



INTRODUCING SELF-DIRECTED LEARNING TO UNDERGRADUATE STUDENTS IN SURGERY

Medical Education

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ABSTRACT

Introduction Medical education systems worldwide have embraced Self Directed Learning (SDL) so that medical students gain SDL skills to continuously equip themselves with relevant knowledge and skills in the ever evolving world of medicine. SDL is important as it helps a student to develop life-long learning skills which is an essential skill expected of a health care professional. **Materials and Methods** SDL was used as a teaching learning method to undergraduate students in teaching surgery. Feedback was taken from students and faculty through validated questionnaires. **Results** A total of 89 students from 4th semester participated in this study. Overall positive responses were received from the students and faculties for SDL. **74.15 %** of the students agreed that SDL can be considered as a driving force for lifelong learning. All the faculties agreed that SDL is an effective teaching method in increasing learner's knowledge and **83.33%** agreed that SDL was a feasible exercise and generated more interest of the students. **Conclusions:** SDL can be considered as the driving force for lifelong learning as most of the students were ready for self directed learning. It encourages students to think critically and arouse their curiosity which help them to understand the topics in depth. Our collective experience convinced us that self directed learning sessions can be considered as an alternate form of learning in knowledge acquisition.

KEYWORDS

Lifelong Learning, Learner Centred Approach, Adult Learning

INTRODUCTION

Lifelong learning is a skill that must be possessed by medical graduate students and can be achieved by students taking their own responsibility in learning process.^[1] The concept of self-directedness in learning was first discussed in the educational literature as early as 1926. Self-directed learning (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."^[2,3] Lifelong SDL skills are necessary for survival, especially among health professionals, which in turn reduces the numbers of de-motivated medical graduates.^[2,3,4] Medical educators are exhorted to adopt SDL with the principal aim of producing learners who can manage their own learning throughout their careers as education in medical profession emphasizes active participation by students in order to develop motivation, autonomy and self-interest in the learning process.^[5]

Increased curiosity, critical thinking, quality of understanding, retention and recall, better decision making, achievement satisfaction, motivation, competence and confidence are associated with SDL.^[4] These are all important qualities in doctors. The students take significant responsibility of their own learning and educators assist the students to acquire the skills.^[6] SDL also enables health professionals to continue learning and update knowledge during their careers.^[7] SDL allows the teachers to take alternative measures apart from didactic lectures to help students in achieving their educational objectives. This dynamic learning technique helps the medical graduates to take initiative for solving their learning problems and to become a life-long learner.^[8] Therefore a shift away from traditional, teacher-centred power relations towards learner-centred approaches can significantly enhance learning and create the intrinsic motivation necessary to enable effective, dynamic, lifelong learning processes. Intrinsic motivation is an essential element of self-directed learning.^[9] Self-directed learning is a characteristic feature of adult learning. The main purpose of SDL is to develop the skills of inquiry and acquire new knowledge easily and skilfully.^[10] SDL is expressed in terms of the

readiness of the learner to assume the increasing responsibility for his or her own learning.^[1] Self-directed learning readiness is defined as 'the degree to which the individual possesses the attitudes, abilities and personality characteristics which are necessary for self directed learning'.^[11] Learning readiness exists in all individuals innately along a continuum, but certain situations help it to flourish.^[12]

Objectives of the study :

To introduce the concept of self directed learning; to assess the self-directed learning readiness technique and to study the perception of the students and faculties about self directed learning methodology

METHODOLOGY

The study was carried out in the department of Surgery, Jorhat Medical College, Jorhat, Assam. The population involved were 4th Semester MBBS students and faculties of Department of Surgery. Prior permission was taken from Institutional Ethical Committee (IEC). At the very outset a meeting was organized in the Surgery department and a brief introduction about the purpose of the study was given. 6 faculties volunteered for the study and they were sensitized regarding SDL and the sessions. A meeting was held where the faculties came to a consensus and decided two topics for two SDL sessions. I was the facilitator and one faculty from the department of Medical Education acted as a co facilitator for conducting the sessions. 89 students who participated in the study were sensitized and taken consent. The students were assessed for readiness towards self-directed learning by using self-directed learning readiness scale (SDLRS), designed by Fishers' et al., in 2001.^[11]

It is a pre validated tool, used in India in earlier studies. The opinions were tabulated and analyzed by Microsoft Excel. The material for SDL was prepared by constructing two short and specific case based scenarios from the specified topics. Each case was followed by four questions, answers of which could be found by the student using the recommended text books, reference books and the given links. The students were divided into six groups comprising of 15 students and each group was again divided into three subgroups of 5 students. The large groups were led by a subject expert. Each sub group had a Leader,

a compiler and a time keeper from the students. The students used resources like text books, reference books, mobile phones, lap tops for gathering information. The facilitator for each group followed the students' discussion and encouraged their critical thinking without giving answers. Each session lasted for 60 minutes. Feedback Questionnaires were distributed and collected two days after both the sessions was over. Feedback was taken in the form of structured questionnaires which were first developed and validated. They were asked to rate their experience on a 5 point Likert scale. Feedback was also taken from the faculties to know about their perception on self directed learning. The opinions were tabulated and analyzed by Microsoft Excel.

RESULTS

On analysis of the Self Directed Learning Readiness Scale (Figure 1), it was seen that scores of 66.27% of the students were more than 150 which according to Fisher et al., indicated the readiness for SDL.

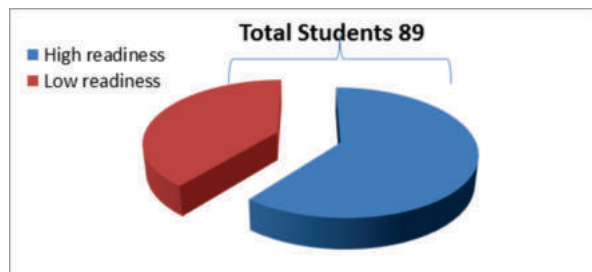


Fig 1: Students Readiness Score for SDL

On analysis of the Student feedback questionnaire (Figure 2), 88.02% revealed that SDL sessions made the topics interesting. 60.67% felt confident learning the new topic solely by the SDL technique and 68.53% agreed that the SDL sessions helped them to improve their learning skills and also agreed that understanding of the topic is better with SDL when compared with regular didactic lectures. For 48.31% students, SDL was time consuming. However, 57.30% agreed that SDL method aroused curiosity about the topics. Regarding presence of a facilitator, 83.14% felt that it was helpful for smooth conduction of the session and according to 88.02% students SDL helped them in interactive discussion. 68.53% agreed that the resources provided to them for the preparation of SDL were adequate.

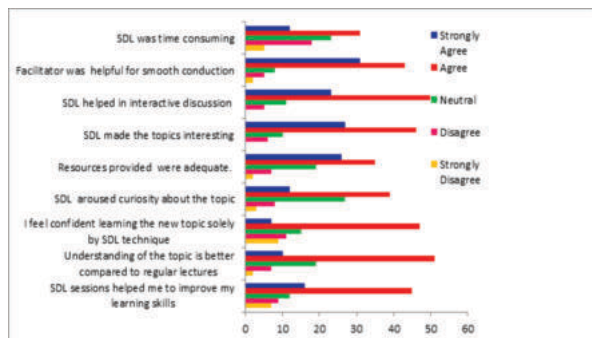


Figure 2- Student perception on SDL

From our study it was found that (Figure 3), 74.15 % students agreed that SDL can be considered as a driving force for lifelong learning.

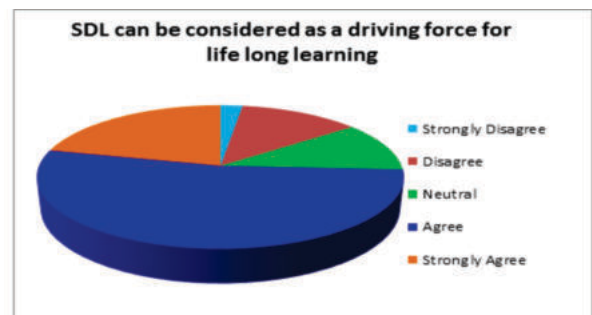


Figure 3- Key Point from Feedback by Students on SDL

On analysis of the Faculty feedback questionnaire (Figure 4), it was seen that all the faculties agreed that SDL helped the students to think

critically and have a deeper understanding of the topics and also felt that the sessions helped the students to search for learning resources. 83.33% agreed that SDL was a feasible exercise and it generated more interest of the students. Regarding SDL adding an extra burden to faculties in their routine schedule 50% did not agree to it. All the faculties agreed that SDL is an effective teaching method in increasing learner's knowledge.

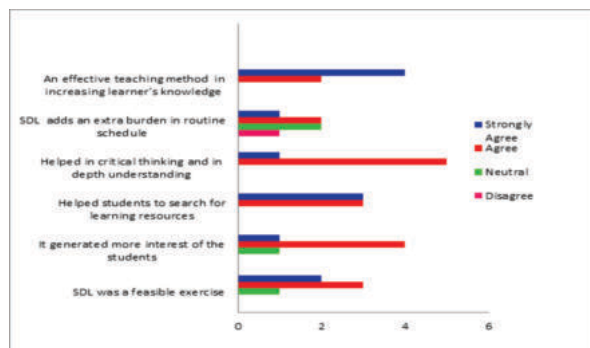


Figure 4 Faculty perception on SDL

According to 83.33% (Figure 5) of the faculties SDL can be considered as an alternate form of learning in knowledge acquisition.

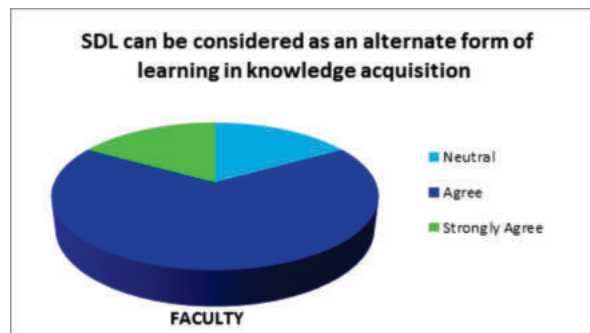


Figure 5- Key point from feedback by Faculties on SDL

DISCUSSION

Self-directed learning has become popular in medical curricula and has been advocated as an effective learning strategy as it allows learning to progress beyond mere knowledge acquisition to being a memorable and motivating experience.^[13] Undoubtedly, health professionals need to be self-directed to obtain the knowledge, skills, and attributes essential for professional growth, as they will be practicing in a gamut of surroundings and no single education program can expose them to the variety of challenges they will be facing in the health care system.^[14] Researchers have proved that SDL is an individual's behaviour towards learning.^[15] In past few years new teaching methods like problem based learning (PBL) and SDL have emerged in medical studies with great success.^[16] According to Fisher et al, total scores greater than 150 indicate the readiness for SDL. Our study found that most of the 4th semester medical students were prepared for SDL readiness. We found that scores of 66.27% students were more than 150 which matches with other studies conducted with medical students.^[17] As SDL ultimately reflects on students learning process and its outcomes,^[18] the students who are ready for SDL can manage their own learning throughout their career.^[3]

Our study is also consistent with the findings of Indian study by Abraham et al (2011) in which 60.2% of first year medical students scored above 150 on SDLRS.^[19] In the present study, the students felt that the SDL sessions made the topics interesting. They felt confident learning the new topics solely and agreed that the sessions helped them to improve their learning skills which was similar to a study by Kirtana et al where they observed that SDL is beneficial, especially in increasing knowledge about treating diseases and improving patient care.^[7]

In terms of knowledge acquisition many studies have proved SDL valuable for learning gross anatomy and physiology.^[20,21] In our study also almost all the faculties considered SDL as an alternate form of learning in knowledge acquisition. The faculties also agreed that the sessions helped the students to think critically and understand the

topics in depth. There have been several attempts to compare lecture with self-directed alternate forms of learning. Although a few studies suggest self-learning groups performed better than traditional large group lectures,^[7,22] other studies have reported self study-group to be equivalent to group plus traditional classroom teaching.^[23,24] Our study revealed that the students preferred self-directed sessions more than the usual didactic lectures. However in another study conducted by Kollathody S et al observed that knowledge gained by both self-directed learning and interactive lectures was similar.^[25] In our study although half of the students felt that SDL was time consuming but majority of that students agreed that it is an effective means of learning Surgery which is similar to numerous studies which proved SDL as an effective methodology for learning gross anatomy and physiology in medical schools.^[17,26] Greveson GC et al in their study stated that the students who used to be ready for SDL can manage their own learning throughout their careers;^[10] which is also indicated in our study by the expression of almost all the students supporting SDL as a driving force for lifelong learning. Jennings SF in his article mentioned that Self-directed learners need motivation and self identity. One study has highlighted that levels of SDL was not directly related to learning activities and academic performance particularly when associated with high levels of instructor control.^[27] In the present study, involvement of the facilitator was minimal but the students felt that it was helpful for smooth conduction of the session. In our study the faculties agreed that SDL sessions help students to search for learning resources. Shersheva MB et al in their study mentioned that though it is advisable to adhere to recommended textbooks, other learning resources like handouts from reference books and excerpts from online learning resources can be considered to be included in an SDL session.^[28] The students in this study felt that the resources provided to them were adequate. The findings and the experience of this study supports the view of other studies that SDL is a driving force for lifelong learning and is an effective teaching learning tool for knowledge acquisition as it induces students' curiosity and critical thinking. It also generates more interest in the topics.

CONCLUSION

We were convinced from our experiences during the study that our efforts involved in designing the SDL sessions were well worth and it was possible to conduct SDL sessions under a conventional curriculum. The faculties and students had a positive attitude towards this new teaching learning innovation. It was seen that SDL sessions were well appreciated by both students and faculties. Thus, self directed learning can be considered as the driving force for lifelong learning. It encourages students to think critically and arouse their curiosity. Our collective experience convinced us that SDL sessions can be considered as an alternate form of learning in knowledge acquisition but faculty development will play an important role in implementing such changes.

Acknowledgement:

The authors are thankful to Parimita and Pinkee for their guidance and support.

Declarations

Conflict of Interest: No Conflict of interest

Ethical Clearance: Obtained

Contribution of Authors: "We declare that this work was done by the authors named in this article with equal contributions".

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