ICT andActive Teaching-Learning-Assessment Process in the Engineering Education

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Abstract: The tremendous developments in the technology in recent years have brought revolutionary changes in the education sector. The millennial learners are increasingly comfortable with technology. The change in traits and needs of the learners has been forcing education system to adapt to these learners. Information and communication Technology (ICT) plays vital role in the teaching learning activities in the engineering education such as resource creation, delivery of contents, assessment, monitoring, administration etc. In this paper such ICT tools are discussed and their analysis is done on the basis of feedbacks obtained from a group of learners. The specific activity of flipped classroom is focused with its impact on students' participation, learning and satisfaction. The innovative numerical based assignment and its assessment using MATLAB tool are also elaborated.

Keywords: ICT, Resource Creation, Delivery, Assessment

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1. Introduction:

The technology has created major impact on our day to day life. These technologies are now part of engineering education. Information and communication (ICT) tools have the potential to fundamentally revamp engineering education. ICTs are a series of instruments that transform the way human collectively produce and consume information on a global scale [1]. The ICTs have already changed the way the knowledge is disseminated.

The millennials who were born between 1980 and 2000 spend around 6-7 hours each day in technology enabled media. These learners like to be in control, they are inclusive, group oriented and social. To effectively engage these learners, engineering institutes must be outfitted with ICT resources and curriculum must be designed to promote active and cooperative learning styles [2][7]. The technology has also enabled a way to manage the student driven learning process through learning management systems [3].

Online modalities also require a learning discipline that young students may not haveacquired. Using the course management tools, we know preciselywhen and for how long students spend with online assignments. Faculty need to help studentsdevelop the ability to use technology tools effectively [4].