Editorial

Self-Regulated Learning in Medical Education

S H Waqar

Author`s Affiliation

[1]Associate Professor, Department of General Surgery, Shaheed Zulfiqar Ali Bhutto Medical University, Pakistan Institute of Medical Sciences, Islamabad

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Address of Correspondence
Dr. S H Waqar
waqardr@yahoo.com

Introduction

Social-cognitive researchers have defined self-regulated learning (SRL) as a cyclical process whereby individuals use self-generated feedback about their own learning to optimize their deliberate pursuit of personal goals.[1] Self-regulated learning is a multi-dimensional construct, with self-regulated learners being cognitive, affectively, and behaviorally involved in their learning processes.[1] The need for physicians to engage in effective self-regulated learning is well documented and pressing, given the links between continuing medical education and the quality of healthcare.[2,3] SRL comprises a set of skills that can be learnt. Educational psychologists view SRL as a complex cycle comprising intermingling elements such as social, motivational, and behavioral components.[4]

Planning: Students are asked to set personal learning goals that should address all domains, not just knowledge, and they should be articulated at an appropriate level. Personal responsibility for ensuring self-learning and peer learning is emphasized to foster and support appropriate motivation for learning. Although all learners bring some level of motivation to their learning,[5] educators can create environment that support development of intrinsic motivation and autonomy. Research relevant to motivation needs to become a greater focus in medical education.

Learning: Learning can be defined as 'a persistent change in performance or performance potential that results from experience and interaction with the world'.[6] Personal epistemology is an individual's beliefs about knowledge and knowing. There is a continuum ranging from a simplistic belief that knowledge exists as a fixed entity to be transmitted from knower to learner, to a more complex belief that knowledge is fluid, changing and contextual, and must be individually discovered. Hence medical students and trainees should learn and practice these skills in increasingly complex contexts, because physicians use self-assessment skills in complex contexts in their professional lives. Both educators and learners should have a solid understanding of their own beliefs about the acquisition of knowledge and how these can influence decisions related to teaching and to learning.

Learning styles can be thought of as innate characteristics possessed by learners that underlie and influence their learning, as opposed to learning strategies, which are the techniques learners choose. Learning strategies are one area where learners con exercise direct control or autonomy. Learning elements include individual learner needs, styles, contexts, and other factors such as environment and time of day.[1] Connecting principles with methods is a key to building a bridge of understanding between teachers and learners.

Feedback and Assessment: Feedback is essential component of SRL.[7] Self-regulated learners generate criteria against which to monitor their progress as they create their own goals for achievement. They then systematically monitor and interpret their progress against goals and adjust as needed. Internal monitoring is a conscious, pivotal element of learning that guides SRL. Self-monitoring produces internal feedback that compares the evolving state of the task to the goal. Effective formative feedback focuses learners' attention on their progress towards achieving goals, provides specific information that helps them to recognize and close gaps, and integrates review, reflection and self-assessment components.

Adjustment: Self-regulated learners, after self- and external feedback, must take action such as adjustments to learning goals or strategies. Reflection as a foundation

for synthesis and attribution as a foundation for action, are central issues to address.[8]

Effective SRL habits can be learnt, and that educators play a key role in helpings learners understand and master these habits.

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