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Cultivation of Autonomous Learning Ability in Material Major Students
under the Background of New Engineering Construction

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Abstract: Under the background of new engineering course, how to cultivate students' autonomous learning ability is a key problem that must be solved in material major teaching. Starting with the status quo of the rapid development of materials science and technology, this paper puts forward the view that material major teaching should aim at cultivating students' autonomous learning ability. Based on the analysis of the status quo of students' autonomous learning of materials, this paper probes into the ways and methods of cultivating the independent learning ability of the material major students under the background of the new engineering construction.
Key words: material major; teaching reform; learner autonomy; innovation ability

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The Design of Optimization Simulation Experiment
of Production Scheduling Based on Genetic Algorithm

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Abstract: Under the background of "Made in China 2025", a based on genetic algorithm production scheduling optimization simulation experiment is designed by using Plant Simulation software. Aiming at the same-sequence job scheduling problem, a production line simulation system model is established. With the shortest processing time as the optimization goal, the genetic algorithm is used to schedule the processing tasks to obtain the optimal production sequence. And then GanttWizard and charts can be used to analyze the performance of the production line. The experiment is not limited by hardware and provide many practical opportunities for students. The experiment can cultivate the ability of students to analyze and solve production scheduling problems and promote the training of intelligent manufacturing talents.
Key words: production scheduling; virtual simulation; genetic algorithm; experiment teaching

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