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Use of Active and Collaborative Learning Techniques in the Course Digital Communication of Electronics and Telecommunication Engineering

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Abstract: The Proposed paper is related to use of active and collaborative learning techniques in the course digital communication of Electronics and Telecommunication Engineering branch at Rajarambapu Institute of Technology, Rajaramnagar where large population of students is from rural areas. Although many researchers have confirmed that active and collaborative learning techniques are very useful in improving learning, motivating students, bringing critical thinking skills in the students, we need to develop special strategies for students with rural background. In this study, initially the learning styles of the students are obtained using Felder's learning style index survey. The active and collaborative learning techniques are implemented for this class and found that irrespective of the background of learners active and collaborative learning techniques are very beneficial to students for their learning. Only challenge is that instructor has to take some additional efforts.

Keywords: Learning styles, active learning, collaborative, STAD, rural.

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1. Introduction

Number of studies has been done on the effectiveness of active and collaborative activities but this paper focuses on a course digital communication and a special segment of students coming from the rural areas.

Patrick T. Terenzini, Alberto F. Cabrera, Carol L. Colbeck [1] have examined the extent to which undergraduate engineering courses taught using active and collaborative learning methods differ from traditional lecture and found that active or collaborative methods produce both statistically significant and substantially greater gains in student learning than those associated with more traditional instructional methods.

Collaborative learning is working together with the intent of enhancing learning outcomes for all involved. According to ÖzdemirGöl, Andrew Nafalski [2]. It is better suited for the modern teaching and millennial learners through active learning, student-centered learning, problem-based learning and project-based learning. However they also mentioned challenges such as students entering into university engineering programmes come from vastly different educational, cultural and personal backgrounds, they will have their favorite learning styles and will process the information they receive in different ways.

The benefits of cooperative learning are not