Understanding Supplementary Tutoring within the Changing Ecosystem of Secondary Education in Hong Kong: A Complexity Theory Perspective

This study is contextualised in an educational environment where supplementary tutoring (i.e., shadow education) has become a significant component, affecting students' academic outcomes and learning experiences. The fee-paying nature of tutoring also has implications on educational inequality. Over the past decade, the educational landscape in Hong Kong has changed drastically in various aspects, including the ongoing renewal of the school curriculum, the availability of fee-free tutoring, and the proliferation of online and AI-assisted pedagogical practices in mainstream and shadow education. However, a paucity of up-to-date and comprehensive research on the nature and implications of supplementary tutoring has resulted in a limited understanding of its position in the current education system and landscape, potentially undermining the effectiveness of teaching and learning and educational policymaking. The study adopts a complexity theory perspective, which emphasises the interconnectedness and interdependence of different elements within the educational ecosystem. This approach allows for a nuanced analysis of the effects of supplementary tutoring and the ways it interacts with and evolves according to changes in mainstream education. Hence, this mixed-methods study moves toward doing so by investigating how various types of supplementary tutoring affect students' academic outcomes and learning experiences within Hong Kong's rapidly changing educational landscape. We will gather current data on the scale, intensity, and types of supplementary tutoring received by secondary school students through surveys, examine their impact on students' learning outcomes through a pre-test and a post-test, and capture students' and teachers' perceptions on the prevalence of tutoring through interviews. We will analyse statistical data with difference-in-differences multilevel structural equation modelling with residual centring, and qualitative data through thematic analysis framed by the complexity theory. We will also compare the data with those collected a decade ago to understand the changing forces and their implications for educational practices and policy development. This study will provide valuable insights for educators, school leaders and teachers, policymakers, parents and tutors regarding the nature and implications of supplementary tutoring within the current ecosystem of education. The findings will contribute to the growing yet still under-researched field of shadow education. Furthermore, by highlighting socio-economic disparities in terms of access to supplementary tutoring and investigating the impact of fee-free tutoring on underprivileged students' learning, the study aims to promote equity in education and contribute to achieving the United Nations' sustainable development goals of equitable quality education for all.