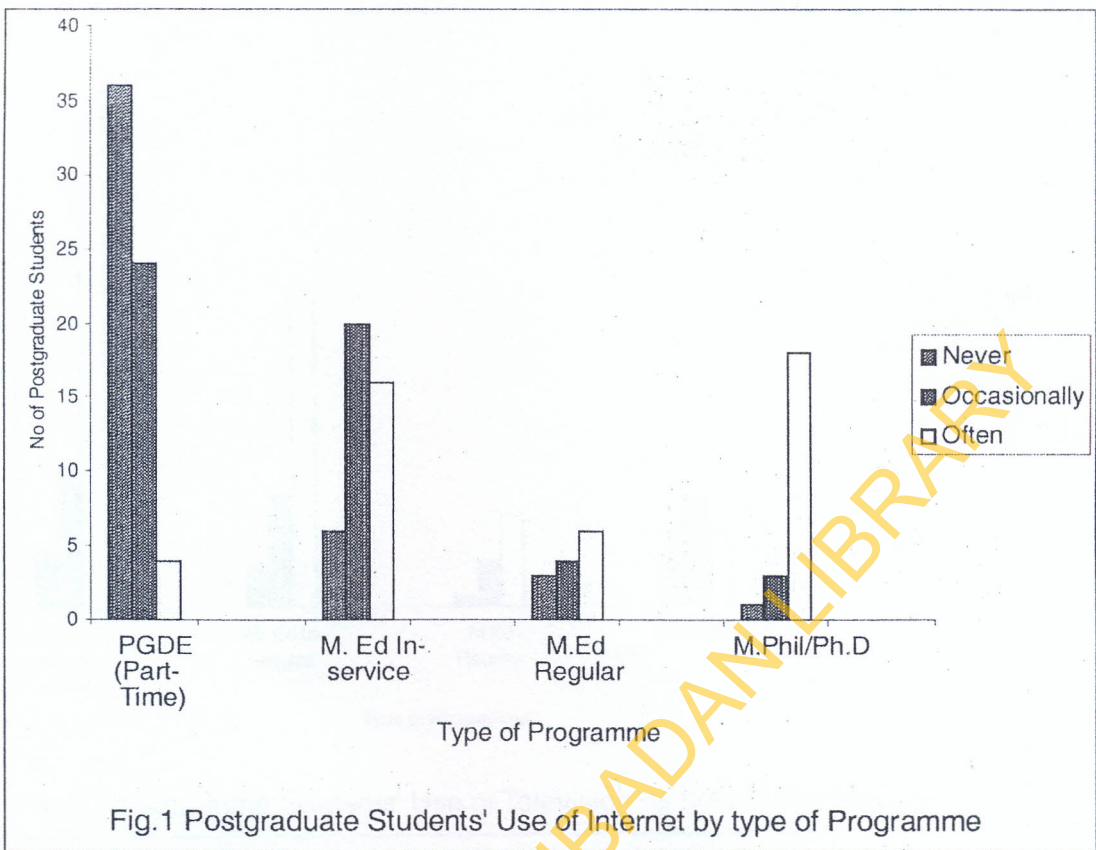
Majority of the postgraduate students make use of television for their research on a regular basis. This is because many of them could listen to some documentary programmes which is believed to enhance their research work. Nonetheless, some of these students still indicated that they had never used television for their research work. It is possible that they may watch other programmes from the television such as news, advertisements and entertainment but could not see the relevance of those television programmes to their research work.

Fig.2 Postgraduate Students' Use of Television by type of Programme
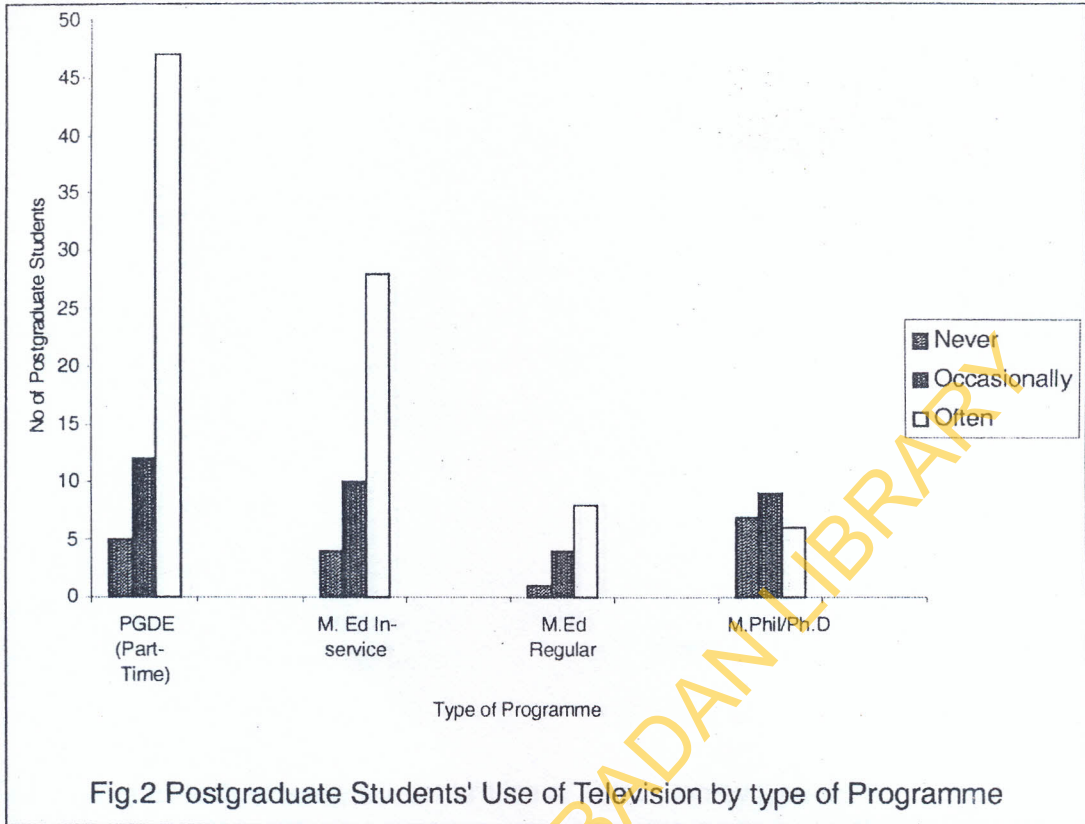
Many (about 30 percent) of these postgraduate students showed that they did not make use of video tapes in their research work. This information is contrary to the result presented in Table 1 that majority of them made use of television for academic purposes. One would have expected the reverse, that is, that many of the postgraduate students used the video tape or CD more than television because not all the television programmes in our local stations promote information relevant to research. But there are some video tapes specifically designed to promote or support learning. These are likely to improve the academic ability of postgraduate students. Some of these programmes are classroom observations. These could help students in the technique of observation as well as learn one or more instructional practices from such video tapes. The only reason one could adduce is that the postgraduate students of which many of them, being self sponsored, would not want to spend extra money to purchase video player or the Compaq Disk (CD).

Fig.3 Postgraduate Students' Use of Video Tape by type of Programme
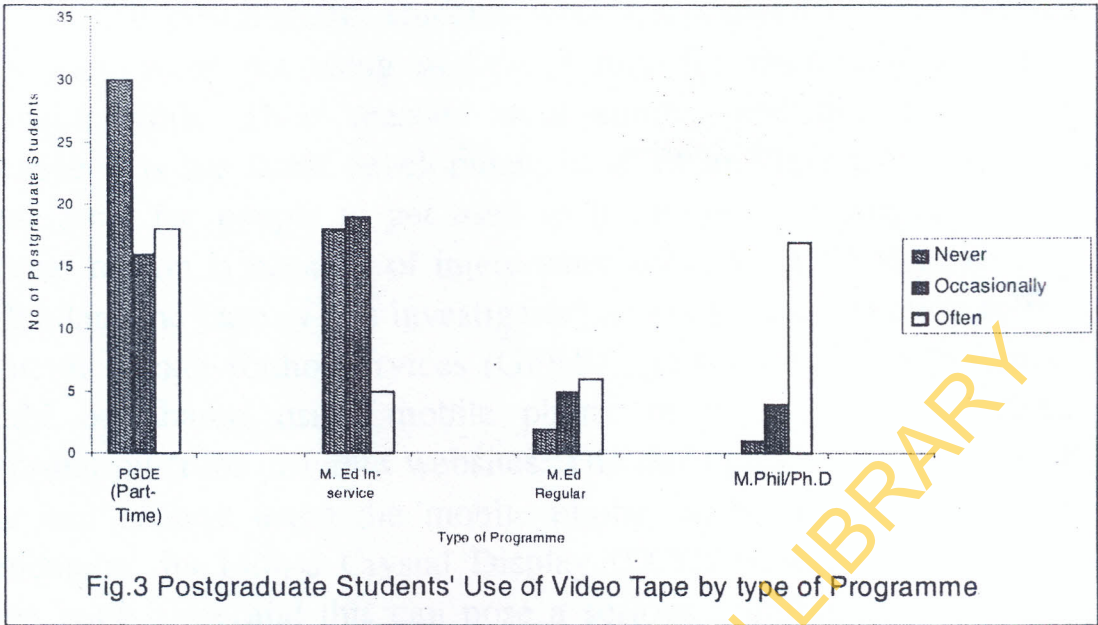
The use of mobile phone for research activities by the postgraduate students is the one that has suffered much when compared with other ICTs.

Fig.4 Postgraduate Students' Use of Mobile Phone by type of Programme
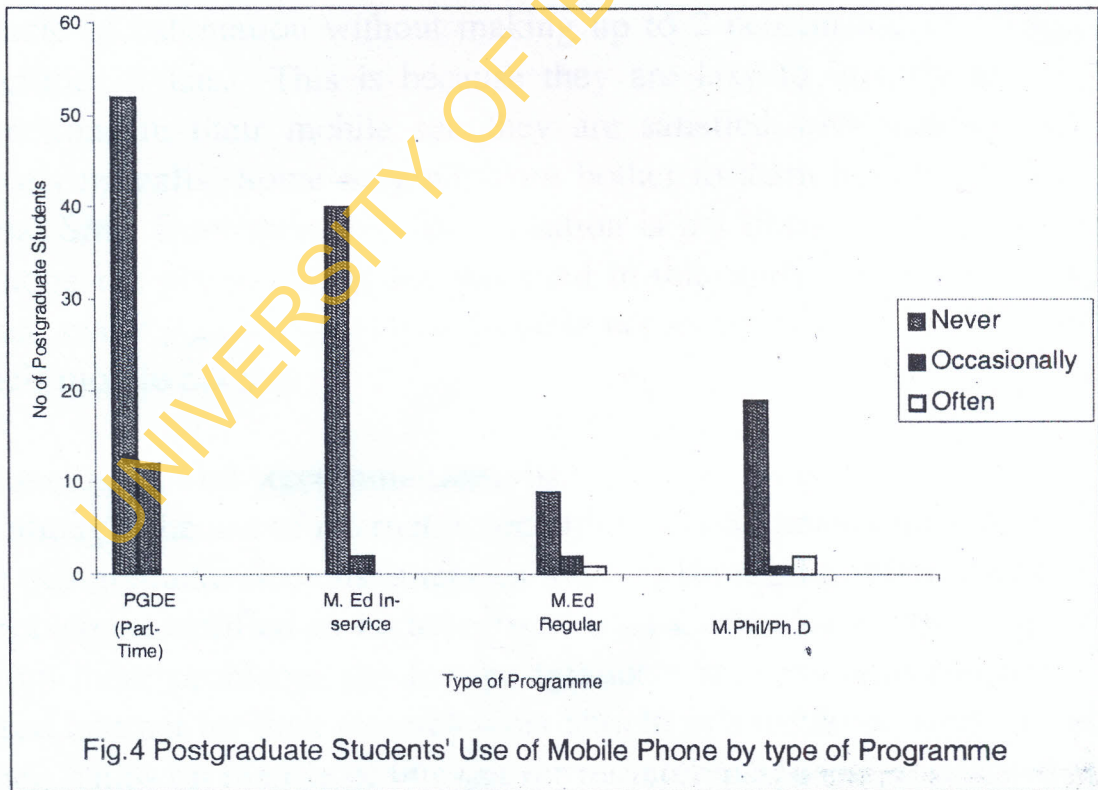
Five postgraduate students were interviewed on the reasons why they were not using mobile phones for their academic and research work. Their reasons were summarized into five; one, because it is the latest development in ICTs in Nigeria, it will take some time for people to get used to it for research purposes. The second reason is because of interconnectivity. Most GSM providers in Ibadan (the base of this investigator) do not have connection to the General Packet Radio Services (GPRS) and little or no information could be shared using mobile phone in form of downloading information from different websites. The third reason is that, even if one can browse using the mobile phone, such has limited screen dimension; its Liquid Crystal Display (LCD) is small. It does not have wide view and this can pose a serious problem to those who want to down load information for use in any research work. The fourth reason is that because of the cost associated with the use of MMS, many people would not want to use it. Lastly, many people in Nigeria have sophisticated hand sets. Some of them use it as an article of ostentation without making up to 2 percent use of all the facilities it has. This is because they are lazy to identify all the functions in their mobile set, they are satisfied with making and receiving calls. Some may not even bother to learn how to read or send SMS from their sets. The situation is not likely to be different among the postgraduate students used in this study. Apart from the cost, many postgraduate students were not aware of such facilities in their mobile phones.

Conclusion and Recommendations

Although, the use of internet is becoming popular among the majority of postgraduate students, attention must be directed to solve the four problems identified to be associated with the use of internet. Apart from these problems, the few postgraduate students who had never used internet for their research work should as a matter of urgency try their hands on the use of internet for research purposes. Another area where serious training and re-training are needed is in the use of

mobile phones. As noticed earlier, most people do not know how to use this ICT device apart from making and receiving calls. Other services of mobile phone apart from making and receiving calls include SMS; EMS; MMS chat; POC (push to talk over the cellular); VoIP, Simplex connection; picturing video, sharing video, watching video on "real time" video; download, video streaming, video phone, video on demand, local and online games, and so on. It is hoped that as other problems (connectivity and small screen) pointed out in this study are being discussed and progressively being solved, almost all postgraduate students will be willing to use their mobile phone for browsing since voice is more expensive than text,

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