Original research Article

MBBS IST YEAR STUDENTS' PERCEPTION OF 'QUICK CASE STUDY' IN PHYSIOLOGY DIDACTIC LECTURE VIS-À-VIS THEIR PERFORMANCE.

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ABSTRACT

Objective: To evaluates usefulness of didactic lecture in understanding a particular topic in physiology, improving teacher-students interaction in the class and it`s effect on result of university examination. **Material and Methods:** A prospective study was conducted among 1st year MBBS students (n=113) at Jhalawar Medical College, Rajasthan. The Students were informed about new intervention and voluntary consent was obtained from students. After taking didactic lecture, specific questions (based on the case) were posed for students to answer. At the end of class, their answers were used to reinforce the concepts from the lecture material and the case study. **Result:** Out of 113 participant, most were of the opinion that a 'Quick Case Study' in didactic lecture was very useful in understanding a particular topic (95 %), helpful in relating the clinical condition to the basic mechanism (97 %) and led to better exchange of ideas and may help them to perform better in the final examination (91 %).**Conclusion:** A 'Quick Case Study' in didactic lecture was very useful in understanding a particular topic in MBBS I[st] year students'. This method is also helpful in relating the clinical condition to the basic mechanism and led to better exchange of ideas and may help them to perform better in the final examination.

Key Words: Quick Case Study, Didactic lecture, Pedagogy.

INTRODUCTION:

While Laboratory, Visualization and Simulation stand as the best three in terms of appropriateness for interactive software - Lecture and Demonstration and Case-Study come the 4th and 5th respectively. Role Playing, Mastery Learning and Creative Project follow in the same sequence in decreasing order of appropriateness. Student Teaching, Playground, Drills, Behaviour Modification, and Incidental Learning are various other methods of teaching **(1)**. In opinion of the researchers **(1)**, case study stands 5th in terms of appropriateness for interactive software.

A closely resembling technique of Laboratory procures a structured environment in which student undertakes observations, experiments, and evaluations. It usually involves an attempt to apply theories in the real world situations. **(2)**

This process may be confused with Case-Study because of the involved problem-solving skills. However, the distinctive feature of laboratories lies in the experimentation. Instead of gathering vast amounts of information to analyze it, as seen in the Case Study, student comes up with an experiment and executes it. **(3)**

Herein, student explores a set of materials representing a given problem or situation, and uses this analyze-generalize-synthesize type of problem-solving model and develops own solutions. **(4)**

For example, teachers could pose the following question to the class: "Should Asus make cell phones that could be installed inside people's heads, right under the scalp?" They would then engage the students in analyzing the problem, breaking it down into all probable answers, collect data, and then spin out the general information gathered so far to arrive at a conclusion. **(5)**

For students, the goal is not to arrive at a pre-derived right answer, but to learn the analysis of the given situation type. This technique is being used extensively in business schools as well as advanced history courses. An AI engine can be very useful in getting this approach work in software, when an educator or facilitator is not intimately implicated in the process. **(6)**

In this sense, it's comparable to the role of cognitive educators in successful projects such as CMU's PUMP (Pittsburgh Urban Mathematics Project), which is based on the ACT (Advanced Computer Tutoring) cognitive tutoring research. **(7)**

Coming the other way round, lecture and demonstration symbiotically stand together at position 4 – as differentiation. When this information is totally verbal, the technique is called Lecture - when visual, it's Demonstration. **(8)**

In didactic lectures, learners listen to lectures for much extended periods of time, sometimes for 3 hours straight, with only occasional breaks. This approach is highly instructor-centered. The students' passive inactivity mostly leads to deviant slip of concentration and decreased learning opportunities, especially in the crowded classroom environment. **(9)**

The concern here is not that the old pedagogies once much relied upon, are no longer sound techniques – but instead, concern is that educators have not adapted their pedagogies to involve newer methodologies that are shown to evolve the students' levels of thought and reflection practices in the current healthcare setting.**(10)**

Learner-centered classroom milieu promotes learning, at the various levels like analysis, synthesis and evaluation, of Bloom's taxonomy of cognitive educational outcomes. This level symbolizes a higher level of cognition, and is mostly associated with long-term recall. An example of pedagogy that is learner centered is unfolding and scenario-based case-study analysis. **(11)**

Instructors who are at the frontline of utilizing learner-centered educational strategies that target improving learning and thinking skills, are of prime importance. Without the know-how of the effective pedagogical components implementation, the endeavor to disseminate some effective teaching strategy to other educators is at risk of being mostly stifled. **(12)**

The goal of the current study was to analyse the pedagogical methods which are being employed by the educators who themselves have achieved a learner-centered classroom environment. They were the lecturers who proscribed to the premise that the teaching method of case study is needed to improve thinking level or, as often termed, generate a critical-thinking. **(13)**

A growing proportion of research has been devoted to the need for educating students how to be critical thinkers. A need, thus exists, for educators to improve their students' critical-thinking or higher level of thinking skills. **(14)**

To accomplish a higher-level thinking, the didactic component of medical courses needs to be modified. The modification that is direly needed is a shift from the focus on the teacher and teaching, to the learner and learning.**(1)**

A concept, elucidated by Bastable (2008), is that, students' critical-thinking capabilities are better evolved if they have their own voice in the learning process. Thus an increase in the learning process is also purported as one of the key factors in developing sound and critical-thinking skills. **(6)**

Having own voice in the learning process is the real basis of the learner-centered educational environment. A pedagogy that is associated with a learner-centered classroom environment is thus a case study analysis. **(1)**

The Aim and objective of present study are:- **(**a)To motivate students to apply theory concepts of basic sciences to clinical scenario and develop self-learning **(b**) To evaluates usefulness of Quick case study within physiology didactic lecture in context of understanding a particular topic in physiology (c) To evaluate usefulness of Quick case study in context of exchange of ideas and useful in university examination (d) To evaluates usefulness of Quick case study in improving teacher-students interaction in the class.

MATERIALS AND METHODS:

A prospective study was conducted among 1st year MBBS students (n=113) at Jhalawar Medical College, Jhalawar (Rajasthan, India). The institutional ethical committee permission was taken.

Students were informed about new intervention and a voluntary consent was obtained (by making the intervention non-mandatory and declaring that it won't be affecting their scheduled curricular performances).

In the beginning of didactic lecture, a very brief case study was displayed on a slide projector. After taking didactic lecture, specific questions were posed for students to answer, based on the case. Students worked individually or in pairs to write down their answer. At the end of class, their answers were used

to reinforce the concepts from the lecture material and the case study.

RESULTS:

Out of one hundred and thirteen participant students in the study, 95% of the students were of the opinion that a 'Quick Case Study' in didactic lecture was very useful in understanding a particular topic. 97% of the students opined that a 'Quick Case Study' was helpful in relating the clinical condition to the basic mechanism. More than 91% felt that a 'Quick Case Study' discussion led to better exchange of ideas and may help them to perform better in the final examination.

The case study group feels that more transferable skills are gained during the module (p <0.001) and also feel that they obtain more marks on this module compared to the traditionally taught group (p <0.001).

Figure-1: Feedback obtained regarding understanding of particular topic.

Figure-2: Feedback obtained regarding Clinical correlation

Figure-3: Feedback obtained regarding effectiveness in communication (exchange of idea)

DISCUSSION

In one research grading goodness of the technique by least number of participants scoring the system as "neutral to not effective", the case study (scored so by 9%) was found less good than only real life hands on projects (2%), participative class discussion (6%) and computer simulations (7%) and equaled small group in class problem solving.**(15)**

Against some past studies done qualitatively **(16)**, this study was quantitative and narrating the superiority of the technique. In another study is reported that students' critical thinking increases and their understanding deepen when learning via case-based instruction. Faculty reported that students in the classes using case studies demonstrate stronger critical-thinking (89.1%), are able to connect across multiple content areas (82.6%), and develop a deeper understanding of concepts (90.1%). **(17)**

In that paper, it was found that most of the faculty perceived that students are better able to view an issue from multiple perspectives (91.3%), and are more engaged in the class when using cases (93.8%).**(17)**

In yet another paper, it was reported that the group taught by traditional methods has significantly lower satisfaction with their ability of working in groups than the case study group (p <0.001). **(18)**

The case study group also feels that more transferable skills are gained during the module (p <0.001), rate the quality of the module significantly higher (p <0.01) and also feel that they learn more on this module compared to the traditionally taught group (p <0.001). **(18)**

CONCLUSION

Out of 113 participant students, most were of the opinion that a 'Quick Case Study' in didactic lecture was very useful in understanding a particular topic (95%), helpful in relating the clinical condition to the basic mechanism (97%) and led to better exchange of ideas and may help them to perform better in the final examination (91%).

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