

Role of Video Based Learning as an Adjunct to Enhance Clinical Application of Haematology Practicals in 1st Year M.B.B.S Curriculum

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ABSTRACT

Human Physiology is the basis for understanding the diseases. Learning processes have evolved from the ancient days of gurukulam to class room teaching and now with the advent of digital revolution, online and hybrid teaching. In the wake of 21st Century and the wave of scientific advancement, has paved way to the innovation in teaching for better outcome. Various forms of innovative teachings are put into practice and one of them is video-based learning in Physiology practicals, to correlate clinical relevance of the given practical sessions. In this study, in a class of 100 students 95 were recruited and were divided into two groups. One group was given the conventional teaching assisted by a video clip and the other was given only the conventional teaching. Two practical sessions were done by this method and pre and post tests were given followed by reflective writing. Results were computed, analysed and we got conclusion of the supremacy of video-based learning.

Key words: Video based learning, Hematology, Practical's, Physiology, Medical education

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given clinical symptoms and eventually pave way for "The Diagnosis". This method in the 1st year curriculum as an early clinical exposure will prepare the students for the subsequent years of better clinical learning.

Aim of the study

To assess the effectiveness of video based learning as an adjunct to enhance clinical application of hematology practical's in 1st year M.B.B.S curriculum.

INTRODUCTION

In the present 1st year M.B.B.S. curriculum the laboratory experiments and anatomy dissections are all aimed mostly at imparting scientific knowledge. In Physiology - hematology laboratory, students spend more time on obtaining blood sample, charging the chamber, counting and calculation. Analysis, interpretation and clinical application of the laboratory values are less emphasized. Based on studies by a few researchers [1-3], we propose to support the didactic lectures with an innovative method of using video based T & L method, which will encourage, inspire the students to analyze the laboratory investigation results and correlate it with

METHODOLOGY

This interventional study was conducted in the department of Physiology after getting the approval of institutional ethical committee. Totally 95 1st years M.B.B.S student volunteers were recruited after getting their consent. An introduction/instruction class of Practical-I was given in the conventional way to all 95 students followed by completion of Pre-test questions on day1. This batch of 95 students was divided by Simple random sampling (Lottery method) into two batches (A and B) with 47 and 48 students in each batch respectively. When the A batch came to the lab on day

2 an intervention video (validated) with details of the clinical applications of the hematology practical exercise (1) was shown to the students followed by the posttest. For B batch post-test was given after the demonstration class. The above method was repeated with B batch

having the video demonstration of the second practical exercise and A batch without the video demonstration. Feedback with open ended questionnaire with 5-point Likert scale and reflective writing were taken from all

Table 1: Statistical analysis.

	Pre-test	Post-test	t	P
P1A	5.62±1.65	9.77±1.88	12.01	0.001
P1B	5.81±1.79	7.46±1.92	12.36	0.001
P2A	5.73±1.94	7.75±1.77	13.19	0.001
P2B	6.25±2.1	10.06±2.4	11.84	0.001

P1 & P2: Practical -1, Practical-2, A&B: Group A, Group B

Table 2: Students' perception of the video-based learning as an adjunct to conventional practical demonstration (5-point likert scale).

	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
Video sessions are more interesting than conventional demonstration	90	7	2	1	-
Helped me in correlating Physiology with clinical case	83	14	3	-	-
Helped me to understand the topic better	88	12	-	-	-
Has motivated me to read more about the topic and encouraged active learning	88	7	4	1	-
Useful to comprehend the topic better	87	9	4	-	-
Provided memorability in learning	92	7	1	-	-
Ensured concentration and prevented monotony	94	6	-	-	-
Content was irrelevant and unnecessary	-	-	-	1	99
Should be incorporated as a T-L method along with conventional demonstration classes	97	1	1	-	-

Table 3: Reflective writing.

Positive comments	Negative comments
"knowledgeable session"	"student mind set may set in such a way that they might not listen the lectures"
"stays better in my mind"	"it may affect the listening capacity during lectures"
"better to visualize"	"lot of content in short period"
"good way of teaching"	-
"made me to feel as like I met a patient"	-
"made me understand/remember/relate to certain clinical symptoms and signs"	-
"will be able to diagnose anemia and answer more confidently than before"	-
"not only increase our knowledge but also increases our interest in the subject"	-
"thoroughly than by just hearing lectures"	-
"new experience, new concept of teaching"	-
"novel way of learning for us"	-
"does not require any revision"	-
"I need this"	-

P1-A -Batch Pretest and P1-A-Batch Post test

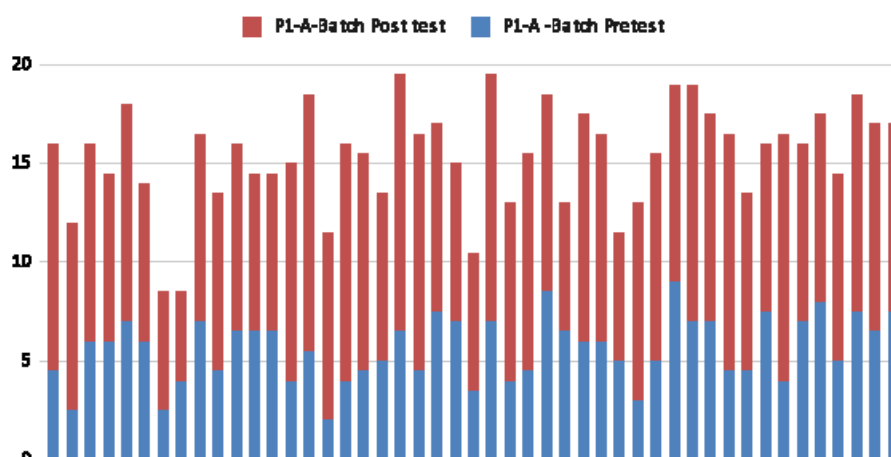


Figure 1: Pretest and posttest for P1-A batch.

P1-A -Batch Pretest, P1-B-Batch Pre test, P2-A -Batch Pretest and P2-B-Batch Pretest

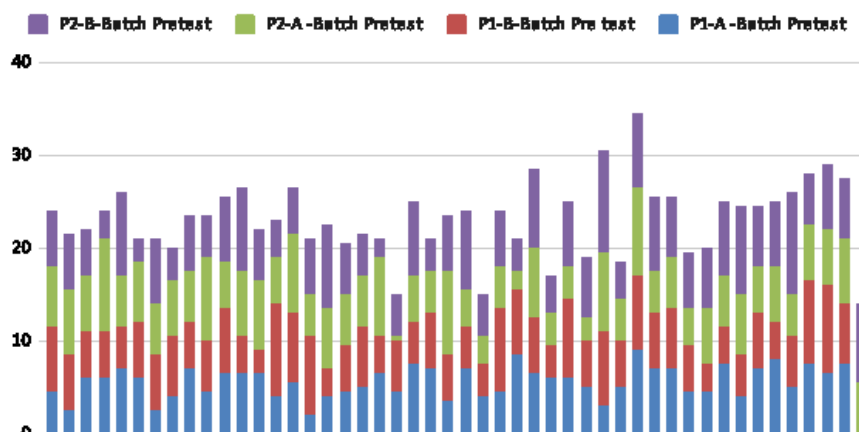


Figure 5: Pretest and posttest for P1, P2 for A & B batch.

the participants. Data analysis was done using IBM-SPSS version 16.

RESULTS

Results are mentioned in Tables (Tables 1-3) and Figures (Figures 1-5).

DISCUSSION

Importance of understanding the clinical relevance during 1st year MBBS practical classes is pivotal in shaping the thought process of the students. In our study the results obtained points towards the credibility of the audio-visual assistance in learning. Following are the inference based on our study.

On analyzing the results of pre& post-tests of P1Abatch (Figure 1), it was seen that there was an increase of score from 60% to 83% and inP2Abatch pre& post-test an increase of score from 63% to 82% was seen. This coincides with the study results of Shenoy et al [4], which states that a combination of audio-visual aids is a better T-L method. Both practical sessions (I & II) conducted for A batch showed an increase in performance of students on an average of 82%.

Analysis of the pre-test of P1A & P2A showed an average performance by the students; whereas with video assisted learning, the performance of the students was significantly enhanced. This is in concurrence with a study by Karen et al. [5].

The values obtained for B batch when compared with a batch for both practical sessions revealed similar results which can be attributed to the teaching modality using videos having greater reach to the students.

A study by Mangala et al [6] states that the personal interaction with demonstrators may be reduced in video sessions which can be overcome by a blended approach of demonstrations followed by a short time video5. Our

study also supports the same. An added advantage of video assisted learning imparts knowledge equally to all the students, which may not be the case in conventional methodology. In addition to clear understanding of the concept, video assisted learning helps in improving the retaining capacity (memory enhancement).

Students' perception of the video-based learning as an adjunct to conventional demonstration based on 5-point Likert scale was obtained (Table 2) from all the participants. 90% of the students strongly agreed and recommended video assisted learning as T-L method.

Using reflective writing to assess the efficacy of video assisted learning (Table 3) reveals positive comments such as "made me understand/remember/relate to certain clinical symptoms and signs", "novel way of learning for us", "made me to feel as like I met a patient", "does not require any revision" and negative comments such as "student mind set may set in such a way that they might not listen to the lectures", "lot of content in short period". Our understanding of this study based on the reflective writing is supporting both the comments but the ratio reveals 97% of the participants are in favour of video assisted learning to acquire clinical relevance in Physiology practicals. This is similar to the clinical study by Sucheta et al. and Kumar et al. [7,8]. A study by Usha et al [4] reiterates that, teaching learning methods should include combinations of audio visual aids to help them shift from unimodal to multimodal learning style; similar to our study.

CONCLUSION

Our study concludes that video assisted learning will lead to better performance of the students (especially students who need additional support), to procure better University results and will pave way to become a competent clinician.

LIMITATION OF OUR STUDY

Our study was done with only phase-1 students on a single subject. Hence we recommend further study involving students from other phases of MBBS curriculum.

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