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Introduction

The 21st century has been marked by technological advancement and the list of important skills for survival has changed compared to the earlier centuries. The importance of skills like creativity and collaboration has made continuous learning and growth mind set essential. Students need to learn the academic content in context, and they need to know how to keep learning throughout life and make effective and innovative use of the learnt materials.

Detection of SARS-CoV2 in December 2019 followed by declaration of COVID-19 pandemic in March 2020 by WHO added complexity.¹ Since then, it has been ravaging through the world with extreme unpredictability about the course of infection, effects of the infection on individuals, and availability of remedial measures. The current condition has imposed physical isolation with maintenance of hygiene as preventive measures. Educational institutions have closed to ensure limitation of spread. These closures have caused changes to individual life and work style and balance. A sudden shift in the delivery of lessons from onsite to online also warranted adjustments in the learning pattern of the students in health professions.²

Online delivery puts more responsibility on the students to undertake self-directed learning, and the teachers are

expected to ensure that this is happening along with collaboration and critical thinking. To ensure this, self-regulated learning (SRL), broadly described as the ability to understand one's learning processes and manipulate them, has become essential. This type of learning is associated with metacognition which involves thinking about one's own cognitive processes. The lack of metacognitive ability hinders SRL's ability to handle newer challenges which are unpredictable and ever evolving.³

With COVID-19, web-based education has been in use globally more than ever. Understanding the development of self-regulated skills and facilitation through metacognitive awareness is essential.

Analysis and synthesis of the published literature during the COVID pandemic will be done to answer the following questions.

1. Does metacognitive awareness improve self-regulated learning in students?
2. What teaching-learning activities have been undertaken to ensure development of SRL and metacognitive awareness during the COVID-19 phase, January to December 2020?

Methods

This study will be a systematic review of published literature and does not require ethical approval. A colleague in the institute has peer reviewed and approved the protocol with guidance.⁴

We will use a literature search from the following databases: Google Scholar, PubMed-Medline, Wiley online library, Taylor & Francis Online, Proquest, EBSCO, ERIC, and AMEE MedEDPublish. We will consider full-text English original research studies, reviews, and personal viewpoints published during January 2020 to December 2020. Newspaper articles, magazine reports in other languages will be excluded.

We will search articles using the terms as follows, using Boolean Operators – AND, OR and sometimes NOT:

- COVID-19 and online teaching and learning
- Self-regulated learning and online teaching
- Metacognition and learning in crisis and pandemic
- Metacognition and self-regulated learning and pandemic

The authors have already started searching for relevant papers freely available online and, on the university's, subscribed databases. After initial identification of articles meeting the inclusion criteria, all articles are being read in full text by the authors. Finally, only those addressing the research questions will be analyzed and reported. The authors will be conducting the search with an option of requesting services from the librarian of the University. We are open to collaboration and invite peer feedback and discussion on the topic.

Summary

COVID-19 has shifted the teaching learning methods which have affected students' abilities to learn and perform. The role of metacognition and SRL in successful academic achievement is well studied. However, it is not known whether understanding these concepts can facilitate learning in this critical period. This review of literature covering publications during the past year will attempt to shed light on the concepts of SRL and metacognition and how they have been incorporated. The pandemic will end someday, but there is no guarantee that a different one will not appear in future. Therefore, the understanding of this relationship in the construction of lessons and their delivery together with enhancing learning skills in students require careful study and need serious consideration

Conflicts of Interest: None

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