

博士論文審査結果報告  
Report on Ph.D. / Doctoral Dissertation Defense

National Graduate Institute for Policy Studies (GRIPS)

政策研究大学院大学

Professor LITSCHIG Stephan

教授 LITSCHIG Stephan

審査委員会を代表し、以下のとおり博士論文審査に合格したことを報告します。

On behalf of the Doctoral Dissertation Review Committee, I would like to report the pass result of the Doctoral Dissertation Defense as follows.

プログラム名 Program	政策分析プログラム Policy Analysis Program	
学位申請者氏名 (ID) Ph.D. Candidate (ID)	Somsiriwong Piyakul (PHD17102)	
Dissertation Title  論文タイトル (タイトル和訳)	Teacher Professional Development, Cooperative Learning and Student Performance: Evidence from Two Interventions in Thailand  教員職能開発・協同学習・学業成績：タイにおける2つの政策介入からのエビデンス	
学位名 Degree Title	博士（開発経済学） Ph.D. in Development Economics	
論文提出日/ Submission Date of the Draft Dissertation	2022年6月3日/ June 3, 2022	
論文発表・審査会開催日/ Date of the Defense and the Doctoral Dissertation Review Committee	2022年7月1日/ July 1, 2022	
論文最終版提出日/ Submission Date of the Final Dissertation	2022年8月24日/ August 24, 2022	
審査委員会/ Doctoral Dissertation Review Committee	主査 Main referee	LITSCHIG Stephan
	審査委員 Referee	WIE Dainn
	審査委員 Referee	泉 佑太朗 IZUMI Yutaro
	審査委員 Referee	田中 隆一 東京大学 TANAKA Ryuichi The University of Tokyo
	審査委員（博士課程委員会） Referee (Doctoral Programs Committee)	隅藏 康一 SUMIKURA Koichi

※ タイトルが英文の場合、文部科学省に報告するため、和訳を付してください

Please add a Japanese title that will be reported to MEXT.

## **1. Summary of Defense and Evaluation**

This dissertation evaluates two large-scale professional development (PD) programs for public school teachers in Thailand. Teacher PD programs are implemented in many countries, but rigorous evaluations provide mixed results. It is therefore important to learn whether these programs are effective in Thailand, especially because they are on-going.

The two evaluations use regression discontinuity based on cutoffs in school-level test performance and difference-in-differences, respectively. Both evaluations use comprehensive national test score data for several years aggregated at the school level. Both evaluations suggest relatively precise zero effects, ruling out even small test score gains. For one of the programs, the candidate did her own online survey with program teachers. Potential explanations for this apparent ineffectiveness include a low number of trained teachers, short training duration, and limited monitoring and follow-up.

Overall, the dissertation provides convincing evidence that these two programs are not working as intended and points to several implementation shortcomings that could be responsible for this failure. These results are useful for policymakers looking to improve the quality of public education, not just in Thailand but in Southeast Asia more generally.

## **2. Dissertation overview and summary of the presentation.**

This dissertation evaluates two large-scale professional development (PD) programs for public school teachers in Thailand. Teacher PD programs are implemented in many countries, but rigorous evaluations provide mixed results. It is therefore important to learn whether these programs are effective in Thailand, especially because they are on-going.

The Active Learning School (ALS) program aims to foster cooperative learning within small groups of students. Within each school district, the project is targeted at schools at the bottom

of the performance distribution, as measured by a nationwide test. This assignment mechanism gives rise to fuzzy regression discontinuity wherein schools that are marginal to the cutoff are compared to each other. ALS schoolteachers participated in training sessions starting in 2017 and the chapter evaluates impacts on test scores of first, third and sixth graders across subjects up to 2019. The results suggest relatively precise zero effects, with the 95 percent confidence interval estimates ranging from -0.1 to 0.1 test score standard deviation. Potential explanations for this apparent ineffectiveness include a low number of trained teachers, short training duration, and limited follow-up.

The Science, Mathematics, and Technology (SMT) program aims to improve the quality of teaching in these subjects. Schools basically self-selected into the program, which provided online learning resources and materials starting in early 2018, followed by a series of online training sessions starting in 2020. The chapter uses 2015 – 2017 pre-program science and mathematics scores for students in grades six and nine to estimate impacts on corresponding 2018 – 2020 test scores using a school-level difference-in-differences analysis. Impact estimates suggest that the project had, if anything, only a small positive effect on grade six test scores, no larger than 0.07 and 0.05 standard deviation for mathematics and science, respectively. For ninth graders the results are not conclusive because the common trends assumption appears to be violated in the pre-program period.

The chapter also includes results from a primary online survey with SMT teachers, designed to elucidate some of the possible reasons for program failure: less than 60% of eligible teachers attended training sessions and SMT teachers do not seem motivated or incentivized to implement the newly trained content in the classroom. The training contents are also not classroom-ready and there is little monitoring and follow-up after the training.

Overall, these results are useful for policymakers looking to improve the quality of public education, not just in Thailand but in Southeast Asia more generally.

**3. Evaluation Notes from the Doctoral Dissertation Review Committee (including changes required to the dissertation by the referees)**

The defense mainly centered on additional analyses the referees would have liked to see, rather than the results that were presented.

One referee would have wanted to see more direct evidence about shortcomings in program implementation, but such data is unfortunately not available.

Another concern was that there could be unmeasured beneficial effects for students that are not captured by test scores and this limitation was acknowledged in the revision.

Several referees also noted that there might be offsetting positive and negative effects cancelling each other out on average. Moreover, additional heterogeneity analysis based on school- or program-implementation differences might reveal a more nuanced picture. However, due to time constraints these issues were not pursued further at this time.

One referee thought that there were additional impact evaluations on teacher PD programs in Southeast Asia that should be cited. However, on closer inspection those turned out to be more descriptive analyses.

And one referee pointed out that 3-years is not really long-term and this was corrected.

Finally, one referee wanted to see a separate chapter for spelling out the policy implications, and several referees wanted to see additional results tables and summary statistics. These changes have all been implemented.

**4. Confirmation by the Main Referee that changes have been done to the satisfaction of the referees and final recommendations**

Even though the committee members made valuable suggestions to improve the dissertation, they left it to the main referee to decide which additions were necessary at this stage and which would be helpful for eventual publication. On August 18, 2022, the candidate submitted the

revised manuscript to the committee members along with a note that described changes in response to the comments and questions at the defense. There were no further comments. The main adviser checked the revised version, together with a plagiarism check, and found it satisfactory.

The doctoral dissertation review committee recommends that GRIPS award the degree of Ph.D. in Development Economics to Ms Piyakul SOMSIRIWONG.