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## Development of Recommender Systems for Technology Enhanced Learning

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### **Abstract:**

Students are increasingly exposed to an amount of information that increases far more quickly than their ability to process it. In e-learning, students can potentially visit multiple sources and scan through irrelevant content before finding useful information. To enhance e-learning experience, one of the best ways to help users is to recommend information to them. Recommendation methods, techniques and systems open an interesting new approach to facilitate and support learning and teaching. There are plenty a resource available on the Web, both in terms of digital learning content and people resources, e.g. other learners, experts, tutors, social network members that can be used to facilitate teaching and learning tasks. The challenge is to develop, deploy and evaluate systems that provide learners and teachers with meaningful guidance in order to help identify suitable learning resources from a potentially overwhelming variety of choices. For example, users' profiles can be collected either explicitly or implicitly. One can explicitly ask users to rate what they have learned. Such a profile is filled explicitly by the users' ratings. An implicit profile is based on passive observation and contains users' historic interaction data. Users sharing similar profiles may share similar interests. For a user, information can be filtered in/out regarding to the behaviors of other similar users. Two different modes of recommender system for e-learning will be developed. The learner-centered context supports learners in decision making and identification of suitable resources. Finding other users with similar learning interests can be supported within this context, and this promotes automated peer-assisted learning. The instructor-centered context mode suggests to the instructors appropriate modifications for improving web-based educational courses, and support alternate learning paths based on the students' learning profiles, and this promotes automated outcome based learning.