**ABSTRACT**

MOOCs (Massive Open Online Courses) have received significant attention from Thai educational institutions for many years. However, most Thai MOOCs have been built with less concerns of learning design in the Thai context and instead often provide regular online videos and tutorials.

In this thesis, I explore the design in which Thai education will be supported by MOOCs and other technologies. Using learning objectives from a general chemistry course, through culturally sensitive User Experience design and data visualization, My goal is to show that the online learning environment can be equally as effective and engaging teenagers specifically, who can be easily diverted by a number of distractions on the Internet. The new collaborative learning experience that conforms to unique Thai students’ behavior will be developed to strengthen the learning environment.

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