

RADIOLOGY EDUCATION FOR UNDERGRADUATE MEDICAL STUDENTS: ROLE OF ICT (INFORMATION AND COMMUNICATION TECHNOLOGY)

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Role of ICT (Information and communication technology)

By 21st century obvious gaps and inequality in health continue within and between countries and highlighted the collective failure to share equitably advances in the health care. Timely redesigning of health education is important in view of mutual learning opportunities and flow of information, knowledge and technology innovations across borders.¹

The ICT (information and communication technology) plays a key role in medical education as it had revolutionized the access, compilation and flow of knowledge by innovations e.g. simulation, downloading information, distance learning, interactive teaching, assessment and feedback. The critical core of radiology is needed by all students and hence it is ensured that the radiology curriculum is integrated and aligned with the student's objective throughout their training.² Radiology teaching programmes should exploit the characteristics of images that are a powerful teaching tool as it evokes memory cues and should associate them with clinical cases and important teaching points. In recent years the use of internet and computer technology based on adult learning theory has become a method for teaching and education due to its greater accessibility, availability, standardization for content and delivery and provides better accountability and outcome measures on account of automated tracking.³ A number of e-books, apps and podcast are available online, a few of these being free for online

radiology teaching both at undergraduate and graduate level.

The effect of e-learning on cognitive development and attitude towards e-learning is significant when compared to traditional methods.⁴ The provision of digital imaging in radiology has further facilitated the teaching process by helping in the creation of teaching files, incorporation of computer assisted / self learning packages, 3-D display of anatomy and pathologies.⁵ There are a number of concerns regarding online teaching resources and dedicated e-learning modules e.g. the quality of on line teaching content vary among different sites. The other issues being inadequacy in development of e-learning software with insufficient interactive elements and lack of feedback, incentives and rewards etc.⁶

Although Web based resources are reliable and consistent source for information gathering, there are learners who still prefer face to face teaching and prefer hospital run courses.⁷ Lieberman et al.⁸ reported preference of more students for face to face tutorial when compared to computer assisted instructions due to enhanced interaction with an inspiring tutor and an obligation to complete the teaching session as opposed to skipping or viewing only part of online teaching.

One of the limitations of on-line teaching is lack of motivation, which can be overcome by provision of incentives like certificates after successful completion of a tutorial or test. The e-tutorials may be implemented as a mean to deliver basic knowledge before a small group tutorial which is meant for discussion of pathological conditions or in-depth discussions. This

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Flipped learning model will hence shift teaching to a learner centered approach where a student is actively participating in construction of personally meaningful knowledge.⁹ This approach once established will optimize the teacher's time spent in class room and hence may also be cost effective.¹⁰

It is important that radiologist should take an interest in teaching medical students and make use of all the resources particularly ICT.¹¹ This will raise student's awareness and enhance their interest to career in radiology, improve perception of radiology departments and establish the role of radiologist in patient care.

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