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## Role of Medical Education in Cultivating Lifelong Learning Skills for Future Doctors

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### ABSTRACT

Medical knowledge, skills, and social requirements for patient care are quickly changing, thus, doctors are anticipated to be life-long learners to provide effective care for the patients. This paper addresses instructional issues how to prepare medical students to be self-directed learners and how to improve medical school and postgraduate training curricula. Now the big question is self-directed learning (SDL) an agent in cultivating lifelong learning skills for medical students as claimed by educational experts? This will be the focus of my critical reflection on lifelong learning.

**Keywords:** *Medical education, Lifelong learning skills*

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### INTRODUCTION

Medical knowledge, skills, and social requirements for patient care are quickly changing, thus, medical doctors are anticipated to be life-long learners to provide effective care for the patients. Davies (1) characterises lifelong learning as a “continuously supportive process which invigorates and empowers people to obtain all the knowledge, attitudes, and skills” they will require all through their lifetimes and apply them with confidence, creativity, and happiness.

One approach to train our future doctors to pursue lifelong-learning is by acquiring self-directed learning (SDL) skills. SDL is widely used in medical education for the medical graduates to continuously improving their skills and knowledge (2). In SDL, the learner controls the process of learning that enhances their ability for

autonomy and self-actualisation. According to Ramnarayan and Hande (3), SDL describes a process by which individuals take the initiative, with or without the assistance of others, in diagnosing their learning needs, formulating learning goals, identify human and material resources for learning, choosing and implement appropriate learning strategies, and evaluating learning outcomes. In short, this definition of SDL is the fact that medical students take the initiative to pursue a learning experience, and the responsibility for completing their learning.

### Self-directed Learning

Self-directed learning (SDL) has become popular in medical curricula and has been advocated as an effective learning strategy for medical students to develop lifelong learning skills. Philip (4) has mentioned that SDL skills are related to lifelong

learning in the field of medicine, where knowledge is persistently changing and progressing. A good example for that is the protocol treatment for high blood pressure in Joint National Committee-7 (JNC-7) recommendations may not believe acceptable after the JNC-8 report. An individual classified as diabetic now, as per current reference range, may not have been considered as diabetic during the last 10 years. We need to realise the changing nature in the science of medicine that commands our medical students to be a learner for their whole life so as to stay “current” in their knowledge and skills. Indeed, “lifelong learning is conveyed for the whole life, is adaptable, varied and available at all times and in different places” (5). In SDL, “metacognitive skills” are developed which are helpful for medical students to achieve their competence of lifelong learning because they ownership and authority of self-learning, preparing learning strategies, and select strategies that are appropriate, analysing their progress of learning, taking corrective measures if they committed mistakes, evaluating their efficacy of learning strategies, and have constructive importance on solving problem aptitude and lifelong learning (6).

A learner-centered approaches like Problem-Based Learning (PBL) and Team-Based Learning (TBL) are good teaching methodologies where medical students’ competencies to be lifelong learners will be enhanced and other skills such as “teamwork, communication, practical knowledge to real problems, critical thinking, and attitudes about learning will foster self-directed and lifelong learning” (7). In PBL and TBL, it facilitates efficient collaboration for sharing and constituting mutual learning within the student, and also between facilitators and students. Thus, medical students develop not only lifelong learning but also lifewide learning because it helps the medical students to engage in purposeful interaction with their own environment by developing their knowledge, skills, and their critical thinking abilities.

## Peer Group Relationship System

Another approach to cultivate life-long learning among medical students is the use of peer group relationship system with distinctive care for learning from mentors for each group of students. Mentor-mentor relationship from peer group and facilitators is vital and belief in working closely in every society. In mentoring system, learning become a social process because there is interaction, conversation, dialogue, and collaboration with others which is one paradigm of lifelong learning. Showing kindness, caring and concern for each group’s students are lifelong learning skills that medical students need to develop.

## Self-monitoring

Self-monitoring is an important skill that need develop among medical students to become life-long learners. Self-monitoring is the way towards understanding one’s present status. Students monitor their improvement and pinpoint the gaps of learning and find for enhancements. Any understanding of learning that is lifelong and life-wide necessitate critical learning analysis; thus reinforcing the need to develop reflective behaviour for lifelong learning. A good strategy to teach medical students must be practical, real-life scenarios to cultivate them as lifelong learners. However, one barrier in the self-monitoring process is some faculty lacks facilitating skills. Most of the medical societies are hierarchical and patients demand for an expert level of medical care lead to limitation of medical students to care for the patients because they think that medical students are not ready yet to do a professional job. The medical students are asked to follow direction from supervisors without practising clinical reasoning and decision-making themselves and this would result to our medical students limited experience of self-regulation and responsibility even they are at their final year of clinical clerkship. Teachers must move toward a student-centered approach.

Shifting teacher-centered learning to learner-centered self-directed learning is quite challenging due to the fact that there is a lot of essential and learning content required in each curriculum. Aside from identifying learning styles, setting learning goals, adopting reinforcing teaching-learning methods, it is vital to incorporate instructional methodologies in medical curriculum to cultivate lifelong learning skills for medical students. Some instructional methodologies are e-learning, reciprocal teaching, and portfolios.

### **E-learning**

E-learning is considered synonymous with online learning that is flexible and the students are responsible for choosing the pace of their own learning. In e-learning, it combined with e-appraisal that supports self-motivated learning, give a possibility of self-evaluation, reflection and identifying learning gaps, and promote lifelong learning.

### **Reciprocal teaching**

Reciprocal teaching is an excellent thing to consider especially in outbreak investigation topic or any hands-on practical skills. According to Palincsar and Klenk (8), a role-reversal-student that act as an instructor is an example of a teacher-led collaborative instructional structure reciprocal teaching. Critique skills and immediate feedback promote inculcating of metacognition and self-directed learning with self-monitoring and thus enhance lifelong learning skills. Integration of reflection as part of their continuous assessment is a good idea. This supports the reflective learning model that characterised as “learning how to think” (9). Exposure to reflective writing during the early training of medical students will foster lifelong learning.

### **Portfolios**

Portfolios is another strategy to cultivate lifelong learning skills by promoting self-learning. A portfolio is a systematic and

well-designed collection of the learner’s work (10). There are new researchers examined the convincing thoughts about how the educators could execute and utilise tools such as student portfolio assignments to help enhance critical thinkers and self-directed learners (11, 12). Within the dimension of medical education, such assessment approaches are engaging due to the fact that they are an authentic method that can be used to advocate a students’ self-reflective analysis of their performance within the health practice contexts in which they benefit much of their clinical training (13). There is evidence that portfolios may be useful for evaluating medical residents’ performance as well as programme improvement (14, 15). Portfolios is a good strategy to cultivate lifelong learning skills by promoting self-learning.

## **CONCLUSION**

Lifelong learning is a professional competency which must be fostered in the medical graduates. Four attributes of lifelong learner – metacognition, self-directed learning, self-monitoring, and having reflective attitude; and this can be achieved in self-directed learning. Once these lifelong learning attributes are inculcated by the medical graduate, they will always be in “current” in medical knowledge and skills, and will be able to give best medical care to their future patients.

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