

# Schools' Early Response to the COVID-19 Pandemic in Japan: Role of ICT Equipment and Teachers' IT Skills<sup>†</sup>

Hideo Akabayashi<sup>a</sup>

Shimpei Taguchi<sup>b</sup>

Mirka Zvedelikova<sup>c</sup>

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## Abstract

As schools worldwide were forced to close due to the COVID-19 pandemic in early 2020, Japanese schools struggled to switch to online education. Using nationwide data, this paper examines the impact of schools' ICT equipment and teachers' IT skills on the provision of online education and communication with students' families. It also examines the impact on teachers' working hours during the closures and in the months following, as teachers generally continued working from school. Utilizing a municipality-level fixed effect model, this analysis exploits differences in ICT resources between public elementary and junior high schools in Japan to isolate supply side effects. The results suggest a bottleneck in implementing online education caused by a lack of basic ICT equipment, while teachers' IT skills were not relevant and the effect of ICT resources on how schools communicated with families was limited. IT skills were, however, associated with teachers' working hours. Notably, weak IT skills resulted in a higher percentage of teachers working extra hours, especially extreme amounts of overtime in the months after schools reopened. A heterogeneous impact of IT skills by school level is also examined.

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a: Corresponding author. Faculty of Economics, Keio University, Tokyo, Japan. <https://orcid.org/0000-0002-6347-2895>. Email: [hakab@econ.keio.ac.jp](mailto:hakab@econ.keio.ac.jp)

b: Graduate School of Economics, Keio University, Tokyo, Japan. <https://orcid.org/0000-0003-3922-9948>. Email: [shimpei.taguchi@keio.jp](mailto:shimpei.taguchi@keio.jp)

c: Graduate School of Economics, Keio University, Tokyo, Japan. <https://orcid.org/0000-0002-3085-7502>. Email: [zvedmi@gs.econ.keio.ac.jp](mailto:zvedmi@gs.econ.keio.ac.jp)