
NEWSLETTER

Do New Gaokao Schemes Increase Students' Autonomy in Subject Selection: An Empirical Analysis Based on the CatBoost Regression Tree Model

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IN CHINA, the college entrance examination (also known as Gaokao) is an event of paramount importance to the public. In the context of educational reform, the new Gaokao schemes are undergoing adjustments and improvements. The issue of whether the new Gaokao schemes are effective in supporting autonomous subject selection of students is pending further research. This article is an empirical investigation of the issue based on data from 2022's "Gaokao reform questionnaire survey" of college students who have gone through the whole process of the high-stakes examination.

Research Findings:

- The new Gaokao schemes have increased students' autonomy in subject choice. The "3 + 3" and "3 + 1 + 2" patterns, as new Gaokao models, showed no significant differences in the effects on student autonomous subject selection, but both outperforming the prior "3 + X" model.
- The expanded rights of students to subject choice did not lead to an enhancement of their subject selection abilities, but conversely, a certain degree of decline in this regard. Facing more choices and the increased configurations of subjects, the student could not make a legitimate decision on their own but had to seek advice of others.
- The new Gaokao schemes intensified the conflicts between the intentions of the student, parents, and senior secondary teachers in electing subjects. The discrepancies between the needs of student school progression, development, and future employment compromised students' autonomy in subject choice while exacerbating their worries about this issue.
- From the standpoint of enhancing students' autonomy in subject selection, the "3 + 1 + 2" scheme was the most rational choice, favorable for the stable and sustainable reform of Gaokao.

In brief, the new Gaokao scheme involves both students' rights to subject choice and their selection capacities. A blind expansion of students' autonomy in subject selection without regard to their selection abilities is not beneficial to their post-choice academic adaptation. Authorities concerned should provide students with more support in improving their capability of electing subjects by providing guidance on subject selection know-how and developmental planning in order to help them make better use of their selection autonomy and reach equilibrium between the freedom of development and optimization of development.

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