VISIT TO KULETHI SCHOOL
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Contents

1 Introduction

I visited Kulethi School,Champawat from 2^{nd} till 7^{th} June, 2016.I mainly worked on two projects.
They are

1. To promote E-learning using tablets
2. To shoot science videos for uploading on YouTube

I also held a short seminar for 6^{th} , 7^{th} and 8^{th} class on the topic cleanliness on 7^{th} June.

2 E-Learning Project

2.1 Facility Available

There are 22 tablets in the school. All the tablets work. The tablets are of companies like Dell and Micromax. The volunteers until now were busy in downloading videos from YouTube using the software "TubeMate" and "Wapwon". The videos are from various channels in YouTube in Hindi. The videos are downloaded in the .mp4, .avi and .3gp format.The .3gp format videos have poor quality.Most videos are in the former two formats. The videos are directly downloaded in the tablet from the internet.The basis of download is according to the Uttarakhand syllabus (information as per volunteers). According to the volunteers, it is not good to save the video in the tablets as it leads to video corruption. To overcome this problem, the videos are stored into various pen drives which are labeled on top. Classification of the videos inside each pen drive is done class-wise.

2.2 Using the tablets

1. A lesson to be taught is first selected from the textbook.
2. The pen drive of that particular subject is plugged into the tablet.
3. The file is then copied into the tablet's internal memory.
4. This file is then transferred into other tablets using the *"SHAREIT"* app.
5. The whole process takes about 5-8 minutes.

2.3 Methods for Tablet Assisted Teaching (TAT)

During Tablet Assisted Teaching, it is very important for the teacher to maintain a balanced mix between both tablet and Board.The teacher has to watch the video, or atleast get an idea about the content which he will use in his class before and plan the class accordingly.There were 4 demo classes in total executed during the visit.One by Mr.Akshay and 3 other by me.It took 15 minutes for me to plan the class.*(This includes the time of video transfer in the tablets)*
For a class of 15 students , 4 tabs were used with 3 students in one group.

A number of students (8-9 out of 15) knew how to unlock the tab and play and pause the video. A few (2 out of 15) also knew to maneuver to the gallery and find the videos.

2.3.1 Method -1

The first two classes were taken using this method.In this,the class started off with the students playing the video in the tab when the teacher instructed them to play till he told them to pause.The concept described in the video was explained by the teacher on the board and questions were clarified by the teacher.After this he instructed them to play the video again.
The class was more interesting when live examples from the environment around us were used to explain the subject.More practical or story based examples may be used to explain the concepts.

2.3.2 Method-2

In this class, I used only one tablet.The students were requested to circle around the teachers table where the tab was kept.The Video (Living and Non- Living, Science ,Class -7) was used.Being a general topic , the students had some idea about it.The students were allowed to watch the complete video all at once.I kept asking them if they were following what was being shown.
After the video was seen by them I told them to come one by one to the board and explain what they have learnt from the video.Some explained the video, few others gave examples of Living and non-living around them, a few told about the characteristics of the Living and Non-Living and yet a few others drew pictures on the board. After this I told them to present the same in groups of two. This was similar to *Inverted Teaching*.

2.3.3 Method-3

In this class also I used a single tablet. The lesson was of science "Solid, Liquid and Gas". This was a new concept for the students. They had no idea of what I was teaching. The class started off by I writing examples of solids, liquids and gasses on the blackboard. Few students could understand what I was trying to teach. After the small introduction, I showed them the video in the tab. All circled around the table and saw the video completely. After this I asked them what they learnt. They came to the board and told the class what they learnt. After this I explained about the characteristics of each liquid, air and gas and phase changes. Again I showed them the video. I kept asking them if they had any doubts. After this I told them, the students who wanted to see the video, could see it specifically at parts they did not understand. They were let to operate the tab on their own. Others (who had understood) asked me questions on the topic.

3 Recording Science Experiments

There were 15 experiments made by Mr.Deepak in the past 3 months.About 8 made by other volunteers were yet to be uploaded.On the 3^{rd} of June about 17 experiments were shot in total(16 by me + 1 by Mr.Deepak). On 6^{th} and 7^{th} June there were 5 experiments each shot, totaling it to 27 experiments in total shot during my visit. The experiments have both Audio and Video.They contain information about the experiments name, materials required, and how to perform the experiment.
The explanation for the experiment is to be uploaded in the description section of the YouTube Video.

4 Seminar on Cleanliness

A seminar on Cleanliness was taken to promote the following example.

"*Rakho Swachh Devalaya , Ghat ,Gaon aur Vidyalaya* "

"*Devalya*" means a temple, "*Ghat*" the river basin , "*Gaon*" which means village and "*Vidyalaya*" which means school.

A total of 4 charts were also made with the help of children of class 8.They were awarded a chocolate for their good work.These charts were then stuck in and around the school.

The seminar started off, with the explanation of the slogan.I also asked the students suggestions on how we could implement cleanliness programs in and around and the school.The best ideas which were selected by their own votes were given chocolates.

Few of the ideas are as follows:

1. We should start from personal hygiene - we should keep our body clean by bathing, cutting our nails,washing hands before eating,etc.
2. In the school premises, the **Water Tap** is near to the **Toilet** which makes the water unhygienic.
3. To recycle waste like water bottles and to make wonder from waste.
4. To set up toilets and to clean the river which passes through the district.

5 Suggestions

5.1 For the E-Learning Project

(a) As the syllabus remains the same for class but the books change , hence NCERT (National Council of Educational Research and Training) book syllabus can be used and a few topic be selected for e-learning.Those lectures can be downloaded if not present. According my experience in school and college only a few topics can be effectively taught by E-learning from the whole syllabus due to lack of time and a reason explained by the following example.

For example in mathematics,
Fractions are one topic which needs visualization. Let us say we consider cake. We divide it into four equal parts, We take one piece which is $\frac{1}{4}$. As these topics need visualization, hence can be taught effectively using videos. Topics like algebra which need rigorous practice cannot be effectively taught by e-learning.

(b) If the videos are completely random for example in music. Then they can be segregated as Beginner, Intermediate and Expert.
According to me, the main aim of downloading the lecture series was to make a video bank, so that we do not anymore depend on the internet. So as we are creating one video bank, these can be put into a wireless 1 Tb hard drive to make a cloud system. The videos can be then downloaded as per choice of the teachers from the cloud in the tablets as and when required.

(c) These tablets in other option can be made available for the students during the interval where they can come and search the particular video of the concept they don't understand in the cloud storage using the tab itself.

(d) An email id made for the children. When inquired, they knew about Email but did not know about an email id. I suggest this, as it is a part of digital India.

(e) One more observation made was when I tried to teach them some algebra. They(Class -8) struggled to solve equation such as $1.6 + \frac{y}{4} = 12$. A few could come to the last step ,i.e: $y = (12 * 4) - 6.4$ But they where struggling for $48 - 6.4$,which reflects loopholes in the *concept of subtraction of decimals*, a fundamental.

(f) It depends on the teacher completely on how the class will go on, whether it will be interesting or boring, or will the concepts be clear or not.The factors on which the success of E-learning classes depend are:

i. The subject
ii. The lesson to be taught
iii. Availability of tablets and the quality of Video and Audio
iv. The level of children in the class and their response during the class

5.2 On Downloading

As I mentioned a few videos have been downloaded in the .3gp format which has poor quality.I would recommend re-downloading these videos and also would suggest to download only .mp4 or .avi format videos in the future.

5.3 For increasing efficiency at Kulethi Office

1. An email about today's work done(All activities) and tomorrow's work to be done should be sent to the main office.

2. A To-do list for tomorrow can be sent today via email.

3. In order to promote Digital India , all letters should be sent by either typing them or by taking a photograph of the handwritten letter.(Should be in E-Format)
   By this way all decisions taken and all activities will be noted each day and there will not be any disturbances in future.
   In short, each mail(sent at the end of the day) will consist of :

   (a) Reason for why work (if remains pending), which was written in today's To-do list was not completed.

   (b) Tomorrow's To-do List

   (c) Any letters(for leave,etc)

   (d) Any other information (Activities,decisions,developments,visitors,etc)

5.4 Requirements at the office

(a) A all in one printer (consisting of all Printer,scanner,photocopy)

(b) An external hard disk for storing videos.(Wireless External Hard disk, see page 7, 5.1 (b))

(c) The tablets which are existing at the science center are above Rs.5000.I found out that in `www.amazon.in` a "micromax tablet" costs only Rs.3500(as of 10-6-2016).(Model:Micromax Canvas Tab P290 (Wi-Fi, Android Lollipop 5.0, 8GB) Black).

It has the following specifications which are more than enough for E-Learning :

i. 2MP primary camera with and 0.3MP front facing camera
ii. 7-inch (17.78 centimeters) WSVGA TFT IPS capacitive touchscreen with 1024 x 600 pixels resolution
iii. Android v5.0 Lollipop operating system with 1.3GHz quad core processor, 1GB RAM and 8GB internal memory expandable up to 32GB
iv. 2820mAH lithium-ion battery providing HD video playback time of 3 hours, internet browsing time of 4 hours and standby time of 150 hours
v. 1 year manufacturer warranty for device and 6 months manufacturer warranty for in-box accessories including batteries from the date of purchase
vi. First Android Lollipop 5.0 + Wi-Fi only Tablet from Micromax

(Above specifications are from www.amazon.in)

So it is recommended to google and check for online websites selling tablets for a cheaper price for the future purchases.

5.5 From the students

Towards the end of the seminar which I took on cleanliness, I asked the students if there was anything they needed further which was not there in the school.To this a few suggestions were given.

(a) They wanted to have access to internet so that they could Google out stuff which they wanted to learn about during the interval time.One can keep 3 tablets for this use in a room under the supervision of a volunteer.They suggested each day ,one class(6,7,8) will have the opportunity of using it. For example : On Monday any student of class 8 can come and use the facility,Tuesday - class 7 , and so on, and then cycle repeats from Thursday.

(b) The students were eager to learn English and Music and wanted specific teacher for those subject.

(c) One Tube light installed in each class(Class 6,7,8) as it is dark inside the class during the rainy season.

(d) There are also a number of places in the school where the plaster of the floor has come out.

(e) They wanted Badminton rackets for playing.

5.6 For daily Activities

1. Experiment of the day: A science experiment kept for display outside the science center.This experiment can also be moved to other schools adopted for similar display.The students should be given the opportunity to do the experiment after one demonstration by the volunteer.

2. There can be a notice board outside the science center ,where every week there can be a question of science/mathematics put up. The students answer the question by putting a chit into a cardboard box kept outside the science center. The correct answers will get a prize(A chocolate).

6 Conclusion

I initially thought that Tablet Assisted Teaching was not a good idea for a school like Kulethi.But as I took the classes using tablets I felt that it was indeed possible.A class could me made interesting using these tablets. The initiative of uploading the science experiments will benefit the Indian audience a lot, as they are all recorded in Hindi. Overall It was a nice experience visiting the school and interacting with the students.I hope to keep visiting the school every year.