Collaborative Learning among Heterogeneous Groups in Virtual Mode in Higher Degree Program

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Background

- Programmes
  - Division: Work Integrated Learning Programmes, BITS-Pilani
  - Areas: Embedded Systems, Computer Science and Information Systems, Mechanical Engineering, MBA and more

- Course Delivery
  - Technology enabled live virtual classrooms
  - Recorded lectures
  - Moodle-based platform for discussion forums, evaluation support and grading
Objectives and Scope

Objectives

- Evaluate the feasibility of a collaborative approach to offering experiential learning to students from diverse backgrounds in a virtual classroom
- Achieve higher levels of interaction and knowledge sharing among heterogeneous students/student groups

Scope of work

- M.Tech (Software Systems)

Heterogeneous student background

- Education: B.E./B.Tech Degree holders
- Work experience: 2yrs-15yrs or more
  - Different technologies/domains/roles in the software industry
- Location: Geographically dispersed
Methodology

• Course: Internetworking Technologies
• Class strength: 130 students
• Time frame: One semester
• Steps:
  • Design of experiential learning component
  • Formation of student groups
  • Student group work
  • Assessment of student outcomes via presentations and demonstrations
  • Assessment of student learning experience through feedback collection
Methodology

Design of Experiential Learning Component
• A set of 12 different problems published to the students
• Usage of simulators
• Additional reading

Formation of Student Groups
• Students divided into groups of 5-6 members
• Group discussion forums
• Each group to collaboratively decide a problem to work on

Student Group Work
• 4-5 weeks to work on the problem identified

Assessment of Student Outcomes
• Report submission
• Presentations of 30 min
• Demonstration of the simulations
• Viva

Assessment of Student Learning Experience
• Feedback collection
Observations

- Use of group discussion forums to locate group members and knowledge sharing
- Different methods of execution
  - Equal division of work among group members
  - Emergence of a clear leader in some groups
- Enhanced learner–instructor interaction
- Enthusiastic participation from students

Student concerns
- Inability to locate team members
- Requests for change of assignment topics/presentation slots
Thank you