

Piano Learning Aid  
(Technical Report)

The Struggle over Technology in Education  
(STS Research Paper)

An Undergraduate Thesis Portfolio  
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by

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## **Preface**

Educational technology can extend access to education, reduce costs, and support innovative educational techniques, but it can also deprive students of educationally valuable guidance from human experts, depersonalize instruction, diminish interpersonal education experiences, and displace employment in education,

Because piano instructors are skilled professionals, piano lessons can be expensive. To adapt a piano to teach beginners to play without a human instructor, the research team developed an attachment that senses notes from the piano and guides a student to play specific notes with LEDs. Although electronic keyboards with sensors at each key can teach players, the prototype is a separate module and can be adapted to fit any conventional piano of standard size. The prototype is a successful proof of concept.

Instructors, students, educational technology vendors, and administrators compete to shape the policies governing classroom technology use. In about 63 percent of U.S. classrooms, students and teachers use technology daily. Views about the extent and best uses of educational technology vary widely, reflecting divergent educational ideas and values.

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