

Perception of Students on Histology Learning Method.

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Abstract:

Background & Objective: Detailed basic knowledge of histology is needed for the first year undergraduate students. Students should have a clear concept about the structure of normal human cells & tissue for future clinical application. So the teaching method is strategized in such a way that the students can learn basic histology within a limited period of time in first year of medical curriculum. The purpose of the study was to examine student's perception about the existing teaching learning method. **Materials & method:** The structured questionnaire was provided to the 3 batches of first year MBBS students after taking their consent. The data was collected, entered & calculated using SPSS version 20. **Result:** Students showed the interest in preview of lecture before practical and pre-lab presentation during practical. They accepted the importance of faculty guidance in practical class because the student-teacher interaction makes the students remember the topic for long. They also showed interest for using individual microscope & audio-visual aids. **Conclusion:** Student's view is the best way to judge existing histology teaching method. Traditional learning method along with more quality time of teachers can create more interest among students. With that, new modern technique like virtual microscopy can be improvised.

Keywords: Teaching learning method, histology, student's feedback, faculty guidance.

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I. Introduction

Anatomy is one of the difficult most subject to study in medical curriculum for a fresh first year MBBS student. There are many sub-branches of anatomy- Histology is one of them which deals with the microstructure of cells & tissues of the human body. It is very important for the first year MBBS students to have a clear knowledge of normal structures & arrangement of cells in a specific human tissue. So that, their basic foundation will be clear to deal with the second year subject pathology which deals with abnormal tissue. Traditional histology teaching method using light microscope & glass slide is practiced for the students within a limited period of time^{1,2}. Still students face difficulty in proper identification of slides & correlating theory with practical². It becomes responsibility of teachers to know the difficulties of the students and solve them. Here comes the role of teachers to make the teaching method easy & clear for the students, so that they can learn the basic histology within a limited period of practical hour³. The teaching learning method should be planned in such a manner that fulfils the basic need of the newcomers in medical field for better understanding⁴. Learning is a process where learners develop new ideas based upon previous knowledge so that they can build up new decision to make the teaching method simplified & well oriented⁵.

Students' view is an important aspect to know the pitfalls of existing teaching process with traditional histology teaching method which is going on for many years. With their views, modifications can be made in teaching curriculum for better utilization of practical hours and to increase the interest & involvement of the students in histology. The quality of teaching also can be improved⁶. Hence, this study is aimed to increase the efficiency of histology learning methods for better understanding of the students.

II. Objectives

1. To identify the problems faced by students during histology practical hours.
2. To assess students' opinion regarding histology learning method.

- To improve the quality of teaching with better utilization of practical hours & active participation of students.

III. Materials & methods

A cross sectional study was conducted on 300 first year MBBS students in Tripura Medical College & Dr BRAM Teaching Hospital from May, 2015 to May, 2019 using pre-structured, pre-tested, pre-labelled questionnaires (both open & close ended) containing 22 questions which includes socio-demographic profile, perception before practical hours, perception during histology practical hours & faculty guidance in histology laboratory. 3 batches (2016-17, 2017-18, 2018-19) of first year students(100 students per batch) were included who completed second semester examination & were willing to participate. Odd batch (supplementary) students and the students who were not willing to participate were excluded from the study. Student's identity was not revealed. The concept behind the study was properly explained to the students before giving the questionnaire. Institutional ethical approval was taken.

Data entry: The collected datas of responded questionnaire from the students were entered using SPSS version 20 software.

Statistical analysis:All statistical analysis were done using SPSS(Statistical package for social science) version 20. Chi-square test was used to assess differences between frequencies of 3 batches observed in relation to the responses for a particular question. A p value <0.05 was considered as statistically significant.

IV. Result

Total 290 (96.7%)among 300 students responded to all question. Among them, 153(52.8%) students are male and 137(47.2%) students are female.

Table No 1: Age & gender cross-tabulation(n=290)

AGE	GENDER		TOTAL
	MALE	FEMALE	
18	5	8	13
19	38	49	87
20	60	53	113
21	35	23	58
22	13	4	17
23	1	0	1
24	1	0	1
	153	137	290

Table No 2: Showing student's respos before practical hours (n=290)

SL NO	VARIABLES	STUDENT'S RESPONSE	BATCH 2016-17 n=98 Frequency (%)	BATCH 2017-18 n=97 Frequency (%)	BATCH 2018-19 n=95 Frequency (%)	TOTAL n=290 Frequency (%)	p- value
1.	Preview of lecture	Required	81(82.7%)	87(89.7%)	92(96.8%)	260(89.7%)	0.005
		Not required	10 (10.2%)	8(8.2%)	0	18(6.2%)	
		Not sure	6 (6.1%)	2(2.1%)	1(1.1%)	9(3.1%)	
		Any other	1(1.9%)	0	2(2.1%)	3(1.0%)	
2.	Audio-visual aid for lecture	Talk	13(13.3%)	11(11.3%)	9(9.5%)	33(11.4%)	0.408
		Chalk & board	27(27.6%)	27(27.8%)	27(28.4%)	81(27.9%)	
		OHP	3(3.1%)	4(4.1%)	1(1.0%)	8(2.8%)	
		PPT	21(21.4%)	13(13.4%)	11(11.6%)	45(15.5%)	
		Mixed of aids	32(32.6%)	41(42.4%)	47(49.5%)	120(41.4%)	
		Any other	2(2.0%)	1(1.0%)	0	3(1.0%)	
3.	Preferred mode of histology diagram for lecture	Previously drawn diagram	6(6.1%)	3(3.0%)	7(7.4%)	16(5.5%)	0.75
		Drawing by faculty during lecture	43(43.9%)	44(45.4%)	43(45.3%)	130(44.8%)	
		Both of the above	48(49%)	48(49.5%)	44(46.3%)	140(48.3%)	
		Any other	1(1.0%)	2(2.1%)	1(1.0%)	4(1.4%)	
4.	Need for projection of slide during lecture	Required	85(86.7%)	89(91.8%)	85(89.5%)	259(89.3%)	0.42
		Not required	9(9.2%)	7(7.2%)	5(5.3%)	21(7.2%)	
		Not sure	3(3.1%)	1(1.0%)	4(4.2%)	8(2.8%)	
		Any other	1(1.0%)	0	1(1.0%)	2(0.7%)	

5.	Mode of slide demonstration	Light microscope	26(26.5%)	29(29.9%)	32(33.7%)	87(30%)	0.88
		OHP	5(5.1%)	6(6.2%)	4(4.2%)	15(5.2%)	
		PPT	18(18.4%)	17(17.5%)	20(21.1%)	55(19.0%)	
		Mixed of aids	46(46.9%)	40(41.2%)	37(38.9%)	123(42.4%)	
		Any other	3(3.1%)	5(5.2%)	2(2.1%)	10(3.4%)	

Table No 3: Showing student’s respons during practical hours (n=290)

SL NO	VARIABLES	STUDENT’S RESPONSE	BATCH 2016-17 n=98 Frequency(%)	BATCH 2017-18 n=97 Frequency(%)	BATCH 2018-19 n=95 Frequency(%)	TOTAL n=290 Frequency(%)	p- value
1.	Need of preview of lecture during practical	Yes	80 (81.6%)	90(92.8%)	91(95.8%)	261(90%)	0.01
		No	6 (6.1%)	1(1.0%)	1(1.1%)	8(2.8%)	
		Not sure	12 (12.3%)	6(6.2%)	3(3.1%)	21(7.2%)	
2.	Need for pre-lab presentation	Yes	79(80.6%)	81(83.5%)	88(92.6%)	248(85.5%)	0.008
		No	13(13.3%)	5(5.2%)	6(6.3%)	24(8.3%)	
		Not sure	6(6.1%)	11(11.3%)	1(1.1%)	18(6.2%)	
3.	Timing of pre-lab presentation	10mins	20(20.4%)	28(28.9%)	8(8.4%)	56(19.3%)	0.0004
		15mins	27(27.6%)	29(29.9%)	21(22.1%)	77(26.6%)	
		20mins	29(29.6%)	34(35.0%)	37(38.9%)	100(34.5%)	
		25mins	9(9.2%)	3(3.1%)	13(13.7%)	25(8.6%)	
		>25mins	13(13.2%)	3(3.1%)	16(16.9%)	32(11.0%)	
4.	Type of projection during pre-lab presentation	Previously drawn diagram	9(9.2%)	19(19.6%)	10(10.5%)	38(13.1%)	0.004
		Drawn by faculty during presentation	59(60.2%)	62(63.9%)	70(73.7%)	191(65.9%)	
		Glass slide	17(17.3%)	13(13.4%)	13(13.7%)	43(14.8%)	
		Text book	13(13.3%)	3(3.1%)	2(2.1%)	18(6.2%)	
5.	Preferred person for slide demonstration	Self	3(3.1%)	11(11.3%)	2(2.1%)	16(5.5%)	0.001
		Faculty	85(86.7%)	80(82.5%)	89(93.7%)	254(87.6%)	
		Technician	5(5.1%)	4(4.1%)	4(4.2%)	13(4.5%)	
		Not needed	5(5.1%)	2(2.1%)	0	7(2.4%)	
6.	Preference for histology slide demonstration	Preference of individual microscope	57(58.2%)	48(49.5%)	43(45.3%)	148(51.0%)	0.29
		Preference of a microscope for small group	38(38.8%)	47(48.5%)	51(53.7%)	136(46.9%)	
		Any other	3(3.0%)	2(2.0%)	1(1.0%)	6(2.1%)	
7.	Correlation of slide under microscope with	Projection of slide by drawing on board	41(41.8%)	40(41.2%)	52(54.7%)	133(45.9%)	0.004
		Projection by OHP	9(9.2%)	9(9.3%)	5(5.3%)	23(7.9%)	
		Projection by PPT	29(29.6%)	15(15.5%)	9(9.5%)	53(18.3%)	
		Histology atlas	19(19.4%)	33(34.0%)	29(30.5%)	81(27.9%)	
8.	Need for completion of histology diagram in record	Yes	44(44.9%)	51(52.6%)	50(52.6%)	145(50%)	0.02
		No	35(35.7%)	26(26.8%)	39(41.1%)	100(34.5%)	
		Not sure	19(19.4%)	20(20.6%)	6(6.3%)	45(15.5%)	
9.	Preferred way of drawing diagram	Seeing slide focused under microscope	24(24.5%)	14(14.4%)	15(15.8%)	53(18.3%)	0.002

		Already drawn slide	47(48.0%)	63(64.9%)	71(74.7%)	181(62.4%)	
		From OHP/PPT	22(22.4%)	18(18.6%)	5(5.3%)	45(15.5%)	
		Any other	5(5.1%)	2(2.1%)	4(4.2%)	11(3.8%)	
10.	Time to draw diagram	15mins	54(55.1%)	35(36.1%)	47(49.5%)	136(46.9%)	0.004
		20mins	19(19.4%)	26(26.8%)	18(19.0%)	63(21.7%)	
		25mins	5(5.1%)	23(23.7%)	16(16.8%)	44(15.2%)	
		>25mins	20(20.4%)	13(13.4%)	14(14.7%)	47(16.2%)	

Table No 4: Showing student's respons regarding faculty guidance (n=290)

SL NO	VARIABLES	STUDENT'S RESPONSE	BATCH 2016-17 n=98 Frequency (%)	BATCH 2017-18 n=97 Frequency (%)	BATCH 2018-19 n=95 Frequency (%)	TOTAL n=290 Frequency (%)	p- value
1.	Preference to point out exact histological structure in slide	Yes	86(87.8%)	94(96.9%)	92(96.8%)	272(93.8%)	0.01
		No	9(9.2%)	1(1.0%)	1(1.1%)	11(3.8%)	
		Not sure	3(3.0%)	2(2.1%)	2(2.1%)	7(2.4%)	
2.	Preference for demonstration of slide	Self demonstration under microscope	9(9.2%)	13(13.4%)	6(6.3%)	28(9.7%)	0.0007
		By teacher	66(67.3%)	80(82.5%)	78(82.1%)	224(77.2%)	
		By technician	2(2.0%)	1(1.0%)	4(4.2%)	7(2.4%)	
		Aided demonstration	21(21.5%)	3(3.1%)	7(7.4%)	31(10.7%)	
3.	Need for Discussion with clinical correlation	Yes	84(85.7%)	71(73.2%)	90(94.7%)	245(84.5%)	0.0006
		No	12(12.3%)	21(21.6%)	2(2.1%)	35(12.1%)	
		Not sure	2(2.0%)	5(5.2%)	3(3.2%)	10(3.4%)	
4.	Way of demonstration & discussion	Individually by teacher	28(28.6%)	7(7.2%)	5(5.3%)	40(13.8%)	0.00004
		Small group discussion	57(58.2%)	76(78.4%)	75(78.9%)	208(71.7%)	
		Discussion by a student to whole class	3(3.0%)	5(5.2%)	7(7.4%)	15(5.2%)	
		Discussion among small group of students	10(10.2%)	9(9.2%)	8(8.4%)	27(9.3%)	
5.	Need for short written instruction at the end of practical class	Required	55(56.1%)	49(50.5%)	65(68.4%)	169(58.3%)	0.03
		Not required	26(26.5%)	18(18.6%)	18(19.0%)	62(21.4%)	
		Not sure	16(16.4%)	26(26.8%)	10(10.5%)	52(17.9%)	
		Any other	1(1.0%)	4(4.1%)	2(2.1%)	7(2.4%)	

Student's other opinion

1. Student's opinion on preference for histology slide demonstration during practical hours:

Most of the students opined the need for individual microscope during practical. According to them, they will get more time to see the slide & examine the whole slide perfectly. It will prevent overcrowding & chaos in the classroom & also create more interest among students regarding learning histology. They also showed the need for same slide under projector along with individual microscope.

Some students said provision of one microscope for a small group of students. With small group, the students can discuss among themselves about the slide and understand in detail & remember better. Identification of histology slide also will be easier.

2. Opinion regarding short written instruction about the topic at the end of practical class:

- Important point to be shortlisted to recapitulate later
- Identification points to be written
- Proper summarization of the topic with clinical correlation to be mentioned for better & easy understanding

- Frequently asked viva questions from exam point of view to be discussed which will help the students for better result.
 - Multiple choice questions to be provided for the topic for future assessment.
3. **Other general opinions:** According to the students, lectures are very important because from books alone the learning cannot be completed. So discussion of the topic by faculty following lecture is important to make the learning process stronger. Weekly histology test can be conducted. More revision classes should be provided for better remembrance. Timing of practical hours should be increased.

V. Discussion

Total 290 students from 3 batches of first year MBBS students responded for the questionnaire. It was seen that the responses were quite similar from all the three batches. So it is important for the teacher's to modify the curriculum according to the feedback and help the students to improve the learning accordingly.

Table No 5: Overall student's respons

Studies	Present study	Sudipa et.al. ²	Amar Jayanthi et.al. ⁷	Kramer B. et.al. ⁸	Soley JT et.al. ⁹	Nnomdim JO ¹⁰	Mclaughlin M et.al. ¹¹
Student's respons (%)	96.7%	93.06%	93.2%	34%	70.4%	88.7%	74%

In the present study, 290 students (96.7%) responded among 300 students. The respons of the students was high like other studies^{2,7,9,10,11} except in the study by B. Kramers et.al.⁸ which showed very less percentage (34%) as depicted in table No.5. The result from questionnaires can be discussed by the following points:

Table No 6: Preview of lecture before practical

SL NO	Need of preview of lecture before practical	Present study n=290	Sudipa et.al. ² n=94	Kramer B. et.al. ⁸ N=88	Rashmi Jaiswal et.al. ¹² n=129	Amar Jayanthi et.al. ⁷ n=287
1	Needed/useful	89.7%	95.7%	22.5%	17.87%	93.8%
2	Not needed/useful	6.2%	-	-	-	-
3	Not sure/ undecided	3.1%	4.3%	-	-	-

In the present study, 89.7% students (table 2) showed the importance of preview of lecture which is quite higher like other studies^{2,7}, whereas the percentage is lower in studies by Rashmi Jaiswal et.al.¹² & Kramer B et.al.⁸. The importance of preview of lecture is found to be significant statistically in the present study. XiaoyeLu¹³ showed that the integrated histology course including two patterns: 1. Lecture-practice-lecture-practice and 2. Practice-lecture-practice can be implemented instead of traditional currently used histology method to improve the students. This integrated system is almost like traditional method, the only difference is time interval which has to be set between lecture & practical. The less the time interval between theory & practical, the more the students will remember the theory topic effectively during practical. In this system, the teachers re-explain the theory topic during practical hour which will create more impact on students.

Preferred audio-visual aid for preview of lecture:

Teaching by conventional teaching methods like lecture, demonstration etc. becomes easier, understandable & meaningful with the aid of devices called audio-visual aids. The audio-visual aids can be power point presentation, chalk & board, OHP, charts etc.¹⁴. In the present study, 41.4% students (table 2) preferred using mixed of aids (talk + chalk & board+ OHP+PPT) as audio-visual aid during preview of lecture followed by 27.9% by chalk & board. Mixed of audio-visual aids were preferred for lecture by 45.1% students followed by animation by 27.4% , PP slides by 15.9% and blackboard by 11.5% students¹⁴. According to Sushma k.¹⁵, maximum students(90.49%) preferred the use of mixed of audio-visual aids followed by chalk & board by 58.57% and PPT by 46.4% students. Among them, Chalk & board was preferred as best AV aid for grasping by 71.86% students and for thinking by 98.77% students.

Preferred histology diagram shown during lecture:

48.3% students(table 2) preferred the histology diagram to draw by faculty & previously drawn diagram during lecture in the present study. 89.3% students(table 2) showed the need for projection of slide during lecture. Kishore D.¹⁶ showed that 81% first year MBBS students preferred histology charts showing the histology H & E diagrams drawn by faculty make learning interesting. 83% students suggested these charts help the students to develop skill and 67% felt it helps to increase thinking ability. 93% students also mentioned that handbook consisting of these type of histology diagrams should be provided to the students¹⁶.

Need for pre-lab presentation during practical:

In the present study, 85.5% students(table 3) showed the importance of pre-lab presentation (statistically significant). The duration of presentation was preferred for 20mins by 34.5% students followed by 15mins by 26.6% students. They also preferred the diagrams of structures drawn by faculty during presentation followed by previously drawn diagram & from glass slide as mode of projection during pre-lab presentation. This type of pre-lab presentation followed by studying basic features & discussion with faculties was supported by Amos G Gona¹⁷. Acharya Veena¹⁸ showed that students mentioned the pre-practical briefing by faculty as a good teaching tool. 88% students rated the use of colourful diagram in blackboard by faculty from fair to very good.

Need of microscope for histology slide demonstration during practical:

In the present study, 51% students(table 3) showed the importance of use of individual microscope for histology slide demonstration as suggested by 85.1% students in study by Sudipa et.al.² followed by 52% by Prabhakaran K. et.al.¹⁹. In present study, the students said provision of individual microscope will give the students more chance & more time to see the whole slide more carefully & effectively and it will also reduce the unwanted chaos in the practical class. In this way, they will be able to identify the slide more effectively & remember better. Sudipa et.al.² showed that spending more time per slide using individual microscope was suggested by 10.39% students, whereas in other study by Kramer B⁸, it was 13.5%. Ahmed R et.al.²⁰ showed that the teacher feel the use of microscope & glass slide is more advantageous. The students view the real picture of tissue under microscope which will create positive psychological impact on students mind & to memorize for long. Some also mentioned the handling of microscope will help the students in future work to develop skill. It was supported by Harris et.al.²¹.

In the present study, some students (46.9%) (table 3) also preferred use of one microscope for a small group so that after seeing the slides the students can discuss the matter of slide among them-selves & can clear their doubts. According to them, small group discussion will help them to remember the slide for long and recall after. Jyotsna et.al.²² showed that undergraduate students appreciated the small group teaching with one tutor which increases communication skill, better approachability to teachers and fruitful interaction with faculty.

Need of drawing diagram in histology record during practical hour:

In the present study, 50% students(table 3) showed the interest to complete drawing diagram in histology record during practical hour itself, whereas 34.5% did not show any interest to draw and 15.5% was not sure about it. It is also found to be significant statistically. They needed the time to draw the diagram varying from 15 mins (by 46.9% students) to 20 mins (by 21.7% students). In Sudipa's² study, 52.1% students showed the interest of drawing diagram whereas 19.1% students did not feel the need of drawing and 25.7% was not sure about it. According to Amar Jayanthi⁷, 38 students out of 40 in one batch, think the histology class as drawing class. For them, the mean time for drawing was shown 38.38 plus-minus 26.4 mins. Some students opined that the drawing time either can be used for studying the tissue for better utilization of time in learning instead of drawing class.

Table No 7: Faculty guidance in histology lab

SL NO	Faculty guidance	Present study n=290(%)	Amar Jayanthi et.al. ⁷ n=287(%)	Sudipa et.al. ² n=94(%)
1	Needed	93.8%	93.2%	81.9%
2	Not needed	3.8%	3.6%	-
3	Not sure	2.4%	3.2%	-

In the present study, Students (table 4) showed the need of faculty guidance during practical hours which is seen statistically significant and they also said discussion with faculty clears all doubt. They also opined for involvement of more faculties during practical. Acharya Veena et.al.¹⁸ showed that 77% students

graded importance of student teacher interaction. They rated teacher's ability between good to excellent- 86% in terms of knowledge, 75% for communication skill, 80% for sincerity and 71% for approachability. Though the teachers want to teach the slide under microscope individually, but they cannot make it possible because of less timing. They showed interest of involving more faculties in one class²⁰. According to Samy A. Azer²³, the teachers can be the role model for the students. They can bring interest among students and influence them to learn histology in better way. The students opined for the need of more faculties to be included in a class for histology proper discussion because topic discussion with faculty is very important for better understanding & remembrance⁷. Jyotsna V. et. al.²² showed that more than 70% students rated the teacher's ability of knowledge & communication skill from good to very good. Many students also rated the students-teacher interaction as very good to excellent. 62.5% tutors also rated the teacher-student interaction as very good.

Need for audio-visual aids for slide demonstration:

In the present study, 77.2% students (table 4) wanted faculty guidance for histology slide demonstration and 10.7% was preferring provision of audio-visual aids. Sudipa et. al.² also mentioned need for audio-visual aids for the participants. Need for audio-visual aid was also suggested by Reenu Kumari et. al.³. Students accepted the use of LCD projector for histology slide demonstration as it is advantageous for large group of students¹⁸. Jyotsna Vet. al.²² said that more than 67% students rated the use of LCD projector as good to very good.

Total duration of practical hours:

In the present study, many students opined that the timing of practical hours is not sufficient to see the slide, to identify the tissue, to learn basic features, to discuss with faculties & to draw the diagram. So they expressed to increase the total time in curriculum or introduction of more faculty guidance in practical hours in small group to make the learning easier within a limited time. In Amar Jayanthi's⁷ study, changing of time duration was suggested by 24.7% students, whereas according to most of the students, drawing time can be used for learning the slide without changing time. Some also opined that planning of class can be modified within given time. Students wanted to spend time for studying the slides. Sudipa et. al.² showed that 61.85% students pointed out insufficient time for histology practical. Soley J T⁹ & Rashmi Jaiswal¹² also suggested the same. 15% students find less time for classes is the cause of poor performance in histology³.

Need of short written instruction at the end of practical:

In the present study, 58.3% students (table 4) mentioned the need for short written instruction by faculty about the topic at the end of practical class (statistically found to be significant). Students said identification points to be told, proper summary of the topic to be mentioned and most importantly clinical correlation of the topic to be discussed by faculty. Students also mentioned that the faculties should discuss the frequently asked question of exam. With this short written instruction, students will recall better and it will be beneficial during exam. Xiaoye Lu et. al.¹³ showed that the integrated learning system of histology includes teacher's briefing about the topic during practical as a short instruction which will increase the teacher-student interaction. This teacher-student interaction will create more interest among students and the students will be more beneficial during exam. Jyotsna Vet. al.²² said that 'practical teaching including 12 points guideline by faculties stimulate actual practical' responded by 50% tutor as very good and 37.5% as poor to fair. More than 71% students rated 12 points guideline as fair to good which enhances their practical skill. This 12 point guideline includes all the aspects about the topic for the day.

Need for revision class:

Importance of revision classes for histology was suggested by many students in the present study. In Sudipa's² study, 97.9% students showed the interest for revision of slides with faculty guidance.

Study limitation:

The study would have been more fruitful if both first and second year students were included as comparative result could be made out from different batch of students of different year.

VI. Conclusion

Histology is the basic foundation of pathology. Traditional teaching method in histology with the use of light microscope & glass slide will help the students to learn if it can be modified with better utility. With the student's feedback, it is important now for the faculty to plan necessary changes in teaching histology to make the learning process effective and to bring active participation of the students with more interest. The new ideas should be students friendly, students oriented, self-directed and time saving. Then the students can utilise the time and resources properly to learn histology & will be benefited thereby. Along with the improvement of traditional method, new techniques like virtual microscopy, computer aided learning, provision of SMART board, combined use of optical microscopy & digital system etc. can be introduced.

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