

# A comparison of computer-, expert-, peer- assisted learning among under-graduate medical students

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**Abstract:** To compare the effectiveness of computer-assisted, expert-assisted and peer-assisted learning in terms of scores obtained after MCQ test for undergraduate medical students in a private medical college in Tamil Nadu.

**Keywords:** Computer-assisted learning, Peer-assisted learning, Expert assisted learning

## Introduction:

Traditionally, instructions and feedback have been provided by experts. Current trends in medical education include a modification from the traditional, lecture-based approach to student centered, evidence based learning. [1] The recent concepts in improvising medical education system include accessibility to journals, medical videos, e-learning coupled with lecture- oriented, team-based, peer-assisted learning. This has facilitated the students in rapid acquisition of knowledge. [2] Computer assisted learning (CAL) permits students to progress at their ideal pace by encouraging personalized learning. [3] CAL has been considered in various researches as a potentially valued teaching method and also as effective as expert-assisted learning (EAL). [4] Peer Assisted Learning (PAL) has been used as an addition to EAL in many medical institutions. [5] PAL has been defined as "the development of knowledge and skill through active help and support among status equals or matched companions". [6] PAL is professed as satisfying in terms of nurturing higher order thinking, effective teaching skills and in refining self-efficacy among learners.

## Aim & Objective:

To compare the effectiveness of computer-assisted, expert-assisted and peer-assisted learning in terms of scores obtained after MCQ test for undergraduate medical students in a private medical college in Tamil Nadu.

## METHODOLOGY:

This study was conducted on 2<sup>nd</sup> year MBBS students. The students were randomly divided in three groups by lot method following their roll numbers. A pre-test on a particular topic of interest was conducted. The groups A, B and C were dealt with computer-assisted, expert-assisted and peer-assisted learning respectively. An immediate post-test was conducted for all the three groups which included one best answer type of MCQs. Effectiveness of the three methods was calculated on the basis of scores obtained in MCQ tests.

## RESULT:

There were 135 students of 2<sup>nd</sup> year MBBS which included 72 (53.33%) males and 63 (46.7%) females. Scores of MCQ tests obtained after computer-assisted, expert-assisted and peer-assisted learning were compared. Out of 45 students in group A, 33 (73.3%) students were found to perform effectively after CAL technique. Out of 45 students in group B, 35 (77.8%) students performed efficiently after EAL method. Out of 45 students in group C, 28 (62.2%) found it easy to communicate with a peer.

## DISCUSSION:

In the present study on undergraduate students, EAL (77.8%) and CAL (73.3%) were found to be effective methods of teaching. This was similar to a study by Amesse et al. (7) who stated that students who were aided by CAL had significantly higher results in the post-tutorial exam as compared to the other methods. However, another study by Govindaraja et al (8) pointed out that there were difficulties among medical undergraduate students in conceptualising many characteristics in certain subjects like pharmacology and CAL strengthened the understanding and supplemented the performance of students. Our study demonstrated PAL was 62.2% which was almost similar to a study by Riaz I (9) which showed 70.4% students found it easy to communicate with a peer.

## CONCLUSION:

PAL and CAL are considered to be potentially time- and cost- effective substitutes to traditional teaching policies. Our results suggest that, for beginners, CAL in isolation can be as effective as expert-led learning in the instruction of basic practical

skills. The aptitude of the expert while providing instructions play a crucial role in promoting the efficacy of training thus proving EAL to be more helpful than PAL. Hence, PAL can be used as an adjunct to the other techniques in delivery of the curriculum in undergraduate level.

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