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SELF DIRECTED LEARNING AND COLLOBORATIVE LEARNING IN MEDICAL EDUCATION –A REVIEW

Biochemistry

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ABSTRACT

This review discusses about self-directed learning, an effective teaching learning strategy for teachers and learners. It extrapolates the step wise implementation of self directed learning, collaborative learning and its benefits. It's an educational strategy in which learners plan their goals of learning, practice to implement it stepwise, assess their learning in a methodical manner and provide their valuable feedback. By becoming self-directed learners, individuals gain problem solving capabilities, adhere to incorporating information based technology in their day to day learning, and enhance their curiosity to retrieve information effectively from digital sources and extend their learning beyond the traditional approach of classroom based didactic lectures. As stated in the GMER 2019 guidelines, an Indian medical graduate must possess the commitment to lifelong learning necessary to succeed in a rapidly evolving global scenario. Furthermore, it can be a powerful and effective tool for updating the latest developments in the field of the healthcare profession. Students oriented to lecture classes taken by teachers may struggle with this kind of learning. It can, however, be easily embraced and implemented by appropriate planning and training by students and teachers from various organisations. An integrated approach is necessarily required to successfully integrate self-directed learning into medical education.

KEYWORDS

Self-Directed Learning; Colloborative Learning; Student-Centered Learning.

INTRODUCTION

Self directed learning, also known as SDL, can be defined as a self-initiated learning process where the learners take responsibility of their own learning, by setting personal learning strategies, framing goals and targets and trying to execute them in a set period of time and evaluating their learning process as described by Knowles.[1,2]

Self directed learning motivates the learners to become lifelong learners and it is practiced worldwide to equip the students with the required knowledge and skills to continuously update themselves in the growing field of medicine. In the process of SDL, the students take the initiative with or without the help of others, in implementing the learning strategies to acquire the knowledge and evaluate the learning outcomes.

Self-Directed Learning Strategies for Teachers:

Open questioning: Higher order and open ended questions can be included to preparing lesson plans that engage students and stimulate their curiosity. Open ended questions stimulates the learners to think deeply over a subject. This eventually leads them down the path of self-directed learning. The teachers must frame questions that compel students to critically analyse the subject and conduct further research. It makes the students to think critically over the subject. All the direct objectives of the lessons which were narrated to the students previously can be introduced using open-ended questions covering different elements of the lessons, which opens the door for discussions and debates and thus engages the students actively in the learning activity. This method allows the teachers to assess the students immediately on the knowledge gained by them and also identify the knowledge gaps and helps to reinforce the topics in a better way. It helps the teachers to provide immediate feedback about the knowledge gained by the student. It also enforces independent thinking.[3]

Fig.1. Open Questioning

Hybrid or Blended Style

This method of learning primarily focuses on blending the teacher's interest and curriculum with the needs and interests of the students. In the traditional way of learning, the teacher frame the learning goals and the lesson plans for the students whereas in blended style of learning, it is done jointly by both the teacher and student. This is done to develop a student-centered learning environment. This style lets the students to determine their learning goals and learn how to form lesson plans. This stirs a sense of responsibility in them towards learning where the student takes charge of their own learning needs. In hybrid learning, the teacher can upload an online content to replace in person teaching. Blended learning utilizes both e-content as well as in person teaching to supplement each other.

Introducing Technology in Classroom

Technology surrounds us at all times. Incorporating it as a tool for education is an effective approach toward creating a dynamic learning environment. Technology such as internet, LMS, Swayam portal widens the horizons of learning beyond the classroom as the teacher can upload e-content and it gives students a chance to engage themselves in the process of learning in a creative manner. It can be used to create asynchronous sessions wherein the teachers can upload learning resource materials, videos in LMS for the students to utilize it for reading even after the classroom hours and it can be utilized by the students any number of times to reinforce the topic in depth. E-portfolios can be used by the students to track their activities and identify areas of improvement. Students can practice mock tests and get reviews about it. Students can also create e-content by uploading videos. The teacher create assignments, quizzes that encourage them to use technology in order to find answers. [4,5]

Self-Directed Learning Strategies for Learners

• Smart Goals

Smart goals can be used in classroom to increase student's performance and foster success. Using the SMART framework is one of the most efficient techniques.[6]

Fig.2. Smart Goals

Specific: Goals must be specifically suited to clearly define the needs of the learner.

Measurable: Include clear criteria to track the progress of the learner by formulating the needed outcomes.

Attainable: Create realistic and attainable goals within the specified timeframe and available resources to boost confidence among the learners.

Relevant: Ensure that the goals are related to the course content and helps the learner to achieve their goals which paves the pathway to succeed in their examinations.

Time-bound: Set a specific timeframe to achieve the goals so that the learner can complete the assigned task meticulously.

Mix and Match

Self-directed learning provides the flexibility of choosing a method of learning that is suited to individual needs. Therefore, it is critical to analyze the learning process employed and choose the methods that align with the learner's interests. Different subjects require different approaches. Hence, select the most suitable one. Additionally, these can be modified along the way.

Productive Learning Mindset

Developing an optimistic and never-give-up attitude is essential for self-directed learning, which is tested frequently at every curve of the learning journey. Learners will have to come to terms with the fact that failure is a part of growth.

Sandbox Method[7]

Step 1: Build Your Sandbox

It is advised to create a place where one can experiment and build on their skills. It will motivate them to work more diligently. Share any completed work with peers, teachers, and family from the very beginning. This will help in overcoming public fear and provide valuable feedback at the same time.

Step 2: Research

A skill can be mastered only by conducting regular research more diligently. The boundaries of the sandbox will expand upon trying new things and mastering them. The immediate resources of research are books, online courses, blogs, forums, etc.

Step 3: Implement and Practice

Practice as much as possible in a progressive manner. Self-directed learning negates "naïve practice", where repeating the same things incessantly is often encouraged. Instead, it promotes the learning of fundamentals and then applying them in a variety of scenarios. Furthermore, this will open cracks in learning and provide a chance to fill those gaps.

Step 4: Get Feedback

Constructive criticism offers opportunities for growth. Finding someone who can provide effective feedback about learning goals, progress, and the work done goes a long way in making any self-learning project successful. This feedback can be obtained from peers, teachers etc.

It will also help identify any potential shortcomings in the learning strategies employed. Thus, mentors, teachers, or experts of the targeted subject serve as excellent guides for self-directed learning.

Step 5: Continue and Repeat

Any obstacle in learning should not stop one from pursuit of learning. Receiving constructive feedback and working in the areas that require further development help the learner to master the concept. The shortcomings and failures should not deter the learner from continuing even if it means starting all over again and making the same mistakes. Self-directed learning encourages students and teachers to gain experience and work out ways to improve and acquire an in-depth understanding and thorough mastery of the subject.

Step 6: Have Fun Learning!

Learning should not be considered a solely academic affair with an objective to achieve. Rather, it should also be seen as a course of development as an individual. Enhancing skills and gaining knowledge is one aspect of learning, whereas developing individuality, building personality and gaining experience while doing so is another. The course of learning should be immensely enjoyed to support development. SDL encourages the students to actively participate in the learning process and take responsibility for their own learning. It is a constructive approach to learning as it involves critical analysis of growth and development in the parameters of learning. This is even more essential as the analysis is undertaken by the learner themselves. The self-directed learning process still lets the teacher play an important role in the process. Therefore, it is essential for them to guide the students to use effective strategies to achieve better results.

Steps to be Followed During Self Directed Learning

Identify your learning goals: The learner must suggest the learning goals which is the first step of the process.

Question the significance of things: Make a habit of not taking things for face value and give importance to the essentiality of learning new things and seek out interesting challenges. Identify a problem, face the challenges in solving it and reward yourself at the end by solving it. That's what genuine learning is all about.

Monitor your own learning process: Learning is much more enjoyable when you've set your own standards. Whether you receive the grade you want or not, try to measure your progress against your own personal learning goals.

Understand your own approach: Many of us assume we know our own learning style and preferences. Take a moment to consider what format or medium or a resource material helps you learn best.

Use game-based motivation strategies: Reward systems can work wonders when it comes to self-directed learning. Give yourself fun reasons to challenge yourself and work hard.

Start with background on a topic: Get to know your topic by reading the Wiki page on it first. It's important to have context before you dive into details.

Cultivate intrinsic motivation: Intrinsic motivation doesn't come naturally to everyone, but it can be learned. Help yourself enjoy learning more by collecting interesting facts or planning to share your knowledge with other people.

Share your learning with peers and mentors: Knowing you are going to share what you've learned with someone else can make a huge difference when it comes to learning. Your attention and memory both receive a boost when you picture yourself relaying new material to another person.

Create something out of what you've learned: Make a habit of creating something–a diagram, a chart, notes, a song, a journal entry – with the new material you've learned. Not only will it help solidify the material in your long term memory, but it will also help you look forward to future learning endeavors.

Build your own personal learning syllabus: Have you ever looked at a syllabus from a course and wished you could have made it. Learn what you want, when you want, how you want.

Use time to your advantage: Take the thirty minutes you have during your lunch hour or post-work session at the gym to complete a "unit" on a topic of interest.

Pursue knowledge, not good grades: It's hard to ignore grades when they seem to mean so much to university admissions staff. But it's important to keep in mind that they aren't the end. Grades don't always reflect how much you've actually learned, the knowledge that you have gained and that's what counts in the end.

Create your own personal learning record: There are so many great tools out there to help you document your learning. Have some fun with a digital learning portfolio– especially ten years down the road when you're going through your old notes and projects.

Verbalise your achievements: It's one thing to know what you've learned; it's quite another to make it known. Verbalising your achievements can be extremely rewarding, and can help you reflect on what you think you've learned vs. what you've actually learned.

Make a list of topics "to master.": creating a list of topics to master is almost as fun as crossing them off. Remember to make concrete, easily-achievable goals as well as more general, overarching ones.

Practice using what you've learned: we all value knowledge we can actually use. Sometimes we need to make an effort to use it, though. Create your own opportunities to use your knowledge and you'll find the results very rewarding.

Value progress over performance: We never stop learning, and that's one of the many reasons why self-directed learning can be so enjoyable. Countless topics, questions, and problems means countless opportunities to feel stimulated and accomplished.

Keep your goals realistic: One of the major deteriorating factor of self-directed learning is created not by the "system" but by ourselves: unrealistic goals. It's easy to get discouraged when we don't achieve what we want to. Try to keep things in perspective and create goals you can reasonably achieve.

Build a network of "learning colleagues": We are collaborative learners by nature. Take advantage of online and in-person communities that will support you through your learning journey and help illuminate your path.[8]

Collaborative Learning

Collaborative learning is the educational approach of using groups to enhance learning through working together. Groups of two or more learners work together to solve problems, complete tasks, or learn new concepts. This approach actively engages learners to process and synthesize information and concepts, rather than using rote memorization of facts and figures. Learners work with each other on projects, where they must collaborate as a group to understand the concepts being presented to them.[9]

Fig.3. Colloborative Learning In Groups

Benefits Of Collaborative Learning

It develops self-management and leadership skills, increases skills of the learners and their knowledge, improves relationships across teams and departments, improves knowledge acquisition and retention, improves employee retention and promotes workplace engagement.

The Individual Benefits Of Collaborative Learning

It turns learning into a truly active process, promotes learning from others viewpoints teaches how to think critically and quickly, promotes listening to criticism and advice, develops public speaking and active listening skills, improves cooperation. Examples of collaborative learning includes Think – Pair – Share. In this process, first round includes the students thinking or writing about a discussion question. During second round, the students turn to their partner and discuss their responses about the question. During third round, each pair share their responses with the class.[10,11,12]

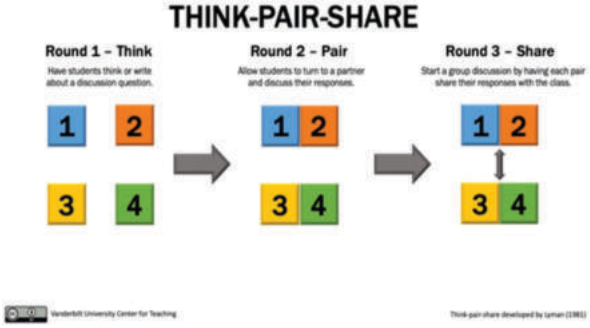

Fig.4.Think-pair-share

Fig. 5.Value Diversity

The concept of diversity encompasses that one must accept and respect other person's opinion and respect. It denotes the individuality of each person and states that every individual is unique. Diverse group members offer better potential for problem solving capabilities.[13]

Fig.6. Socratic Seminar

In a Socratic Seminar activity, students help one another understand the ideas, issues, and values reflected in a text through a group discussion format. Students are responsible for facilitating their group discussion around the ideas in the text. They shouldn't use the discussion to assert their opinions or prove an argument. Through this type of discussion, students practice how to listen to one another, make meaning, and find common ground while participating in a conversation.[14]

CONCLUSION

Though SDL is highly viewed as a better teaching-learning approach and is proven effective in improving soft skills and creativity among students, SDL is still not widely accepted by all learners and professionals since it requires learners to shift from dependence to independence, and teachers to facilitate rather than dictate. SDL can be implemented in several ways to enhance the art of learning among the students and as part of competency based medical education, it is mandatory to incorporate it into learning all the subjects in medical sciences.

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