

# Open School Learners' Access to Paperless Initiatives at the Bangladesh Open University: challenges and barriers

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## 1. Introduction

Open School has been one of the faculties of Bangladesh Open University (BOU) and runs the pre-University programmes for the dropouts. It executes paperless strategies to facilitate open schooling which has challenges and barriers because majority of tutors have been trained in traditional approaches of tutoring, and still students are gradually having experienced in use of educational technologies. The School found an opportunity to leverage its open educational resources (OERs) repositories titled 'eBooks' for lecture notes and 'BOUTube' for video lectures. The repository has been updated and increasingly content are being stored for the learners. The repository lets the School to create an online place that reaches students more effectively and materials can be uploaded entirety in a smartphone, laptop and computer. Still there are some challenges to implement the paperless open schooling. This paper discusses the paperless initiatives, and explores the perceptions and attitudes towards the components of the paperless components of the Open School.

## 2. Objectives

This paper aims to assess how effectively the Open School's initiative towards paperless open schooling. It also achieves the followings:

- i) to discuss how have BOU Open School executes on "paperless" strategies to facilitate open schooling;
- ii) to investigate and define which paperless model is most appropriate for Open School;
- iii) to identify management issues in while implanting paperless open schooling;
- iv) to explore the perceptions and attitudes towards the components of the paperless components of the Open School.
- v) based on the above, recommend for further development;

## 3. Methodology

Online education could possibly be paperless. First author has completed a certificate online as recently as 2013. However, that does not necessarily mean the courses are officially paperless, it send textbooks and other materials to their online learners. Several of the courses I took required mail-in hard copy documents or hand written calculations.

Does paperless include a textbook?

Two questions me and my co-authors would like to inject:

Is there Open School's jurisdiction that has adopted formal paperless policies?

How do learners s accept paperless learning versus traditional?

How they learners perceived the paperless component of their courses of studies?

In addition to discussion on the paperless initiatives, the current research also collects data from the OS's leaners on perceptions and attitudes on the academic and administrative components which have already been paperless.

### 3.1 Participants

300 learners were interviewed for the study: 198 in Dhaka and other 102 in Chittagong RRC (see Fig 1). This study uses Focus Group Discussions (FGDs) with 20 students for qualitative data using the checklist and one survey. Study includes the students of the SSC (Secondary School Certificate) programme (Grade 9-10) and HSC (Higher Secondary Certificate) of the School.

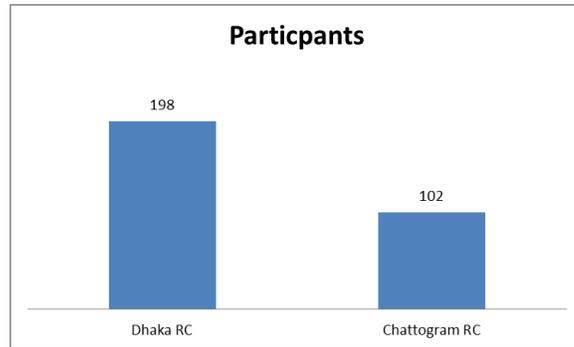


Fig 1: Survey participants

### 3.2 Age group of participants

Open School runs programme for dropouts who are unable to attend the formal school for various socio-economic reasons. But most of the participants are under the age limit of 25 (see Fig 2).

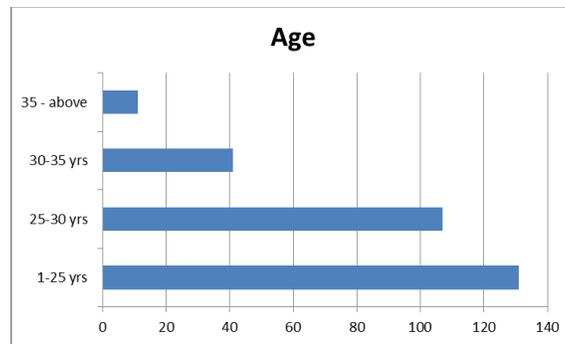


Fig 2: Age group of participants

### 3.3 Employability

Fig 3 shows that the most of the participants are unemployed (say, 55%) which maybe for poor economic background.

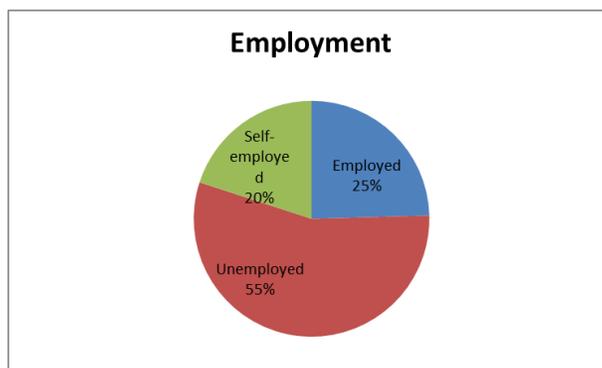


Fig 3: Employability of participants

### 3.4 Gender

67% male and 33% female participated in this study (see Fig

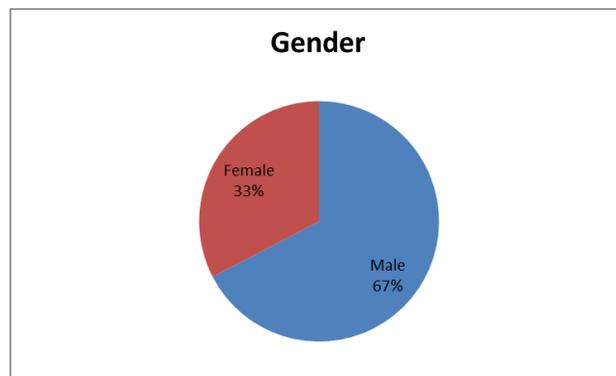


Fig 4: Male Female ratio of participants

### 3.5 Instruments

In this study through questionnaire used Likert scales with 20 items to investigate attitudes towards BOU OER Repository and provided open ended responses for additional comments. In questionnaire, there were five choices as “strongly agree”, “agree”, “neutral”, “disagree” and “strongly disagree” having the values from 5 to 1.

## 4. Paperless initiatives

### 4.1 Document Management

Document management systems can sometimes go far beyond daily administrative tasks to the very heart of the educational mission – providing an avenue of understanding and knowledge that did not previously exist. In line with this, the BOU Open School (BOU-OS) delivers departmental, inter-departmental and outsider communication are maintained through the email. Before it was very manual. But this has been a challenge as some of the faculties always ask for hard copies of the notices, circulars, and other official documents. As a matter of fact, who opposed before on paperless documentation is now very positive to the paperless initiative of the BOU-OS. At the moment, 50% interdepartmental communication is done through paperless system. It is reported that nearly 50% paper cost has been reduced because of this paperless initiative. In addition, there were complaints on the timely delivery of the documents against the MLSS of the School. In fact, first author don't find any complain from the faculties about the handing the documents with in the School. Some of the documents require the reference numbers and which are also delivered digitally through PDF version.

### 4.2 Online admission

The BOU-OS is offering online form service for learner registration for SSC Learners on subscription basis. Computer and Internet literacy is now no issues in new generation learners. Hence taking advantage of this with our subscription learners can immediate go online for admission registration. For Academic year 2017-2018, we are introducing Common Admission Process (CAP). The CAP consists of filling admission form online and submission of hard copy in respective study centre. Mobile financial service (MFS) has been introduced in the online admission activities.

### 4.3 Challenges

Learners and Study Centre management people are not used to the newly adopted system – the online admission – and the School is facing a challenge to train the persons involved. Admission process involves various stages like form filling, Merit List Publishing, Wait List Publishing, Admission Counseling Round, Original Document Verification. Each step involves communication with the prospective learners. Admission process is critical stage in the career of the learner so most of the times learners are anxious about next step, timeline, status of application etc. It is important for any institute to define mechanism to communicate with applicant using various channels like

email, SMS, online Notice Board. Such steps can reduce anxiety among applicant and it can reduce queries related to admission process.

#### **4.4 Paperless Programme delivery**

BOU-OS's devices tap into resources via Moodle - an online, open-source curriculum management system hosted by the eBook at the BOU OER Repository which is maintained by the BOU Computer Division which is working to reduce textbook costs. In addition, the BOU-OS makes the videos available in the same repository under the 'BOUTube'.

#### **4.5 Video conferencing**

Paperless doesn't mean you've become teacherless. The video conferencing class style worked for the learners. Learners like the cleanliness and neatness of having a class that is seemingly paperless. It gives the instructor more learners to teach in a wide area and helps the learners they don't have to drive as far. Web Conferencing through the webTV is in place at the BOU-OS. In addition, blended classes –known as IVCR at the BOU and blended class is being piloted for enrolled face-to-face. It gives us an opportunity as learners to see their classmates and professors face to face, ask questions, and work in a group. It is also easier to explain ideas, give examples, and provide efficient and effective feedback to learners.

##### **4.5.1 The Challenges**

While the benefits of paperless systems are clear, there are challenges to adoption. Tech adoption plan is put in place and teachers and administrators are able to collaborate and agree on institutional needs and priorities. We encourage faculties to undergo a digital assessment at the beginning of a paperless transition process to ensure challenges like these are discussed - and solutions are identified - up front. To set up a system in which work is assigned and submitted electronically, one must provide teachers and learners the resources to do this outside of class. It's a misnomer that putting devices in classrooms is all it takes to successfully go paperless. Device access will also dictate how thoroughly a paperless method can be integrated. They can receive an email, text, or push notification when work is assigned or when a due date is approaching. The impact of this feature is dependent on a learner's access to email or a phone. Ensure that your school is ready to go paperless before paying for something your community can't access when and where they most need to: outside of school and school hours.

#### **4.6 Video lectures**

BOU-OS uses video lectures for the programme delivery. It broadcasts the videos on the national chunk of the national TV. But, the time of broadcast has not been well-matched and appropriate to the learners. Considering this problem, the school made the videos available in the repository for free use by the learners.

##### **4.6.1 Challenges**

Most of the videos have the high resolution and take time to download. This has been a big challenge for the School and again, recently the academic portfolio has been increase at BOU and all programmes having the more and more video lectures which increase the pressure in the recording schedule in the media centre.

#### **4.7 Self-learning materials in the repository**

Technology has become the key to a new world of education. Online learning/elearning has become one of the most popular ways of gaining access to an education. Learners may have the option to collect learning materials hard copies and/or download from the internet. Learners can study anywhere they have access to a computer and Internet connection. Self-paced learning modules allow learners to work at their own pace. But, at the BOU-OS most of the time fails to deliver the SLM timely and the School made the SLMs available in the web which builds self-knowledge and self-confidence and encourages learners to take responsibility for their learning through downloading the materials. Rahman and Panda (2016) state that BOU-OS learners use the tab and smart phone to read the web-based SLMs.

#### **4.8 Online piloting**

The learners of the 21st century have grown up with the Internet. They have experienced the world in ways that learners of previous generations could never have imagined. They want to see the application of knowledge immediately since the world is moving so fast. Rapid technological changes foster rapid social changes. The online delivery of education is well suited for this. To be effective, however, there are several required components. BOU-OS pilots the online open schooling to ensure the success of online open school programs. There have been many studies indicating that there is no significant difference between online and traditional courses in terms of their effectiveness in imparting knowledge. Studies have determined, however, that different teaching strategies are needed for effective online teaching (Dasher et al. 1998). Engaging the learner in the learning process is as important in online education as it is in traditional education. The challenge is developing appropriate methods of engagement for online education. It is essential that interaction be incorporated into online education. Research supports the fact that course satisfaction is contingent upon course interaction.

#### 4.9 Online tutoring for off-shore learners

BOU already stated open schooling for the non-resident Bangladeshi and open up a study centre in South Korea. The school faculties conduct the online tutoring and the students are relied on the paperless environment.

### 5. Perceptions on paperless open schooling

#### 5.1 Perception on web-based information

Table 1 illustrates the learners' perceptions and attitudes towards gathering information on courses of studies. It is found that Open School learners indicated that BOU website were their most useful tool for collecting information regarding different aspects of their courses and they are fond of collecting information on admission, examinations (see Table 1).

**Table 1: Perception on web-based information**

	N	Mean	SD
I regularly visit BOU website for courses information	287	3.52	1.38
Visiting BOU website gives me feelings for institutional attachment	268	3.57	1.22
Tutors motivate me to visit BOU website for information	268	4.04	0.93
I got the admission related information from BOU website	272	4.06	0.74
I got exam related information from the BOU website	276	3.28	0.93

The web has rapidly become the dominant way that institutions and individuals provide information to others. It's dominance as communication medium points out the importance of understanding how to present that information in a way that people can quickly and easily comprehend and use it. Tullis, et al., (2005) state that many of the human factors issues surrounding web-based presentation of information are relatively well understood. In line with this, BOU Open School learners are fond of using web-based information and they showed their interest in visiting BOU websites regularly (mean 3.52 & SD 1.38). In addition, the BOU-website gives the feelings for institutional attachment (mean 3.57 and SD 1.22). There is an interesting finding that tutors motivate to visit BOU website for information (mean 4.04 and SD 0.93).

#### 5.2 Perception on BOU Tube

You Tube, which operates as a subsidiary of Google, is a popular video-sharing website that exemplifies the power of Web 2.0 applications. YouTube currently is rated as the third most popular web site in the world, Duffy (2008) explores how instructors can incorporate YouTube-like tools into the shifting pedagogical paradigm by putting emphasis on changing nature of students as stakeholders. Duffy defines students today, as 'absorbing information quickly', even at 'twitch speed'. YouTube meets the essential for on-demand access to the media of the 'Nintendo generation', accommodating to different learning styles in its social space because repetition of viewing the videos, using the free-frame technique, or developing listening or note-taking techniques at one's

own pace is possible with online videos. In line with this, BOU launches BOUTube for its students at all levels along with the broadcast of videos. Table 2 illustrates learners' responses of perceptions towards the BOUTube.

**Table 2: Perceptions on BOUTube**

Items	N	Mean	SD
I like to download video lectures from the BOUTube	272	3.96	1.33
I found video lectures is more congenial in using with compare to TV broadcast	292	4.03	1.19
BOUtube provides lined other video lectures	270	3.97	1.32
Smart phone gave me opportunity for using the downloaded videos	278	4.21	1.25
Video engaged me more in learning activities	245	3.62	0.89

Founded in early 2005, the rapid growth in popularity of YouTube has been impressive, and educational institutes have been using more and more as supplementary learning materials. Open School's learners are fond of downloading the video lectures from BOU OER repository (mean 3.96 SD1.33) and they prefer OER-based video than broadcast (mean 4.03 SD 1.19). Videos made them more engaged in studies (mean 3.62 SD 0.89) and they prefer to use them in the smart phones (mean 4.21 SD 1.25). This finding reveals that the effective use of videos impacts on learning. BOU video has been an efficient supplement to classroom practices and has been useful for even more exciting and interactive engagements. They have become a cost effective teaching method in that video-based libraries created in the BOUtube and be used by a large number of students.

### 5.3 Perception on digital content

Seok and DaCosta (2016) explored the relationships between the readings of digital versus printed text among 1,206 South Korean high school students in grades 9 through 12. They found students' reading perceptions of digital and printed text. They also students were found to have higher positive perceptions of the reading of printed text; reading preference depended on the purpose for reading (e.g., learning versus entertainment); and significant mean differences were found among students' reading scores and digital propensity regarding preferences between the reading of digital and printed text. Their findings suggest several ways to achieve student literacy competency in the use of digital and printed text, while also pointing to additional factors that influence perceptions and behaviors among these two formats. Table 3 illustrates learners perceptions of digital content of open school.

**Table 3: Perception on digital content**

Items	N	Mean	SD
I downloaded textbook from BOU OER repository	280	3.70	1.13
I prefer digital content over that of traditional textbooks	274	4.08	1.26
It is easy to use BOU digital content	277	4.03	1.28
I have laptop, desktop, tab for using digital texts for my studies	277	3.67	1.00
I can easily use the downloaded print in the smart phone	277	4.20	0.93

Learners are fond of using the digital content store in the BOU repository (mean 3.70 SD 1.13) and they prefer to use the digital content rather the printed book (mean 4.08 SD 1.26). Most of the students have access to the device to use the digital content (mean 3.67 SD1.00) and they are more interested in using the smart phones (mean 4.20 SD 0.93). Moreover, OER-based teaching-learning design meets the increasing demands for distance learning have already benefited from the extensive use of video-based teaching material, even from using YouTube videos. BOU adopts and promotes BOUtube for following the quick technological evolutions and re-consider other technologies that disseminates practical skills for learning.

### 5.4 Perception on audio lectures

Ragusa and Crampton (2014) found technological advances have permitted wide-scale adoption of audio lectures in education as auxiliary learning resources for promoting connection, particularly in distance education. Although, pedagogically, audio lectures have been associated with increased time-on-task and positive learning outcomes, they exist commonly rebuked as suitable alternatives to face-to-face lectures. They also found those students' perceptions about the relevance of who creates, or provides, audio lectures. Table 4 illustrates learners' perceptions of audio lectures of open school.

**Table 4 Perceptions on audio lectures**

Items	N	Mean	SD
BOU audio lectures helped me for my studies	264	3.59	1.29
Audio is easy to use	271	4.05	1.96
I can use audio lectures through the mobile phones	275	3.95	1.16
Audio lectures are curriculum linked	272	3.86	1.26
Audio lectures are prepared through content specific	256	3.46	0.99

BOU uses the audio broadcast and web-based availability of audio lectures and it helps BOU learners' study (mean 3.59 SD 1.29) and they are easy to use (mean 4.05 SD 1.96). All audio lectures are curriculum linked (mean 3.86 SD 1.26) and the learners used to use them in the smart phones.

## 6. Conclusions

The study reveals that OS learners are fond of paperless initiatives and able to increase their learning through using the paperless soft copy of the print, audio and video lectures stored in the OER repository. With the help of the OER repository, BOU-OS has already made great paces toward becoming a regional centre for open schooling and creating an open, wall-less, and paperless environment that serves the needs of citizens, especially ones traditionally disadvantaged. Reaching the goal implies a challenging programme for modernization of the education in the country. Establishing a clear paperless strategy is not an easy task, particularly when one deals with technologies that change so rapidly. The most critical challenge facing education systems is how to develop the capacity for change and remove the barriers built into their cultures which prevent change. Rahman & Panda (2013) state forecast that in future the reputed universities, in the ICT era, "networked society". Learners are fond of using the benefit of paperless initiatives of the BOU Open School. In sum, the results indicate that videos, audios and print are sourced from the BOU OER Repository. Students like to see videos must be well-integrated into the course and the flow of the lecture. This mixed-method research has enhanced knowledge by reporting current paperless practices and student preferences. The aim of this study was to confirm the applicability of paperless initiatives as a delivery platform of lecture videos and print for Open School students and to assess their learning attitudes towards the paperless environment. Our results indicate that BOUTube is an applicable platform to deliver video lectures and to expose students to increased learning opportunities. It has been documented in this paper that OER-based approach has been different learning approaches have a diverse influence on student academic performance. Specifically, it has been suggested that OER as learning technology may enhance the student learning pattern; even in problem-based learning which is highly used approach in current educational practice in the open learning settings.

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