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Impact Study of Self Directed Learning on 1st Year M.B.B.S Students in Biochemistry Department

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Abstract

Introduction: Over previous year changes was made in education system by Indian Medical Graduate 2018. It implemented that the student centered teaching learning process with the use of various innovative teaching methods in which one of the method is self-directed learning process (SDL). This innovative teaching method increase students participation in the learning process. SDL improves students communication skill and prepares them for a lifelong independent learners.

Aim and Objectives: Impact Study of Self Directed Learning on 1st year M.B.B.S Students in Biochemistry Department. To assess the students opinion and evaluate percentage data whether they are accepted or not.

Material and Methods: In the present study total 150 voluntary participants were included from 1st year M.B.B.S students of academic year (2019–2020). A set of questionnaire was given to each individual student and took their feedbacks regarding their SDLs activity.

Results: We found the mean acceptance 89.66% of students response towards SDL process and 95.33% of students were accepted as SDL is a unique way of teaching method in biochemistry.

Conclusion: SDL is innovative method to improve understanding of subjects. It develop communication skill, boost the confidence and also supports to student for perform better in examination.

Keywords: Self- Directed Learning, Medical Students, Innovative teaching method.

Introduction

The undergraduate medical education program is designed with a goal to create an "Indian Medical Graduate" (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being

globally relevant[1]. The medical education in India is rapidly progressing and improving since last decade. Learning is the active process in which the students and teachers must be actively involved to make the knowledge-sharing process is enjoyable. In the traditional system of medical education, it was mainly taught by means of didactic lectures, tutorials and practical's, in the 1st year of the medical course. Hence, it was teacher centered, with minimal active participation from the students and hence, the students lacked interest and critical thinking. But now days, the education system is changing to Medical Council Of India, Competency Based Undergraduate Curriculum for the Indian Medical Graduate, 2018 implemented that the student centered various teaching learning methods are used. This various learning methods includes self-directed learning process (SDL), small-group teaching (SGT), Seminars, poster presentation, early clinical exposure (ECE) and ATECOM Module[2]. The medical education curriculum encourage the innovative teaching methods to increase student participation in the process of effective learning process[3]. This makes the students actively involved in the process of various learning methods and thus it prepares them for a lifelong independent learners[1].

Currently medical education aims to make students self directed learners it is also a great need to boost the integration skills in medical undergraduate students[3]. Numerous studies have proved that SDL activity valuable in terms of knowledge acquisition for learning gross anatomy, physiology and biochemistry[4]. Hosting such innovative strategies could be challenging for the faculty due to time constraints and to verify and validate the concept linkers presented by students[3]. However, if teachers accept this with an open mind to blend and change the traditional didactic lectures, it can prove to be very rewarding to the students.

The current teaching strategy was an easy implementable method for the teacher in a class room set up and gave an ideal opportunity for students to advance their knowledge integration, communication and presentation skills[3]. The present study carried out to see the impact of self-directed learning method on 1st year M.B.B.S students in our biochemistry department in which we are gathered the feedbacks (including questions) form the students after the SDL sessions.

Material and Methods

The present study was conducted in department of biochemistry at Maharashtra Institute of Medical Science and Research, Latur, Maharashtra, India. In this study total 150 voluntary participants were included from 1st year M.B.B.S students of academic year (2019–2020).

Acceptance of SDL learning method were assess by giving a set of questionnaires to each individual students and took their feedback in the form of (Yes/ No) format regarding their SDLs activity. After the collection of feedback data, we calculated and expressed data in the form of mean percentage to find out how much students acceptance is there of unique way of learning process.

The main objective of present study were:

*To assess the students opinion about SDL activity.

*To evaluate percentage data whether they are accepted or not.

The steps for conducting SDL activity:

Step 1: Orientation and planning

Total 150 voluntary participants were divided into 6 groups for Self Directed Learning session, i.e[A=25, B=25, C=25, D=25, E=25, F=25]. For SDL sessions

Specific Learning Objectives were decided, SDL groups topic allotment were decided and for the preparation of topics the list of reference books were made. Methodology of conducting brainstorming session and presentation session was planned for execution.

Step 2: Brain storming session

The brain storming session was conducted on same day. The above 6 groups, in which with an average of around 6 students were selected as per their choice (means one group one participant, total 6 groups = 6 participants for per session). Each group had one leader was contact with their facilitator faculty. The students were given adequate time to thoroughly prepare the topic. During this period leaders within the groups were in continuous communication with their respected groups.

Step 3: Presentation

The presentation session which was conducted within 10-15 days from the allotment of the topics. For each students were given about 10 minutes to present their topics by using teaching aids like power point presentation, animation, charts and models prepared by their own group members because this aids were very helpful and important for their quick learning. During this activity each groups were assessed by the faculty members.

Step 4: Set of questionnaires to assess SDLs Activity.

After the completion of SDL sessions, assessment of SDLs activity was done by giving a set of questionnaires to all 150 students and collected their feedbacks.

Set of questionnaires are as follows:

1. Did you like the SDL sessions ?
2. Have you actively participated in the session ?
3. Did the SDL help to improve in your understanding?
4. Did you create any new ideas during SDL topic preparation?
5. Did you help in your group discussion?
6. Did you develop any interest in the respective topic during activity?
7. Did you build any confidence in you after the sessions?
8. Please let us know if this one of the efficient method of teaching ?
9. Where the lectures interested along with this SDL activity ?
10. Is this a unique way of teaching method in biochemistry ?
11. Is it trained to integrate various topics in Biochemistry ?
12. Is it prepared to become a deep learner ?

Results

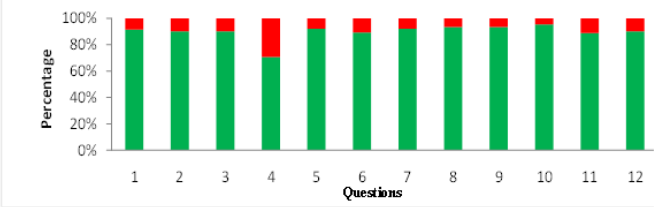
The set of questionnaires were given to all 150 students after the SDLs activity sessions and collected their feedbacks from them. After the assessment we observe that the majority of students acceptance towards SDL learning process were more 89.66% (Mean percentage of students response) as compared to unacceptance 10.34% and 95.33% of students were accepted as SDL is a unique way of teaching method in biochemistry (TableNo.1)

Table No. 1:- 150 Students feedback on questionnaires to assess SDLs activity.

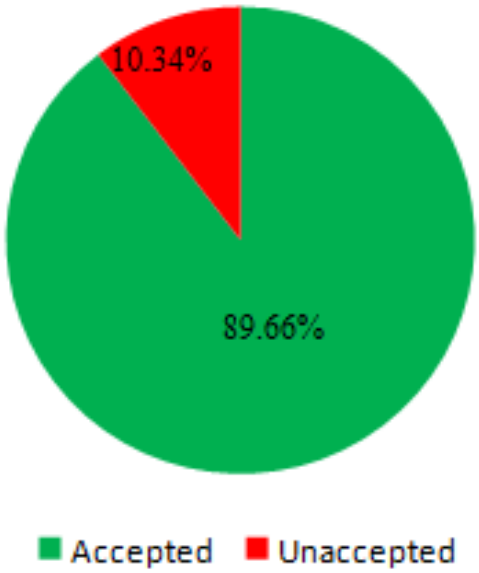
No	Set of questionnaires to assess SDLs Activity	Student feedbacks	
	The Students Response :	Yes (%)	No (%)
1	Did you like the SDL sessions?	91.33%	08.67%

2	Have you actively participated in the session?	90.00%	10.00%
3	Did the SDL help to improve in your understanding?	90.00%	10.00%
4	Did you create any new ideas during SDL topic preparation?	70.66%	29.34%
5	Did you help in your group discussion?	92.00%	08.00%
6	Did you develop any interest in the respective topic during activity?	89.33%	10.67%
7	Did you build any confidence in you after the sessions?	92.00%	08.00%
8	Please let us know if this one of the efficient method of teaching?	93.33%	06.67%
9	Where the lectures interested along with this SDL activity?	93.33%	06.67%
10	Is this a unique way of teaching method in biochemistry?	95.33%	04.67%
11	Is it trained to integrate various topics in Biochemistry?	88.66%	11.34%
12	Is it prepared to become a deep learner?	90.00%	10.00%
Mean percentage of students response		89.66%	10.34%

Graph 1: Students feedback on questionnaires in percentage.



Graph 2: Mean percentages of students response on SDL activity.



Discussion

Learning independently is challenging in the 1st year of undergraduate medical curriculum. Concept of building activities in a lecture set up shall generate curiosity in the process of learning methods and transform students into deep approach learners. However, defining the learning goals clearly by the instructor to the students will make them appreciate it and mould them into successful learners with deep approach[3].

In present study we assessed SDLs activity by obtaining students responses on feedback questionnaires and were expressed as percentage. We found the mean acceptance 89.66% of students response towards self directed learning process **(Graph 1)** and 95.33% of students were accepted as SDL is a

unique way of teaching method in biochemistry **(Q.10, Graph 1)**. It was observed that students enjoyed the new method of teaching. Active participation of students in the current study has made them learn the concept of building skills in biochemistry and has proved to be an effective exercise of revisit to topics learnt throughout the year[3]. There are several study compare lecture with self-directed learning alternate forms of learning. Although a few studies suggest that SDL groups performed better than traditional large group lectures, other studies have reported that self study-group to be equivalent to group plus traditional classroom teaching[4].

The current active learning strategy has substantiated to be beneficial to both the faculty and the students. SDL is found to be an effective tool for students as a learner among medical undergraduates students for their study to enhance their capacity to become independent and responsible learners, that's why SDL is widely being used in medical professional courses[3].

In current study, acceptance for SDL activity was increased and students settle down easily for a surface learning approach if a well prepared and content rich lecture is delivered regularly. However, if active learning strategies are introduced compulsorily, they are accept the challenge and involve enthusiastically in the process of learning methods. It gives them an opportunity for independent SDL activity about the subject as well as to present small topics in front of their peers and teachers. Such activities empower students to be independent learners and help them to advance their thinking skills and attitude. It assists in the clinical practice and decision making skills for a future doctor. Such concept building skills will be enhanced through such activity and shall prove that advantageous to students to prepare well for university examination[3].

SDL is very effective and efficient training of medical students and SDL enabled independent decision making and improved communication skills[4]. SDL is essential to enable medical students to develop independent learning skills, increased responsibility, assertiveness and accountability which are key attributes to a medical professional's career and they felt that it could be helpful to perform better result in university examination[5]. Hence it has been proved that SDL teaching methods effective to help students to explore subjects knowledge[3].

Conclusion

SDL is innovative method to improve understanding of the subjects. It also helps the students to clear doubts, perform better in examination. This method encourages students to actively participate leading to active learning with better retention. Additional benefits of this method was it helped students to develop communication skills. Finally we concludes that the SDL is necessary for 1st year M.B.B.S curricula to introduce preliminary steps to boost the confidence of the students.

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