



A STUDY AMONG FIRST PROFESSIONAL MEDICAL STUDENTS: USE OF MICROSCOPE VERSES SLIDE PROJECTOR

Anatomy

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ABSTRACT

Emerging technology now exists to digitize a gigabyte of information from a glass slide, save it in a highly compressed file format, and deliver it over the web. By accessing these images with a standard web browser and viewer plug-in, a computer can emulate a real microscope and glass slide. Using this new technology, The large increase in the number of schools using computer-aided instruction has not been accompanied by an equivalent decrease in the number of schools that utilize microscopes and glass slides. Rather, the clear trend has been toward a blending of the new computer-based instructional technologies with the long-standing use of microscopes and glass slides.

KEYWORDS

Slide projector, Histology, Microscope, Digital slide, Virtual microscopy.

INTRODUCTION:

Histopathology is the study of changes caused by disease in tissues at microscopic level. Since decades, medical students are taught histopathology by light microscopy using conventional light microscopes. Virtual Microscopy is slowly replacing this conventional method. first year MBBS students face some special difficulties in conventional light microscopy teaching due to gap in teaching and observations under microscope simultaneously. The pattern of histology teaching should be updated.

Present study aims to assess the usefulness of virtual static images over conventional teaching method using light microscopy and to know the perception of students towards these methods.

METHODS:

All students (number of students in one academic year is 180) of first year MBBS were made to identify 20 slides (General as well as system wise) histology slides by two methods. We have used two methods for slide identification, one is conventional light microscopy followed by virtual microscopy in which we have projected same slide over slide projector as static image display. We have asked the students to identify the slides at first by light microscopy then same slide has to be identifying on slide projector. We have recorded the scores obtained by both methods then tabulated and analysed. Also student's feedback on both methods was collected.

RESULTS:

We found that Most of the students (85%) identified the slide very quickly on focused projector. While in conventional light microscopy 75 % students identified the slide correctly but they took extra time (1-2 minutes) for identification as compared to slide projector method.

All students opined that it is better to understand and identify slide at first on slide projector followed by light microscopy for more details.

Figure1: Slide Projector Method

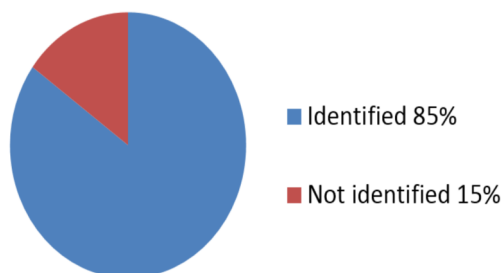
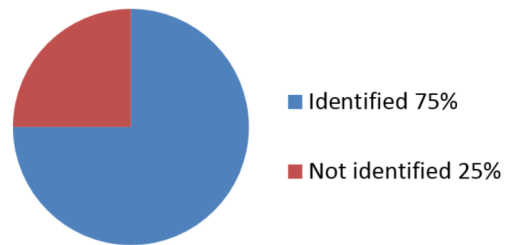


Figure2: Light Microscopy Method



DISCUSSION:

Conventional microscopy is the traditional method for teaching histology slides for first MBBS students since decades. Being a first MBBS student it is a matter of debate that even in histology lab microscope should be used or not. After discussing the topic to various senior teachers, it is opined that using microscope alone for histology teaching students get discouraged with slides when it is combined with slide projector or digital slides, understanding and outcome both improves.

In conventional light microscopy, specially for first MBBS students, teachers used to show features in the microscope, by indicating see at this position, like 3 o'clock or 9 o'clock etc. but most of the time student could not get the things except some simple slides. And in last they mug up external appearance of slides and identify it. But this is not correct way. Such type of teaching lead to difficulties to postgraduate students too and still they face lot of difficulties to understand things. So it is necessary to update the traditional system with modern techniques including digital slide projectors and projecting microscope.

Table 1. Comparison Of Opinions Of Medical Teachers On Virtual Microscopy Verses Conventional Light Microscopy As Per Online Discussion

Medical Teacher groups	Opinions
Group 1	The pattern of histology teaching should be changed. Slide should be projected on screen.
Group 2	It is true that Histology teaching poses some special problems.
Group 3	Multi head microscope an option for teaching few at a time.
Group 4	Very sad to say that even most of the teachers cannot identify the slides

Group 5	Replace the microscope by projecting Di Fiore slides on the screen for Undergraduate students, but we do not agree to the same for pg students.
Group 6	First MBBS students get discouraged with slides and soon after joining the 1st year course they feel some special problems with light microscopy
Group 7	The learning curve is far higher with the computer method.
Group 8	It is not only the instrument, In the present method, the teacher is overburdened.
Group 9	Projecting the slide is useful, but it should not replace microscope,
Group 10	change is necessary to understand things in histology lab.

CONCLUSIONS:

In present scenario MBBS first year students face difficulties in conventional light microscopy teaching due to lack of same view of slide at same time by teacher and students. The pattern of histology teaching should be updated as per need of the hour. So to conclude as per this study, best approach that should be followed is identifying slide at first on slide projector for basic details followed by light microscopy for more details. Further such type of studies should be conducted at various places with more number of participants to reach final decision.

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