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OUTCOME OF COMBINATION OF DIDACTIC LECTURE AND SELF-DIRECTED LEARNING (SDL)METHODS OF EDUCATIONAL INTERVENTIONS IN PHYSIOLOGY FOR FIRST-YEAR MBBS STUDENTS

Yuvraj Rananajay Singh[1] and Dr. Srabani Bhattacharya[2*]

[1]MBBS Student, Rajiv Gandhi Medical College and CSM Hospital, Kalwa, Thane-400605,Maharashtra, India.
[2]Professor and Head of Physiology Department, Rajiv Gandhi Medical College and CSMHospital, Kalwa, Thane-400605, Maharashtra, India.

***Corresponding Author: Dr. Srabani Bhattacharya**

Professor and Head of Physiology Department, Rajiv Gandhi Medical College and CSM Hospital, Kalwa, Thane-400605, Maharashtra, India.

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ABSTRACT

This comparative, before- and after- study (without control) was conducted in a medical collegein Western India to study the difference in score after traditional didactic lectures (by a pre-test) and self-directed learning (by a post-test). The participants included all first-year MBBS students aged 18 years and above, of either sex, who gave written informed consent. After clarifying the purpose of the study and obtaining written informed consent, traditional didactic lectures were delivered as per syllabus for the first MBBS course. Following this the students took a pre-test,self-directed learning (SDL) was conducted on the same topic. This was followed by a post-testthat used a questionnaire that was identical that of the pre-test. The overall differences of pre- and post-tests were evaluated.

KEYWORDS: SDL, First-year MBBS Students.

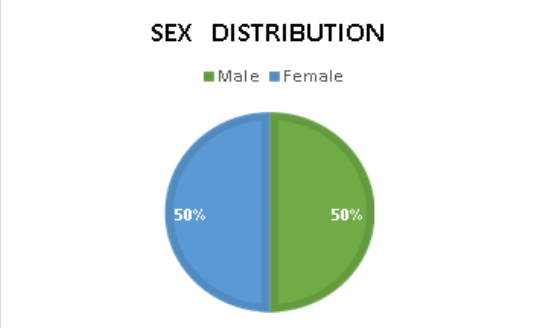
INTRODUCTION

As per National Medical Commission (NMC) 2020[1] blended learning is a teaching-learning format where the facilitator effectively integrates. Evaluation must be carried out as part of quality assurance practices. Evaluation of both the learning process and outcomes must form a part of teaching program. Judicious combination of both didactic and self directed learning (SDL) methods may be preferred over implementing either method alone. SDL helps in increasing the depth of knowledge, while lecture covers larger topics in a shorter span of time.[2] Competency based medical education (CBME) needs professional assessment of competence.[3] Assessment must have meaning for learners. Learners should cooperate with the instructor for relevant and meaningful assessment.[4] SDL is considered a component of physician's professional identities. SDL originates from the adult education literature.[5] SDL or autodidactism is a method of learning without guidance from teacher.

MATERIALS AND METHODS

This comparative, before and after study (without controls) was conducted at a medical college in Maharashtra, India. The participants were all First-MBBS medical students. Total number of participants were 56, both male and female students. They were aged 18 years and above. Those students who did not give written informed consent or those who were absent during the traditional didactic lectures (TDLs) or SDL teaching for pre-test or post-test were excluded. The purpose of the study was clarified to the participants and written informed consent was obtained from those willing to participate in the present study. TDLs and SDL on the topic of physiology as per syllabus for the first MBBS course conducted. The pre-test comprised five questions (two marks per question; total 10 marks). After the pre-test SDL was conducted. The outcome studiedwas the difference in scores after TDL (by a pre-test) and SDL by a post-test. The data was adapted to Microsoft Excel spreadsheet.

RESULTS AND DISCUSSION



SD=Standard deviation
95% CI= 95% confidence interval of the difference
*Highly significant

Figure 1: Sex Distribution.

Table 1: Difference in pre- andpost-test scores (out of 10).

Parameter		Female (n=28)		Male (n=28)	
		Pre test	Post test	Pre test	Post test
Mean		6.357	8.393	5.857	8.054
SD		1.6435	1.3007	1.6547	1.1574
Paired 't' value		-8.692		-8.484	
'p' value		<0.001*		<0.001*	
95% CI	Lower	-2.5162		-2.7276	
	Upper	-1.5222		-1.6652	

A total number of 56 students participated in the study. Among them 50% were male students and 50% were female students. The work of S Patra and others[6] revealed that to make learner equipped with the ability to learn through a professional learning course, SDL as a learning tool should be introduced in the medical undergraduate curriculum. Another study by AC Buch [7] etal reported that SDL is a novel method in the medical curriculum. B Bhandari and others[8] reported that the joint efforts by the facilitator and students themselves may be helpful to make students independent and lifelong learners. M K Nayak et al[9] revealed that SDL has many advantages regarding knowledge acquisition, retention and the development of metacognitive skills. They are an essential component of medical education. From the result of pre-test and post-test of present study it is highly significant in both male and female students. Pushing et al[10] reported that transforming the education to a better level, SDL needs to be part of the curriculum in medical education. Kalyani Premkumar et al[11] reported that faculty developmentplays an important role in implementing SDL; curriculum, assessments and culture does impactSDL readiness.

CONCLUSION

SDL alongwith TDLs significantly increases students' scores. Despite time constraints in the teaching schedule for first-year medical students, it is possible to conduct SDL. Students with low scores in the post-test may need remedial teaching. SDL plays an emphasized role in online learning environments. The current global situation of pandemic has created an even greater needto transfer information online. Through advancement of our conceptualization of SDL as well as the methodological approaches and ability to measure outcome of SDL, we can better prepare and maintain the skills of our physician workforce to meet the needs of our patients and society now and in the future and to support careers that will span many decades.

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