

عنوان مقاله:

Learners grouping improvement in e-learning environment using fuzzy inspired PSO method

محل انتشار:

ششمین کنفرانس ملی و سومین کنفرانس بین المللی یادگیری و آموزش الکترونیکی (سال: 1390)

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خلاصه مقاله:

Recent advances in technology and the integration of these advances in instructional design have led to a mass individualization where personalized instruction is offered simultaneously to large groups of learners. The first step to adapt instruction to group of learners is learners grouping. Many methods have used to group learners in e-learning environment specially data mining techniques such as clustering methods. This paper aims to propose a clustering method to group learners using some specific learners' observable behavior while working by system and based on cognitive style. The objective function of proposed method is defined by considering two criteria in measuring the clustering goodness, compactness and separation, and Particle Swarm Optimization (PSO) method is used to optimize the objective function. This method used to group learners based on cognitive style. Results of the proposed method are compared with K-means, fuzzy C-means, and EFC methods using Davies-Bouldin cluster validity index and comparing the achieved groups and the cognitive style of learners who are in the same group, shows that the grouping accuracy is in a higher level using fuzzy-inspired PSO method and this method has the better clustering performance than the others and groups similar learners in one cluster.

کلمات کلیدی:

(e-Learning System, cognitive Style, Grouping, Fuzzy clustering, Particle Swarm Optimization (PSO)

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