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# SMART CLASS;

## APPLICATION OF SMART CLASS IN WARD POSTING LUMHS JAMSHORO SINDH, PAKISTAN.

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**ABSTRACT... Objectives:** To apply SMART class in ward posting of final year MBBS. **Setting:** Ward 6 medical unit 4 Liaquat university hospital Jamshoro Sindh. **Duration of Study:** May 2014 to November 2016. **Study Design:** Observational study. **Methodology:** 255 students of final year M. B. B. S. of Liaquat University of medical and health sciences Jamshoro Sindh, Pakistan were selected by convenience sampling for this study. All students were assessed for clinical judgment. Data collection tools included a 4 items assessment. The assessment was categorized in 4 grades;1-clinical judgment done independently, 2-partially got supervision for clinical judgment, 3-full supervised , 4-unable to perform any clinical judgment. **Results:** 255 students from three batches of final year MBBS assessed by 4 grades of performance. Out of which 39 % students were done patient judgment independently, 41.4% were partially or fully supervised, while 19.6% were unable to judge patient clinically. **Conclusion:** Smart class is better methods for interacting, clinical judgment and management plan for final year MBBS students.

**Key words:** Class, Smart, Final Year, Jamshoro, Learning outcomes.

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## INTRODUCTION

Class room teaching actually boosts learning by passive and interactive sharing of knowledge. As teaching is a dynamic process especially in medical institutions and needs change on regular basis.[1]

Not so old, chalk and talk with magic or black board method provided face to face contact, but now it is abolishing in many institutes because of large number of learners.[2] Learning has been defined functionally as changes in behavior that results from experience or mechanistically as changes in the individual that result from experience. So it is obvious that if students will learn better, they will ensue better clinical reasoning and psychomotor skills.

Quality in education is an essential requisite for today's competitive environment. Technology has affected us in every aspect. Technology augments quality in education by making the topics more enjoyable, understandable and clear their misconcepts, improve skills and assessment. Successful quality teaching and learning based on mini lectures, tutorials, 3D images like in anatomy, different sounds like heart and respiratory by blue tooth device. Adopting new techniques enhance effective student & teacher interaction, proper attention and removing bias.

Many articles have been generated to justify new techniques for better patients treatment and diagnostic approach for many diseases. Shaping atmosphere of class in which students can learn better becomes the new prerequisite. Teachers need support in the reshape of class. Majority of students have least experience about the skills and knowledge needed to effective learning in the student-centered classroom.[3]

According to Indian study definition of learning style is how and what method individual will use to synthesize and process the required information for achieving the learning outcomes.[4]

S.M.A.R.T class stands for specific, motivated, attainable, reasonable and time bound. A smart

classroom is equipped with instructor, digital aid like computers, digital books blue tooth, digital board. These more include, USBs, power points presentation.

Now the students are encouraging the concept of innovation and interactive learning process. The use of different digital aids in classroom have not only made education interesting but a chance to students to enhance their performance.

Thus, SMART class brings about a complete revolution in ordinary classroom. This increases better and targeted understanding of the concepts and helps to achieve the objectives of teaching course. Instructors and students will able to understand each other in the learning process and also will get reasonable and precise assessment of learning outcomes.[5] Smart class rapidly transform the way teachers teach and students learn in schools with innovative and meaningful use of technology. Students learn difficult and abstract curriculum concepts.

Smart class in medical unit 4 ward 6 Jamshoro Sindh started 3 years back. The main objective was to teach the students logically with active participation.

Traditionally in ward posting students were assigned some patient bed to take history and teacher was supposed to teach clinical methods and case in front of all students and the end students got free with mentioning attendance.

The learning outcomes were defined prior to make the subgroups. These based on the importance of topic. In ward class the task is examination of the patient.

Smart class started with some specific topic. The motivation was started by asking that how much student already knew about today topic. Then students divided into sub groups with selection of any one student as leader from each group.

Each sub group was supposed to deal with specific clinical scenario or real patient. Each sub group was supervised by a senior post graduate or faculty member and then every student of sub group was supposed to gather information in form of history or clinical signs. This information summed up to medical history and clinical findings by group leader. At end subgroup leader was handed over comprehensive systemized case to faculty member. The faculty member was supposed to justify findings in front of all sub groups one by one.

In this method student learned 5 -6 clinical cases with reasoning and justification by use of computers, video or power point. Sometime pictures, tables or guide lines included for learning.

The rationale of this study was to know the smart class in learning of final year MBBS ward posting than ordinary method.

## MEHODOOGY

This study was conducted at medical unit 4 ward 6 Liaquat university hospital Jamshoro Sindh, Pakistan which is the second largest hospital of Sindh province. The present study was carried out of three MBBS batches attended medical unit 4 at Liaquat university hospital.

Data collection tools included 4 items self generated assessment for clinical judgment; 1-clinical judgment done independently, 2-partially got supervision for clinical judgment, 3-full supervised, 4-unable to perform any clinical judgment.

Clinical judgment included relevant history, clinical examination, essential investigations workup and provisional diagnosis.

A total of 255 students of final year MBBS were selected from three batches . Out of whch110 students selected from batch 2009-10,100 students from batch 2010-11 and 70 students from batch 2011-12. The sampling technique was non probability convenience sampling. A written consent was obtained after explaining them thoroughly about the study. The participation was entirely with consent without any fear of pass or fail in final examination. Frequency and

percentages were measured. SPSS 16 was used for analyzing data.

Each group was subdivided into 5 subgroups and specific tasks like liver examination, differential diagnosis, provisional diagnosis and treatment plan was given. The subgroup was free to use digital aid like laptop, mobile and tabs. At the end each sub group was assessed by a senior faculty member one by one and discussed the particular task by add of multimedia.

### Exclusion Criteria

Students were not posted to medical unit 4ward 6
Students refused to participate in study
Absent from ward posting more than 10 days.

### Inclusion Criteria

Final year M. B. B. S. students attended posting at medical unit 4 ward 6 Liaquat university hospital Jamshoro for at least 18 days.

## RESULTS

A total of 255 students of final year MBBS students enrolled from 2010 -12 batches were attended medical unit 4 Jamshoro for their ward posting. The female students were 152 and males were 103, ratio was 1:1.4. The mean grade obtained from previous ward was 7.5±1.5 and mean attendance was 16±2.5 days.

Base line characteristics of 255 students were shown in Table-I.

39% students were done clinical task individually while 19.6% were unable to complete their tasks as shown in Table-II.

| Variables | Number | Percentage % |
|---|---|---|
| Male | 103 | 40.3 |
| Female | 152 | 59.7 |
| Attendance in ward(20days) | 16±2.5 | |
| Grade obtained from other wards | 7.5±1.5 | - |
| User of digital aid | 170 | 66.6 |
| Already studied from book about case | 140 | 54.9 |

**Table-I. Base line characteristics of 255 students**

| Outcome | Number of Students | Percentage % |
|---|---|---|
| Clinical judgment individually | 100 | 39 |
| partially got supervision for clinical judgment | 70 | 27.6 |
| Fully supervised | 35 | 13.8 |
| Unable to perform any clinical judgment | 50 | 19.6 |
| Total | 255 | 100 |

**Table-II. Outcome of SMART class of 255 final year students.**

## DISCUSSION

Proper teaching and learning in medical institutions is most important factor in maintaining overall health of people of any country.

Teaching and learning are the essential components and run side by side. The best way to the quality of teaching is the number of student learned. There are consistently high correlations between students' ratings of the 'amount learned' in the course and their overall ratings of the teacher and the course.[6] Attention is being given to the quality of teaching and learning in the medical institutions.

In our study female students were 155 and males were 115, ratio was 1:1.3. The mean grade obtained was 7.8±1.4 which was a unique feature not observed in other studies.

In a study from USA showed, the more than 63% had multiple learning styles with only 36% having a single learning style; and only listeners were 4.8%.[7] But in our study 19% were only listener and did not performed which is more than USA study.

Multiple approaches are using by students to learn like by just understanding, memorization and recalling the memory, or combination of all at varying degrees. Deep Approach learning is an well comprehensive approach is a conceptual learning. Superficial approach is syllabus based recalling only. There is a recent trend away from problem-based learning to case-based learning. This is possible in medicine by teaching medical students by smart class in wards.[8] in our study we have used multiple approaches of superficial and

deep learning from recalling to problem and case solving and that precipitated 97%of students.

We have divided the students in small groups for better performance which is match able to study conducted by Saleh et al which also emphasized to make small groups for better learning as compared to large group.[9]

In Malaysian study respondents were 94% and problem Based Learning generates analytical thinking process, that cleared most misconcepts.[10] while in our study respondents and performers were 100% which is better than above study.

In study conducted in medical university showed understanding C2 level problems , 246 (50%) agreed animation based learning. For C1 level, the combination of PowerPoint slides and animations was considered by 157 (32%). In our study 39% students were learned and performed patient judgment independently, 41.4% were partially or fully supervised in patient management which is slightly lower than above mentioned study.

Proper adherence to topic (76%) students agreed lowest attention on overhead Projector lectures, (46%) students responded that digital screens of any type increased their concentration very well. In contrast (58%) students considered blackboards were good, but (49%) students considered digital aids were perferred.[11] In our study groups were entirely committed to specific topic and learning outcomes.

In Delaware, students began to assess by using a digital frame work on following points: creativity and innovation, communication, relevant information, critical thinking, solving of cases and decision making, building concepts, content and reflection.[12]

## CONCLUSION

Smart class is better methods for interacting, clinical judgment and management plan for final year MBBS students.



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When someone else's **happiness** is your **happiness,** that's love.

*"Unknown"*

## AUTHORSHIP AND CONTRIBUTION DECLARATION

| Sr. # | Author-s Full Name | Contribution to the paper | Author=s Signature |
|---|---|---|---|
| 1 | Imran Ali Shaikh | Hypothesis, Critical analysis, final review. | |
| 2 | Naila Masood | Writing manuscript. | |
| 3 | Khalida Shaikh | Collection of data and statical analysis | |