Section: Miscellaneous

Original Research Article

A COMPARATIVE STUDY TO EVALUATE THE ROLE OF CONVENTIONAL LECTURES AND SELF-DIRECTED LEARNING SESSIONS

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ABSTRACT

Background: The traditional didactic lecture in medical education generally involves a single lecturer delivering a class to a large audience of students while SDL is a process in which individuals take the initiative and responsibility for their learning. **Aim:** This study was chosen to expose students to both conventional lectures and SDL and assess their performance and preferences based on two different sessions and feedback.

Materials and Methods: The 100 students in the second year were divided into two batches, A and B to attend the faculty-guided self-directed learning sessions and didactic lectures. The study is divided into two sessions, in the first session the topic of study was Salmonella, and batch A was exposed to SDL and batch B to a didactic lecture. During the second session, the topic was Vibrio, batch A was sent for didactic lecture, and batch B for SDL. Both the sessions have pre and post-tests. After both sessions, students feedback was also taken.

Results: This study was conducted with 100 students of para 2 in our college. All the students willingly participated in this study after giving consent. All the students were divided into two groups A and B. In the first session topic was salmonella and A batch was exposed to SDL and a conventional lecture was given to batch B. Before the session, a pretest was given to both batches. In both sessions, students scored better with SDL as compared to the didactic lecture. Based on feedback 82% of students find SDL time-consuming but gives them a sense of responsibility 66% and inspires them to use additional learning sources for study 71%. Students find didactic lectures helpful in framing their learning approach 46 %. The majority of students were in favor of a combined approach for teaching 54%.

Conclusion: The self-directed learning method seems to be a more effective way of understanding the topic as compared to traditional lecture sessions.

Keywords: Self-directed learning, didactic lectures, medical students, feedback.

INTRODUCTION

Medical education comprises vast learning as compared to other professional courses and due to regular changes in medical science, medical graduates need to be self-motivated lifelong learners.[1] The current curriculum that was introduced in 2019 demands more learner involvement as compared to the previous curriculum which was more teacher-centric.[2-4]

The traditional didactic lecture in medical education generally involves a single lecturer delivering a class to a large audience of students with support from audiovisual aids such as a blackboard or PowerPoint presentation. With emphasis on students taking the initiative in learning, new learning

methods like problem-based learning (PBL) and self-directed learning (SDL) have emerged in medical curricula over the past few decades.[5] SDL is defined as "a process in which individuals take the initiative, with or without the help of others, in identifying their learning needs, formulating learning objectives, identifying resources required for learning, choosing and implementing appropriate learning strategies, and finally evaluating learning outcomes."[6-8] An individual who is equipped with self-directed learning (SDL) is a lifelong learner. Lifelong learning is a necessity to cope with fast-expanding medical knowledge and enables a health professional to continue learning throughout the professional life course.[9,10] SDL has been emphasized as a process in which individuals ideally take initiative and responsibility for their learning.[11] Self-directed learning has gained popularity in medical curricula as an effective learning method for knowledge acquisition by medical students. This study was chosen to expose students to both conventional lectures and SDL and assess their performance and preferences based on two different sessions and feedback.

MATERIALS AND METHODS

Study Design: Comparative study.
Study Population: Second year medical students in a private medical college in Uttar Pradesh.
Study Period: 1 year
Sample Size: 100 second year MBBS students fulfilling the inclusion and exclusion criteria.
Inclusion Criteria: All 2nd year (5th semester) MBBS students who gave consent and participated in the sessions were included in the study.
Exclusion Criteria: Students who were not willing to attend the program or absent.
The 100 students in the second year were divided into two batches, A and B to attend the faculty-guided self-directed learning sessions and didactic lecture. The topics for study were Salmonella and Vibrio in microbiology department. Multiple choice questions were prepared for pretest and post test. Both the topics were not previously taught in the class.
Session I
Topic- Salmonella
1. Preparation of SDL material.
2. SDL session.
3. Assessment of SDL.
4. Lecture classes and assessment.

Preparation of SDL Material: The material provided for SDL were Textbooks, Laptop and copy of power point taught in didactic lecture.
SDL Session: The students were asked to sit apart from one another. Pretest was provided to students and asked to complete the answers. After collecting pretest students were asked to get their textbook and laptops. Power point that is taught in didactic lecture was also provided to them. Batch A underwent a faculty-guided SDL session on the first day while Batch B attended the didactic lecture on the same topic by another faculty. During the SDL students were asked to go through the materials provided and to find answers for the questions. During the session the interaction between the students was kept minimum. The session lasted one hour.
Assessment of SDL: The students pre-test and post-test questionnaire were collected and evaluated manually with no negative marking. The results were tabulated.
Lecture Classes and Assessment: The lecture class on the same topic was taken for Batch B using a power point presentation, which lasted for one hour. A pre and post-test MCQ was administered to this batch. The MCQ papers were collected, evaluated and results were tabulated.
Session II
Topic: Vibrio. The preparation, SDL session and assessment for SDL as well as didactic lecture class were same as that on day 1 with just one exception. Batch B received the SDL session on second day and Batch A attended the lecture classes.
At last students' feedback was collected regarding how they find a difference between conventional lectures and SDL.

RESULTS

This study was conducted with 100 students of para 2 in our college. All the students willingly participated in this study after giving consent. Out of 100 students, 32 were girls, and 68 boys. All the students were divided into two groups A and B according to their roll numbers.
In the first session topic was salmonella and A batch was exposed to SDL and a conventional lecture was given to batch B. Before the session, a pretest and posttest of 20 questions was given to both batches. In second session topic was vibrio, A batch was sent for conventional lecture and B batch was sent to SDL both pre and post test were taken.
Although all the students performed well in both the sessions and there is a significant difference in the marks of students in pretest and posttest. [Figure 1]

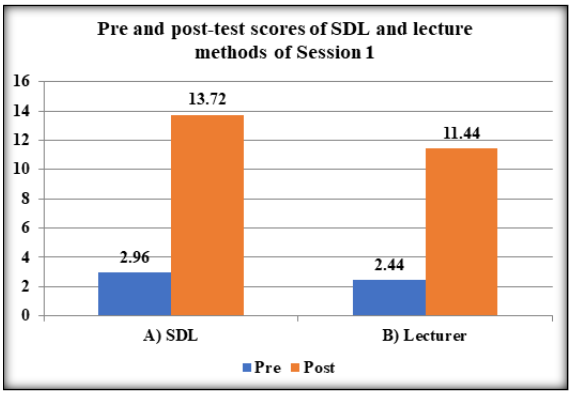


Figure 1: Pre and post-test scores of SDL and lecture methods of Session 1

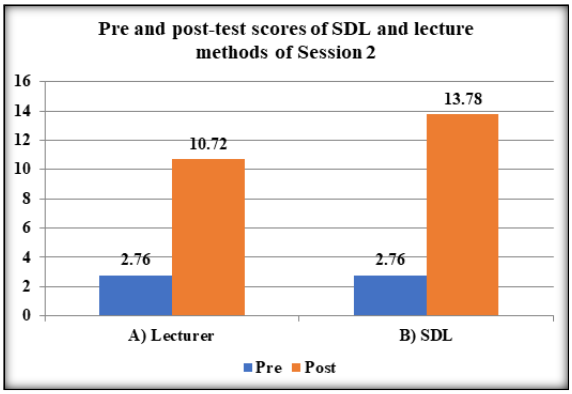
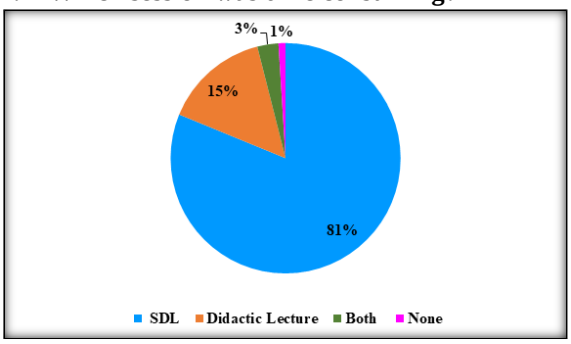


Figure 2: Pre and post-test scores of SDL and lecture methods of Session 2

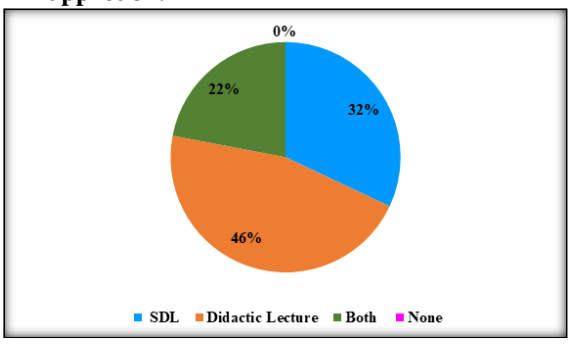
In both the sessions students scored better with SDL as compared to the didactic lecture.

After both the sessions a feedback form was given to students to understand their point of view. Based on feedback 82% of students find SDL time-consuming but gives them a sense of responsibility 66% and inspires them to use additional learning sources for study 71%. Students find didactic lectures helpful in framing their learning approach 46 %. The majority of students were in favor of a combined approach for teaching 54%.

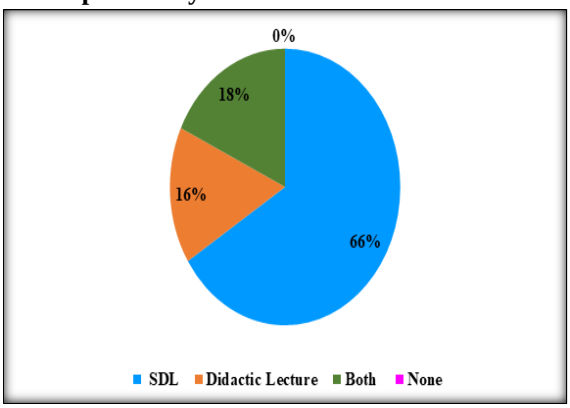
1. Which session was time consuming?



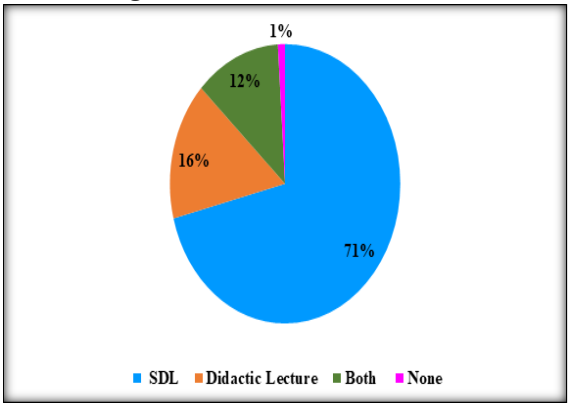
2. Which session helps you in your learning approach?



3. Which session gave you sense of responsibility



4. Which session encourages you to use more learning resources



5. In new curriculum, more session should be added of ?

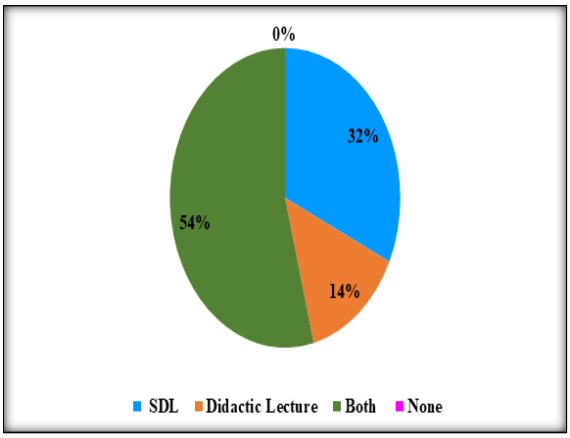


Table 1: Topic: "SALMONELLA" Session 1

Group	SDL	Lecture
Batch A	Yes	No
Batch B	No	Yes

Table 2: Topic: "VIBRIO" Session 2

Group	SDL	Lecture
Batch A	No	Yes
Batch B	Yes	No

DISCUSSION

The present study shows that students had performed very well in both SDL and didactic lectures which we can figure out by their marks difference in pre and post-test. In the present study, students have performed slightly better in SDL sessions as shown also by different studies.[12,13,14] Some studies like Fatima et al showed better results with didactic lectures.[15] In the present study, students found SDL sessions were more enjoyable and had given them a sense of responsibility by finding the answers on their own, they were forced to think, and make a search to come up with the answer. It was new and more interesting to students as compared to passive listening in didactic lectures. SDL is more of a learner-centered educational method which is an opportunity to modify our curriculum in medical education.[16,17] According to the feedback from students, students find SDL time-consuming similar findings were also given by Sami et al.[18] SDL has given students a sense of responsibility and inspired them to use additional learning sources for study in this study similar findings were also mentioned by Sheela et al.[19]

CONCLUSION

Students performed better in Self-directed learning sessions in our study than in traditional didactic lectures. SDL helped students in self-motivation but was time-consuming according to the feedback from the students. In didactic lecture single teacher can conduct the class but for SDL we need more faculty to guide the students about the topic. SDL helps clear the student's concepts and not limit their knowledge to their subject only but also helps in the integration of the topic. SDL sessions should be objective-based and under the guidance of mentors to avoid students' deviation from the goal of the study. In medical education, we have to create lifelong learners so SDL is very important in this path to inculcate the habit of self-study among students.

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