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MOBILE INTERNET AS A LEARNING ASSISTANT FOR SECONDARY AND HIGHER SECONDARY STUDENTS: THE CASE OF BANGLADESH

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ABSTRACT

Learning is not only acquiring an individual perception of knowledge, but is a continuous action. Education is one of the main keys to this action and development as well as improvements in human welfare. Information and communication technology (ICT) is playing a central role in the development of modern economies, societies, cultural and education systems. The information and communication technology (ICT) revolution brings specific challenges to education systems around the world. Due to its easy accessibility this means of education using ICT has become very popular all over the world. In this present world the smart phone is part and parcel of the modern communication system. With the benefits of the internet service, especially mobile internet service like 3G and 4G, the worlds' information is on hand to everyone. This paper intends to present an idea about mobile internet based education all over the globe and its applicability in Bangladesh along with investigating the developing progress of ICT in educational institutions and educational organization related activities and provides comprehensive recommendations to build better learning in Bangladesh in the near future.

Key Words: ICT, Mobile Internet, Educational system, Secondary and Higher Secondary Students, Bangladesh.

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INTRODUCTION

Mobile learning is a new form in the development of e-learning and distance learning process (Abu-Al-Aish & Love, 2013). It means acquiring knowledge via mobile devices with the help of the internet. Using mobile technology to reach students will benefit higher education. A positive relation between ICT learning and mobile learning gives evidence based learning. Many educational institutes are operating distance learning through mobile internet to provide flexibility in the learning process (Ally & Prieto-Blázquez, 2014). There are some trends to lead the traditional learning process, nowadays, which are changing gradually and randomly. Among them the following are very popular forms like electronic learning (E-learning), mobile learning (M-learning) or ubiquitous learning (U-learning). Among these important learning forms, mobile learning is effective and flexible; that is, mobile learning can overcome restrictions of time and space, enabling learners to study whenever and wherever possible (Begum, 2011; C.-M. Chen & Chung, 2008).

Bangladesh is the world's most densely populated country in this present world having vast numbers below the poverty line and also lacking a modern educational system. Population below the international poverty line of US$1.25 per day was 43.3% in 2011. Total adult literacy rate was 57.7% in 2012, where the youth (15-24 years) literacy rate was 77.1% male and 80.4% female. The number per 100 population using mobile phones is 63.8% and the number per 100 population of internet users is 6.3% (Hossain, 2014). The education system still maintains in most institutes the traditional ways, such as chalk and blackboards. That's why most of the students in areas of Bangladesh are not familiar about the modern education system like using multimedia and also internet.

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Over the past two decades, technology devices have become tiny like mobile phones to the point that they have become widespread in everyday life (Page, 2014) and this device has become common among a wide range of students (S. Y. Park, Nam, & Cha, 2012). With the fulminant and rapid growth of the Internet, mobile networks, mobile applications, and cloud computing, cloud based mobile learning was introduced as a powerful technology for mobile devices. Mobile devices, in particular the mobile phone, are ubiquitous amongst the whole world population (Masud & Huang, 2013). Many countries have restructured their school curriculum to establish technology as a key learning area that is why they include the technological nature of society, enhancing the opportunities and possibilities for developing higher skills, including creative thinking and problem solving (Banks & Chikasanda, 2015).

Mobile internet as an assistant in the education sector delivers a whole process of education system administration and management (Bidaki, Sanati, & Ghannad, 2013). Implementing information and communication technology like cell phone devices in the education system leads to global access for all to education, and demand for education ensures quality teaching procedures and learning methods (Bhuasiri, Xaymoungkhoun, Zo, Rho, & Ciganek, 2012). In developing countries distance learning using mobile internet is a popular form and started, as in many countries, with correspondence courses where traditional learning materials used to be dependent on the students on a regular basis. Where the concept of mobile learning is very much in vogue in developed countries the basic philosophy was teachers would be physically away from the students and have to conduct the teaching process from a distance (Deb, 2011).

The growth of introducing mobile learning has dramatically reshaped teaching and learning processes in education (Hwang & Chang, 2011; Marwan, Madar, & Fuad, 2014; Wu, Hwang, Su, & Huang, 2012). The use of smart phones offers a powerful learning environment and can transform the learning and teaching process so that students can deal with knowledge in an active, self-directed and constructive way (Cheon, Lee, Crooks, & Song, 2012). At present the smart phone is considered an important means to promote new methods of instruction (teaching and learning). It should be used to develop students' skills for cooperation, communication, problem solving and lifelong learning (Gikas & Grant, 2013). By adopting mobile internet, we can offer high quality education. Chhachhar, Makhijani, Khushk, and Maher (2013) identified four distinct faces of quality education, which can be supported by ICT: learning by doing, real time conversation, delayed time conversation and directed instruction Higgins and Association (2003) and Rau, Gao, and Wu (2008) suggested that the use of ICT and mobile internet could improve performance, teaching, and administration, have a positive impact on education as a whole. Technology should be used as a tool to support educational objectives such as skills for searching and assessing information, cooperation, communication and problem solving - which are important for the preparation of children for the knowledge society (Tynjälä, Häkkinen, & Hämäläinen, 2014). ICT (computers, Inter and Intranet) can be used to create new types of interactive learning media for improved quality, equity, and access in higher education (Zhao, 2013). In order to best use the technologies in education, new learning methods may, and probably will, be required.

The main objective of this paper is to describe the modern educational needs of present students. We highlight the traditional ways of teaching and focus ICT disciplines. In this article we try to report learning experience in Bangladesh and find some important factors which are very much essential to develop the modern education system in Bangladesh. We offer new learning approaches and ways to improve the quality of ICT teaching using mobile devices and also explore effective new students' learning methods as well as knowledge acquiring process in a competitive learning way.

LITERATURE REVIEW

The relationship between the use of mobile internet and student performance in secondary and higher secondary education is not clear, and there are mixed results in the literature (Kinash, Brand, & Mathew, 2012). Internet is used as a productivity tool; this generally means that it can change the traditional methods of teaching and learning into making a digital world (Valacich & Schneider, 2014). Students are also led to more individualized commands, less moral delivery, and an emphasis on problem-solving and cooperative learning situations. These can develop broad, ethnical skills to use in problem solving, independent and collaborative learning, and communication by using the internet (Cha et al., 2011). Instructors become facilitators and skills developers. They help the students acquire a greater understanding of information by making use of new technologies like the internet. In the traditional system students have typically been submissive in accepting what has been delivered from the higher level authority (Nyachwaya et al., 2011). The use of internet, such as mobile internet, gives many alternatives and choices and

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many institutions are now creating competitive borders for themselves through the choices they are offering students (Aypay, 2010).

The advent of mobile internet as a learning technology has coincided with a growing awareness and recognition of alternative theories for learning (Zhou, 2011). The theories of learning that hold the greatest shift today are those based on constructivist principles. However, investment in ICTs has been controversial (Avgerou, 2010). Opportunities offered by mobile internet-based education may not be beneficial to all learners especially those who are out of range of ICT. The benefit of establishing and maintaining the program economically, culturally, socially or politically must be affordable as a globalized system of education (Wastiau et al., 2013). Ma, Andersson, and Streith (2005) opined that: (1) the student teachers' perceived usefulness of computer technology had a direct significant effect on their intention to use it; (2) the student teachers' perceived ease of use had only an indirect significant effect on intention to use; however, (3) the student teachers' subjective norm, that is the possible influence of external expectations, did not have any direct or indirect significant effect on their intention to use technology.

Mobile Internet in Learning

In any learning process the learners' upfront involvement is essential. The independence of time and location is related to the concept of whenever and whatever access represents the two main properties of mobile wireless technologies – mobility and reachability (Al-Fahad, 2009). According to a United Nations report ICTs cover Internet service provision, telecommunications equipment and services (Cogburn, Adeya, & Africa, 1999). On the other hand while definitions of mobile learning are varied, it might be useful to accept the definition provided by the UNESCO web site (http://www.unesco.org/new/en/unesco/ themes/icts/m4ed/) *"Mobile learning involves the use of mobile technology, either alone or in combination with other information and communication technology (ICT), to enable learning anytime and anywhere".* M-learning is basically an information-handling tool- a varied set of applications and services that are used to produce, store, process, distribute and exchange information by using mobile internet. GARG, PASHINE, and GUPTA (2013) indicate E-learning as the use of technology in learning and education and other authors described it as the assistive tools of education. According to Ntinda, Thinyane, and Sieborger (2014) and Casany et al. (2012) m-learning students were motivated not only to acquiring knowledge, but also to use mobile devices to support their learning. When we talk of m-learning, we refer not only to the latest mobile and Internet based technologies, but also to simple audio visual aids such as the transparency and slides.

M-learning enhancing the teaching and learning process

The field of m-learning has been affected by the internet, and have undoubtedly affected teaching, learning and research (Simonson, Smaldino, Albright, & Zvacek, 2014). In a rapidly changing world, basic education is essential for an individual be able to access and apply information as well as to communicate. Such ability must include mobile communication in the global village. Contemporary mobile internet is able to provide strong support for all these requirements and there are now many outstanding examples of world class settings for competency and performance-based curricula that make sound use of these technologies (Voogt, Knezek, Cox, Knezek, & ten Brummelhuis, 2013). According to C.-C. Chen and Huang (2012) three conditions are necessary for teachers to introduce m-learning into their teaching methods: teachers should believe in the effectiveness of m-learning, teachers should believe that the use of m-learning will not cause any disturbances, and finally teachers should believe that they have control over m-learning. However, research studies show that most teachers do not make use of the potential of m-learning to contribute to the quality of learning environments (Endedijk, Vermunt, Verloop, & Brekelmans, 2012). As mentioned previously, any use of m-learning settings can act to support various aspects of knowledge construction and more and more students are employing m-learning in their learning processes. Teachers generate meaningful and engaging learning experiences for their students, strategically using m-learning to enhance learning. Students enjoy learning, and the independent enquiry which innovative and appropriate use of m-learning can foster. They begin to acquire and gain how much importance 21st century skills will have on their future lives.

M-learning enhancing learning Environment

M-learning presents an entirely new learning environment for students, thus requiring a different skill set to be successful (Liaw, Hatala, & Huang, 2010). Critical thinking, research, and evaluation skills are growing in importance as students have increasing volumes of information from a variety of sources to sort. M-learning is changing the processes of teaching and learning by adding elements of virtual environments for the purpose (Ebner, Lienhardt, Rohs, & Meyer, 2010). M-learning is a potentially powerful tool for offering educational opportunities. In addition, teachers should stimulate their students to engage in active knowledge construction. This calls for open-

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ended learning environments instead of learning environments which focus on a mere transmission of facts. M-learning may contribute to creating powerful learning environments in numerous ways (Y. Park, 2011). The use of M-learning may foster co-operative learning and reflection about the content. The M-learning environment improves the experience of the students and teachers and they use intensively the learning time for better results. The M-learning environment has been developed by using different mobile apps and also the extended experience in developing web based and multimedia materials (Jeng, Wu, Huang, Tan, & Yang, 2010). M-learning has an important role to play in changing and modernizing educational systems and ways of learning.

METHODOLOGY

In order to achieve the objectives of this study we have used primary sources of information. Primary data have been taken from the respondents through a structured questionnaire that included Likert scale questions which contain 1 to 5 points. "1" indicates strongly disagree and "5" indicates strongly agree. Questionnaires offer a method of conducting a survey where all respondents are asked exactly the same questions under the same circumstances. In this research, the questionnaire survey was conducted to identify the status of the M-learning in the five secondary and higher secondary educational institutions of Bangladesh. The students enrolled in these criteria who have a smart phone (also guardian) and who use internet on his or her mobile were selected. A structured questionnaire was formulated in order to identify different ways of using m-learning and the efficiency of using the m-learning. Secondary data were collected from published journals both locally and internationally.

The statistical package used to conduct the various analyses is the SPSS 20 and SPSS AMOS 22.

Sampling

A total of 5 (five) secondary and higher secondary educational institutions were surveyed in Dhaka city and Gazipur region in Bangladesh. This survey was conducted in December, 2014. The database of the school survey was used as the sampling frame for selecting the schools which use the mobile device (Smart Phone) as assistive tools to teach the students. All the respondents were students of those institutions who were representing their institutions.

Sample Selection

There is no assent regarding the ideal sample size or subject-to-variable ratio. This is a necessary deliberation to obtain factor structure (Norris & Lecavalier, 2010). One frequently cited rule is to include five participants per variable and at least 200 participants' total. A 5:1 ratio is echoed by (Dupuy & Nassar, 2014) but they offered the caveat that this was only sufficient if the total sample was larger than 100 participants, while the ratio should be 10:1 if there were fewer than 100 participants in the sample then the necessary sample size to produce a stable solution ballooned to 150-200 participants.

FINDINGS

Exploratory Factor Analysis

This study entails "Introducing Mobile Internet as a Learning Assistant for Secondary and Higher Secondary Students: A Case in Bangladesh". The purpose of the study is to identify the component that influences the greater impact of mobile learning to the learner. Findings of previous studies related to this issue are also taken into consideration. Fifteen (15) correlated variables are selected from related literature. Factor analysis has been conducted to reduce the number of total variables. Bartlett's test of Sphericity has been used along with the Kaiser-Meyer-Olkin (KMO) statistic. Some suggestions for the institutes are also made to enhance the level of their students' overall progress.

Most often impact of mobile learning measured by surveys and much of that literature deals with the validity and reliability of those surveys. Impact and development of mobile internet can be measured using a 5-points Likert scale where 1 indicates Not At All good and 5 indicates completely effective from these scales, a Co-efficient of Determination can be calculated to check the model fit.

A useful statistic is the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. This index compares the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients. Small values (below 0.5) of the KMO statistic indicate that the correlations between pairs of variables cannot be explained by other variables and that factor analysis may not be appropriate.

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Table 1: KMO Test Table

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.730**
Bartlett's Test of Sphericity	Approx. Chi-Square	855.487
	df	105
	Sig.	.000

Consequently, from the above table, it is apparent that factor analysis is appropriate. Here, the KMO value is **.730**, which is between 0.5 and 1.0 and the result is excellent, and the approximate chi-square statistic is **855.487** with **105** degrees of freedom, which is significant at the **0.05** levels. This analysis divulges the most important factors that contribute to the improvement of the impact of ICT of Bangladeshi students. The variables which are used in the study are as follows:

V_1	Have Smart Phone	V_9	Look up New Idea on Internet
V_2	Sufficient internet facility	V_10	Watch YouTube for lecture
V_3	M. internet E-mail Interaction	V_11	Team Collaboration by M. Internet
V_4	Visit different blog & web site	V_12	Reading online newspaper
V_5	Practice E-book	V_13	Online Quiz Test
V_6	Accessibility Anywhere	V_14	Online Chat for Group Study
V_7	Browse Social Network	V_15	Independent Learning
V_8	Gives Immediate Support		

Table 2: Total Variance Explained Table

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.920	26.134	26.134	3.920	26.134	26.134
2	1.964	13.094	39.227	1.964	13.094	39.227
3	1.746	11.643	50.870	1.746	11.643	50.870
4	1.290	8.602	59.472	1.290	8.602	59.472
5	1.019	6.796	66.268	1.019	6.796	66.268
6	.835	5.570	71.838			
7	.738	4.918	76.756			
8	.631	4.205	80.960			

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9	.591	3.940	84.901
10	.510	3.400	88.301
11	.475	3.168	91.469
12	.383	2.553	94.022
13	.349	2.325	96.347
14	.287	1.911	98.258
15	.261	1.742	100.000

Extraction Method: Principal Component Analysis.

From the above table of Total Variance Explained, only 5(five) factors have been extracted, as the cumulative percentage is greater than 66% at this point and eigenvalue is greater than 1.0 (it is recommended that factors with eigenvalues greater than 1.0 should be retained) that indicates the adequacy of the analysis using derived factors.

Table 3: Pattern Matrix Table

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
V_14	.768				
V_15	.745				
V_13	.714				
V_12	.656				
V_5		.871			
V_4		.792			
V_6		.716			
V_2			.845		
V_1			.797		
V_3			.665		
V_11				.823	
V_10				.703	
V_8					.781
V_7					.700
V_9					.640

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Table 4: Reliability Test

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Reliability Statistics

Factor		1	2	3	4	5
Reliability Statistics	Cronbach's Alpha	**.752**	**.763**	**.684**	**.644**	**.648**
	N of Items	4	3	3	2	3

From the Cronbach's Alpha test by using SPSS 20 factors will reliable if the value is more than 0.6. So from that point of view the factors are reliable, because all the value above 60%.

EXPLANATION

The extracted 5 factors can be interpreted in terms of the variables that load high coefficients. From the rotated component matrix table, factor 1 has high coefficients for variable V_14 [Online Chat for Group Study] (.768), V_15 [Independent Learning (.745), V_13 [Online Quiz Test] (.714), V_12 [Reading online newspaper] (.656). Thus, factor 1 can be entitled as "Distance Learning by M-Internet". Factor 2 has high coefficients for V_5 [Practice E-book] (.871), V_4 [Visit different blog & web site] (.792), V_6 [Accessibility Anywhere] (.716). Thus, this factor may be labeled as "Study Anytime Anywhere". Factor 3 has high coefficients V_2 [Sufficient internet facility] (.845), and V_1 [Have Smart Phone] (.797), and V_3 [M. internet E-mail Interaction] (.665). Hence, this can be tagged as "M-Learning". Factor 4 has component that V-11 [Team Collaboration by M. Internet] (.823) and V_10 [Watch YouTube for Lecture] (.703). So, this factor can be named "M-Collaboration". Factor 5 has high coefficient for V_8 [Gives Immediate Support] (.781), V_7 [Browse Social Network] (.700) and V_9 [Look up New Idea in in Internet] (.640), so these factors can be named "M-internet for Quick Feedback".

Confirmatory Factor Analysis

We would like to examine additional indices of model fit – most of which are not formal inferential statistics. For example, we examine indices such as the Goodness of Fit Index (GFI), the Incremental fit Index (IFI), the Normed Fit Index (NFI), the Comparative Fit Index (CFI), the Non-normed Fit Index (NNFI, also known as the Tucker-Lewis Index or TLI), the Root Mean Square of Approximation (RMSEA), the Root Mean Square Residual (RMR), the Standardized Root Mean Square Residual (SRMR), and the Akaike Information Criterion (AIC), to name but a few. The fit indices have differing scales and norms for indicating model adequacy – for example, large values of the GFI (up to 1.0) indicate good fit, but small values of the RMR (down to 0) indicate good fit. Many sources provide guidance for interpreting the various fit indices (Hooper, Coughlan, & Mullen, 2008; L.-t. Hu & Bentler, 1995; L. t. Hu & Bentler, 1999).

Table 5: SEM Model Fit

Fit Index	Recommended Value	Observed Value
CMIN/ degrees of freedom	≤3.00	**2.155**
GFI	≥0.90	**.901**
AGFI	≥0.80	**.852**
NFI	≥0.90	**.905**
CFI	≥0.90	**.881**
RMSR	≤0.10	**.090**
RMSEA	≤0.06 OR ≤0.08	**.078**
GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; NNFI = non-normed fit index; CFI = comparative fit index; RMSR = root mean square residual; RMSEA = root mean square error of approximation.		

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Figure 1: Path Diagram

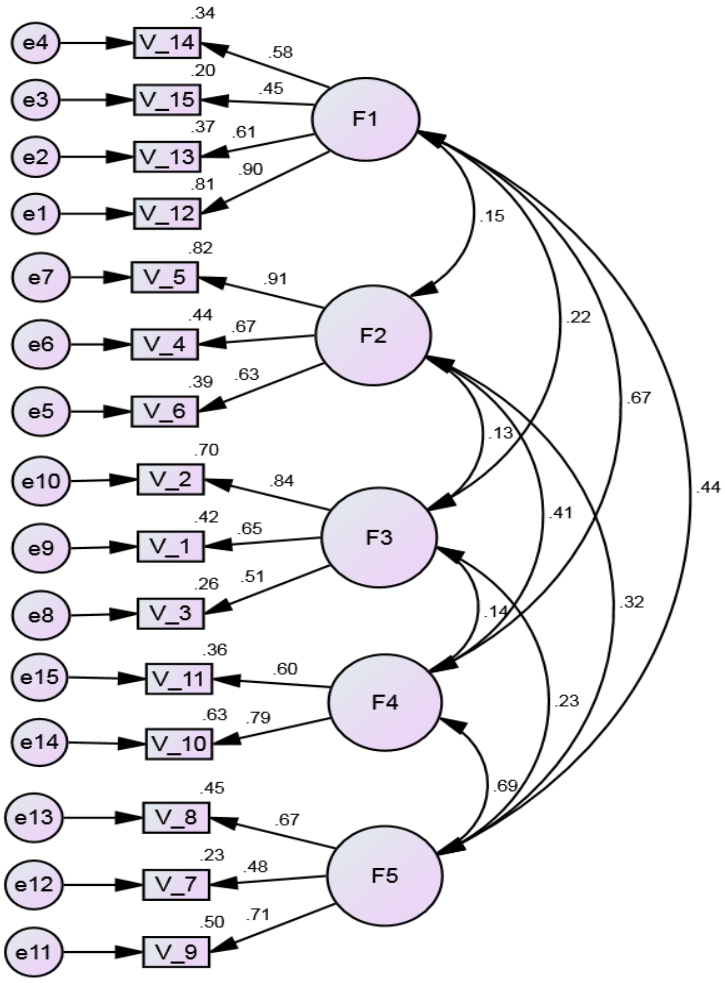

Table 6: Unstandardized & Standardized Regression Weight

Unstandardized Regression Weights: (Group number 1 - Default model)							**Standardized Regression Weights**
			Estimate	S.E.	C.R.	P	Estimate
V_12	<---	F1	1.000				.901
V_13	<---	F1	.635	.081	7.884	***	.610
V_15	<---	F1	.505	.087	5.819	***	.449
V_14	<---	F1	.640	.085	7.533	***	.581

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Unstandardized Regression Weights: (Group number 1 - Default model)							**Standardized Regression Weights**
			Estimate	S.E.	C.R.	P	Estimate
V_6	<---	F2	1.000				.627
V_4	<---	F2	1.053	.141	7.495	***	.666
V_5	<---	F2	1.526	.205	7.456	***	.905
V_3	<---	F3	1.000				.512
V_1	<---	F3	1.209	.213	5.665	***	.647
V_2	<---	F3	1.436	.276	5.204	***	.836
V_9	<---	F4	1.000				.707
V_7	<---	F4	.745	.144	5.164	***	.476
V_8	<---	F4	1.040	.162	6.408	***	.674
V_10	<---	F5	1.000				.791
V_11	<---	F5	.790	.115	6.896	***	.601

Generally estimates of unstandardized regression weight refers that when one factor goes up to 1 then the other related one goes up the estimated value. For example when **F1** goes up by 1, **V_13** goes up by 0.635. The regression weight estimate, .635, has a standard error of about .081 and also when dividing the regression weight estimate by the estimate of its standard error gives $z = .635/.081 = 7.884$. In other words, the regression weight estimate is 7.884 standard errors above zero. The probability of getting a critical ratio as large as 7.884 in absolute value is less than 0.001. In other words, the regression weight for **F1** in the prediction of **V_13** is significantly different from zero at the 0.001 level (two-tailed). On the other hand with the value of standardized regression weight when **F1** goes up by 1 standard deviation, **V_12** goes up by 0.901 standard deviations.

Table 7: Covariance and Correlation

Covariances: (Group number 1 - Default model)							**Correlations**
			Estimate	S.E.	C.R.	P	Estimate
F1	<-->	F3	.154	.069	2.236	.025	.216
F1	<-->	F2	.132	.079	1.678	.093	.146
F2	<-->	F3	.068	.049	1.397	.162	.130
F2	<-->	F5	.289	.078	3.722	***	.408
F1	<-->	F5	.646	.106	6.116	***	.675
F3	<-->	F5	.075	.057	1.326	.185	.135
F2	<-->	F4	.211	.071	2.990	.003	.319
F3	<-->	F4	.117	.056	2.083	.037	.226
F4	<-->	F5	.486	.092	5.308	***	.693

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Covariances: (Group number 1 - Default model)						**Correlations**
			Estimate	S.E.	C.R.	P	Estimate
F1	<-->	F4	.393	.095	4.143	***	.440

All the covariance estimating the standard error are not bad and also the correlations are good. The probability value of the results is excellent without the relation between F1 and F2, F2 and F3 and F3 to F5. For example the covariance between **F1** and **F3** is estimated to be .154. The covariance estimate, .154, has a standard error of about .069. Dividing the covariance estimate by the estimate of its standard error gives z = .154/.069 = 2.236. In other words, the covariance estimate is 2.236 standard errors above zero. The probability of getting a critical ratio as large as 2.236 in absolute value is .025. In other words, the covariance between **F1** and **F3** is significantly different from zero at the 0.05 level (two-tailed). The estimated correlation between **F1** and **F3 is 216**.

The table of the variance and squared multiple correlation shows the variance of **F1** is estimated to be 1.219. The variance estimate, 1.219, has a standard error of about .181. Dividing the variance estimate by the estimate of its standard error gives z = 1.219/.181 = 6.748. In other words, the variance estimate is 6.748 standard errors above zero. The probability of getting a critical ratio as large as 6.748 in absolute value is less than 0.001. In other words, the variance estimate for **F1** is significantly different from zero at the 0.001 level (two-tailed). It is estimated that the predictors of **V_11** explain 36.2 percent of its variance. In other words, the error variance of **V_11** is approximately 63.8 percent of the variance of **V_11** itself. From the variance table it is clear that all the probability values are significant.

Table 8: Variances and Squared Multiple Correlations

	Variances				**Squared Multiple Correlations**	
	Estimate	S.E.	C.R.	P		Estimate
F1	1.219	.181	6.748	***	V_11	.362
F2	.668	.155	4.312	***	V_10	.626
F3	.413	.129	3.214	.001	V_8	.454
F4	.654	.145	4.495	***	V_7	.226
F5	.752	.145	5.186	***	V_9	.500
e1	.283	.103	2.731	.006	V_2	.698
e2	.832	.097	8.558	***	V_1	.419
e3	1.232	.132	9.326	***	V_3	.262
e4	.980	.112	8.760	***	V_5	.819
e5	1.033	.127	8.154	***	V_4	.443
e6	.932	.122	7.630	***	V_6	.393
e7	.343	.160	2.149	.032	V_14	.338
e8	1.165	.137	8.477	***	V_15	.201
e9	.837	.129	6.501	***	V_13	.372
e10	.368	.139	2.646	.008	V_12	.812
e11	.655	.110	5.928	***		
e12	1.241	.143	8.696	***		
e14	.450	.101	4.467	***		
e15	.828	.101	8.159	***		
e13	.850	.130	6.544	***		

This study tends to identify the developing system of learning by using mobile internet in Bangladesh on the basis of students' mobile internet usage and process of development. Two dimensions of mobile internet usage are taken into consideration: smart phone and internet, provided by mobile network. ***Reading online newspaper***

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component is ***81%*** responsible in improving the learning process. On the other hand ***practicing e-book*** is **91%** correlated to the factor ***Study anytime anywhere*** which is **82%** responsible to develop the process. Sufficient internet facility gives **70%** developing responsibility. ***Look up New Idea in Internet*** is **50%** liabilities?? which has **71%** correlation to ***Quick Feedback*.** However all the correlation and covariance are positive which means if one changes then other components change positively. Again factor four and factor five and also factor one and factor four are highly correlated.

CONCLUSION & RECOMMENDATION

Mobile internet has become an integrated part of our daily lives, so it will not be long before it also becomes an inseparable part of students' and teachers' learning and developing. However, the integration of technology in the school curriculum is a complex and challenging process that needs to take into account numerous socio-technical factors such as teachers' technical and technological skills, confidence, and attitude toward ICT, the use of internet in teaching and learning, technology infrastructure in the school, school environment etc.

The finding of the study shows that the use of mobile internet in a learning system is very effective especially in the secondary and higher secondary level students. The results of this study show that the responses to the questionnaire have a reliability coefficient that is adequately high. In addition, the construct validity evidence is based on a **factor analysis** that created some easily interpretable factors. However, the results of this study also show that important factors that do play a role in the successful integration of m-internet in schools are those of teachers' actual knowledge and use of various mobile software and apps in educational purposes, teacher confidence and attitudes toward technology, the technology infrastructure and support in the schools, as well as teachers' beliefs about the use of technology as an agent for change. If proper steps are taken by the academic institutions to improve the educational system that will help positively.

Resource of the internet must be sufficient and it is also important to provide effective guidance or instructors for the specific organization, so that the students may get sufficient, proper and accurate information and practice properly. Different types of informative blogs and web sites which contain related information about the learning process or text book based information should be developed. Mobile apps provide a positive perception to improve the learning system so it should introduce and ensure provision of all kinds of resource of mobile internet and also ensure sufficient knowledge based instructors. At the end of the article it may conclude, combination of some important components which are determined in factor analysis may give a positive change to the learning system in Bangladesh.

Some of the recommendations that can be followed in the educational institutions to build an efficient society in Bangladesh:

- ✓ Provide sufficient training for the instructor who is involved in mobile internet related education.
- ✓ Building of easy access facilities and internet availability for all types of learners and also to administrative persons.
- ✓ Available resources should be introduced in all the institutes as well as individually.
- ✓ Basic course on mobile application of internet use should be mandatory.
- ✓ Website of the institution and personal blogs should be compulsory along with regular updates.

LIMITATION AND FUTURE RESEARCH

From the survey it appears that most of the students of urban schools are highly interested in adopting smartphone and Internet for learning purposes which actually facilitate their learning and physiological development process and make them able to be competitive in the third world. A major limitation of this study is the small sample size and all respondents were from five schools of an urban region where the presence of all students may be firm but due to personal circumstances smartphone are not available by all of the respondents and some of the corresponding learners were unwilling to take part in this research program. Another limitation of this study lies in the fact that this was a pilot report. It would be useful and interesting to perform test-retest reliability on the questionnaire.

It would be important to expand the research to incorporate representatives from all sectors of Bangladesh society who are likely to develop the society with the help of internet and to build a digital Bangladesh. This field of developing learning via mobile internet use in Bangladesh is not a long running topic, so there are many areas within this field for further research. It would be useful to expand the research to include larger sample size and within wider areas to incorporate a better view of the sector. Government policies and effective programs may give more

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opportunity in the relevant field. Once congruence is established, more detailed research would have to be performed on this dataset to determine how mobile internet can be integrated in the learning sector more effectively.

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