Authentic Learning For Health Professions' Education- A Review

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ABSTRACT

An authentic learning experience emphasizes conceptual and creative learning by students that helps them retain knowledge. This method is employed by many coaching institutes (e.g. Marrow) in order to explain concepts visually. It is found that their students have a greater conceptual understanding, and a higher level of cognitive ability. A medical institution must practice authentic learning methods not only to help their students excel in academics, but also to produce quality doctors. As part of authentic learning, students engage in collaboration, role playing, small group discussions, attitude ethics and communication, problem-based learning, clinical reasoning and reflective learning, OSCE, etc. The future of learning is authentic learning, as it prepares students for the adult world which is more complex, and helps them solve real world problems creatively and collaboratively. This review is briefly explaining about advantages, need and implementation of authentic learning in medical schools.

Keywords: Authentic, Learning, Medical, Students, Reflective.

INTRODUCTION

"Education is not the learning of facts, but the training of the mind to think"

-Albert Einstein

Health professions' education summons its students, educator and health care professionals to a contest which demands higher knowledge, learning, reasoning and reflecting[1]. Sound clinical knowledge is an important factor which ensures high diagnostic accuracy in general clinical practice. In 21st century there's an rashing energy of young minds towards competency-based education which necessitates the importance of authentic learning[2].

Authentic Learning serves as a means to an innovative and sustainable learning which helps students to explore, compete, discuss and significantly build concepts in situations which involve real world problems and scenarios[3]. The various elements of authentic learning include collaboration, role playing, small group discussions, attitude ethics and communications, problem based learning, clinical reasoning and reflective learning, OSCE etc., Authentic learning is not a single entity rather it's an integrated approach to sculpt the student's understanding of the subject[4].

LECTURE, THE ULTIMATE TOOL

"Children Must Be Taught How to Think and Not What to Think"
-Margaret Mead

Lecturing is still a ubiquitous tool in higher education and it has been widely accepted method of teaching in medical and health professions curricula. It provides an essential, economical, and efficient way to present specific and prescribed subject to large numbers of

students. The discussion-oriented lectures bring the subject matter to life, initiates and connects the bridge between theory and clinical practice[5].

Students at the university level should understand the importance of the simple but significant tool 'WHY?'. They should be taught not to accept anything for granted but must be made to enquire about causes and effects. In other words, they should be made to THINK and use their power of REASONING. In simple students should develop the habit of 'THINK AND REASON'[6].

In spite of the widespread and diverse use of lecturing as a tool to deliver the subject there is still a lack of efficacy of the conventional lecture format in engaging learners and generating learning experiences necessary for students to reach their maximal potential. The purpose of lecturing should be not only be dedicated to special learning outcomes rather it should be considered as a process that contribute to the overall intellectual growth of a student[7].

Language is the chief factor in the process of communication and it allows a person to express emotions and feelings to share ideas and thoughts and convey his or her perspectives or opinions. Some of my classmates who came from Kerala and northern states of India sometimes find it difficult to communicate in small group discussions, classroom interactions and academic understanding because of language barrier. Therefore, in particular English language competency is essential nowadays to excel[8].

ROLE OF THE LECTURER

Lecturing can be a master piece when it's delivered by inspirational teachers who are also amazing presenters. A passionate and an innovative lecturer can make the students think deeply and understand the concept very well. Every conversation emerging between a student and lecturer will enable them to explore, challenge and work towards a new understanding which is crucial in an advancing field like medicine[9].

REFLECTIVE LEARNING

Today's medical practice is a cognitively demanding task that consists of the ability to elicit history, examine and arrive at an appropriate diagnosis based on the patient's complaints. One

of the important aspect of reflective learning essential to the field of medicine is problem based learning (PBL). In PBL problems like case scenarios are used as a vehicle instead of direct presentation of theoretical concepts. Problem based learning can be used to efficiently train clinicians in various fields like surgery where long term retention of knowledge and skills is required. Problem based learning should start with problem analysis, followed by self-directed learning and subsequently elaborate based on one's understanding. For example, the lecturer can give an X-ray copy of fracture of wrist joint and its case history and ask the students to look into it and share his or her views before delivering a class on fractures of hand. Thus, PBL can be used to analyse the critical thinking of student when exposed to a case scenario[10].

USE OF TECHNOLOGY

"It's not that we use technology; we live technology"
-Godfrey Reggio

The influence of technology in health professions education would provide an immense transformative force in the field of medicine, improves the quality of clinical practice and reduces the errors of diagnosis. In some developing countries like Africa technology can be used to improve the failing health and education systems. The innovations that can be delivered in classroom are digital display with integrated audio and visuals, virtual reality that can help students step away from the textbooks and making learning more interesting one. For Example, using 3D Anatomy model helps students and surgeons spatially visualise and study the various planes and organs.

Artificial intelligence helps us to envision a future in which medical graduates especially from developing countries where resources are limited can be united and taught through virtual reality and patients in remote areas will be treated by robots[11].

OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)

The Objective Structured Clinical Examination (OSCE) is a type of formative assessment held in health care institutions to assess the clinical

competency of students. It contains various stations like microscopy, charts, prescription writing, clinical case scenarios etc., The scoring criteria ensures that the clinical skill performance of every student is equally and fairly evaluated.

Health care institutions can organise various journal clubs where students particularly of research interest can be supported and motivated to publish their articles in the reputed journals. They can also organise debates, role plays, continuing medical education (CME), quiz competitions to widen their exposure[12].

CLINICAL SIMULATION

In some medical and nursing colleges there is a lack of coordination between theory and practical knowledge. Students encounter difficulties in the practical implementation of theoretical knowledge. Clinical simulation helps in reproducing the conditions of clinical practice and enable learners to practice in a safe environment. It enhances the clinical competency in both UG and PG levels. It also increases the patient's safety and reduce the healthcare costs through the by providing efficient healthcare professionals[13].

CLINICAL REASONING

"To err is human"
-Alexander Pope

Flaws in clinical reasoning usually leads to diagnostic errors. This could be due to lack of understanding of the subject. Methods like deliberate reflection can be employed which relies on intuitive reasoning before arriving at a diagnosis.

MENTAL HEALTH

"The mind is not a vessel to be filled, but a fire to be kindled"
-Plutarch

Recently it's said that there is substantial increase of depression and anxiety levels among medical students. The various pre-disposing factors include intense academic pressure, increased workloads, financial problems, fear of examinations, sleep deprivation, substance abuse, exposure to suffering of patients and death. There is an increased prevalence of mental disorders like depression, anxiety disorders like panic

disorders and suicidal ideation. It's also found that students who practice aerobic exercises, yoga, gym etc., experience lower levels of subjective stress. It helps in developing an optimistic and purposeful mindset[14].

SPORTS AND MEDICINE

Involvement in sports is common in medical students. Both inter- and intra- college tournaments are usually held for various games like football, cricket, badminton etc., It's found that students who involve themselves in sports have increased tolerance of ambiguity.It ensures physical wellbeing and improves the quality of patient care[15].

CONCLUSION

Successful people never stop learning, listening and striving to be creative. In this sense the quest for self-improvement is continuous- a race without a finish line. Authentic learning is the future of learning, it helps Students enter into the adult world which is more complex and help them solve real world problems creatively and collaboratively.

REFERENCES

1. Berman NB, Fall LH, Maloney CG, et al. Computer-assisted instruction in clinical education: a roadmap to increasing CAI implementation. Adv Health Sci Educ Theory Pract 2008; 13: 373–383.

2. Gruppen LD, Mangrulkar RS, Kolars JC. The promise of competency-based education in the health professions for improving global health. Hum Resour Health 2012; 10: 43.

3. Lombardi, Oblinger. Authentic learning for the 21st century: An overview. Educause learning initiative, http://alicechristie.org/classes/530/EduCause .pdf.

4. Gulikers JTM, Bastiaens TJ, Martens RL. The surplus value of an authentic learning environment. Comput Human Behav 2005; 21: 509–521.

5. Brom C, Preuss M, Klement D. Are educational computer micro-games engaging and effective for knowledge acquisition at high-schools? A quasi-experimental study.

Comput Educ 2011; 57: 1971–1988.

6. Kalyuga S. Instructional designs for the development of transferable knowledge and skills: A cognitive load perspective. Comput Human Behav 2009; 25: 332–338.

7. Teichgräber U, Ingwersen M, Mentzel H-J, et al. Impact of a Heutagogical, Multimedia-Based Teaching Concept to Promote Self-Determined, Cooperative Student Learning in Clinical Radiology. Rofo 2021; 193: 701–711.

8. Wandberg R, Rohwer J. Teaching Health Education in Language Diverse Classrooms. Jones & Bartlett Publishers, 2009.

9. Meskell P, Murphy K, Shaw D. The clinical role of lecturers in nursing in Ireland: perceptions from key stakeholder groups in nurse education on the role. Nurse Educ Today 2009; 29: 784–790.

10. Choudhary, Brundha. Understanding a pathology topic using the concept map--Survey report. Drug Inven Today, https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=   site&authtype=crawler&jrnl=09757619& AN=142963137&h=Tjz9U   LlHE   SPwf CJaL8LJVQ23   pcnM   9Z9y2sY5XdDCo ss44Yk7QJmrA8BXA O6vEYFo5hI3y%2BW Lxu6yVGz1Ixxr2w%3 D%3D&crl=c.

11. Kron FW, Gjerde CL, Sen A, et al. Medical student attitudes toward video games and related new media technologies in medical education. BMC Med Educ 2010; 10: 50.

12. Svirko E, Mellanby J. Attitudes to e-learning, learning style and achievement in learning neuroanatomy by medical students. Med Teach 2008; 30: e219–27.

13. Bowe EA, Schell RM, DiLorenzo AN. Education in Anesthesia: How to Deliver the Best Learning Experience. Cambridge University Press, 2018.

14. Mp B, Brundha MP, Nallaswamy D. Hide and seek in pathology- A research on game-based histopathology learning. International

Journal of Research in Pharmaceutical Sciences 2019; 10: 1410–1414.

15. Testoni D, Hornik CP, Smith PB, et al. Sports medicine and ethics. Am J Bioeth 2013; 13: 4–12.