

**PROGRAM PENGEMBANGAN KOMPETENSI GURU BERBASIS
PENGUATAN *TECHNOLOGICAL PEDAGOGICAL AND CONTENT
KNOWLEDGE* PEMBELAJARAN MATEMATIKA MELALUI *LESSON
STUDY***

(Design Research di SD Negeri Jatinangor Kabupaten Sumedang)

TESIS

Diajukan untuk memenuhi sebagian syarat untuk memperoleh gelar
Magister Pendidikan Dasar Konsentrasi Pendidikan Matematika di Sekolah Dasar



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**PROGRAM STUDI PENDIDIKAN DASAR
SEKOLAH PASCASARJANA
UNIVERSITAS PENDIDIKAN INDONESIA
BANDUNG
2023**

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(*Design Research* di SD Negeri Jatinangor Kabupaten Sumedang)**

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S.Pd. Universitas Sriwijaya 2018

Sebuah tesis yang diajukan untuk memenuhi sebagian syarat untuk memperoleh gelar Magister Pendidikan Dasar Konsentrasi Pendidikan Matematika di Sekolah Dasar dari Program Studi Pendidikan Dasar, Sekolah Pascasarjana, Universitas Pendidikan Indonesia

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Agustus 2023

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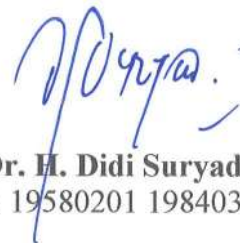
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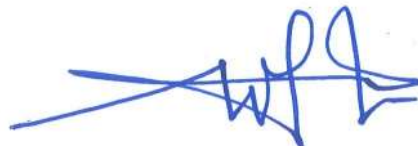
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HALAMAN PERNYATAAN KEASLIAN TESIS

Dengan ini, saya Indra Gunawan, menyatakan bahwa tesis dengan judul “Program Pengembangan Kompetensi Guru Berbasis Penguatan *Technological Pedagogical and Content Knowledge* Pembelajaran Matematika Melalui *Lesson Study (Design Research* di SD Negeri Jatinangor Kabupaten Sumedang)” ini dan seluruh isinya adalah benar-benar karya saya sendiri. Saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika ilmu yang berlaku dalam masyarakat keilmuan. Atas pernyataan ini, saya siap menanggung risiko/sanksi apabila dikemudian hari ditemukan adanya pelanggaran terhadap etika keilmuan atau ada klaim dari pihak lain terhadap keaslian karya saya ini.

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KATA PENGANTAR

Alhamdulillah rabbil 'aalamiin, puji dan syukur penulis panjatkan kepada Allah SWT yang berkat nikmat-Nya sempurna amal-amal baik dan memungkinkan penulis mampu menyelesaikan tesis sebagai laporan penelitian akhir pendidikan magister dengan judul “Program Pengembangan Kompetensi Guru Berbasis Penguatan *Technological Pedagogical and Content Knowledge* Pembelajaran Matematika Melalui *Lesson Study*.” Shalawat serta salam, semoga senantiasa tercurah limpahkan pada manusia tauladan yang menjadi pencerah peradaban yakni Nabi Muhammad saw., beserta para sahabatnya, keluarganya, tabiut tabi’iina, dan mudah-mudahan sampai kepada kita selaku umatnya. Aamiin yaa rabbal ‘aalamiin. Tesis ini disusun untuk memenuhi salah satu syarat menempuh ujian Magister Pendidikan pada Program Studi Pendidikan Dasar, Sekolah Pascasarjana, Universitas Pendidikan Indonesia. Tesis ini berisi analisis deskriptif terkait hasil penelitian yang telah dilakukan dengan melakukan *workshop* penguatan *Technological Pedagogical and Content Knowledge* sebagai bagian dari program peningkatan kompetensi guru dimana *lesson study* menjadi pendekatannya. Melalui peningkatan kompetensi guru secara kolaboratif dan reflektif ini, penulis berharap dapat memberikan kontribusi dalam mengembangkan kurikulum dan desain pembelajaran matematika dalam lingkup sekolah. Penulis menyadari tesis ini belum bisa dikatakan sempurna sehingga penulis meminta maaf atas segala kekurangan dan keterbatasan dari tesis ini. Penulis juga berharap adanya kritik dan saran yang konstruktif sebagai upaya penyempurnaan. Namun, semoga tesis ini dapat bermanfaat bagi penulis maupun pembaca bahkan dapat menjadi kontribusi pengembangan ilmu Pendidikan selanjutnya. Mudah-mudahan tesis ini dijadikan sebagai suatu ibadah di sisi Allah SWT. *Aamiin yaa rabbal ‘aalamiin*.

Bandung, Agustus 2023

Penulis,

Indra Gunawan

HALAMAN UCAPAN TERIMA KASIH

Dengan mengucapkan syukur kepada Allah *swt.* dan sholawat atas Nabi Muhammad *saw.*, semoga ini dapat menjadi wasilah menggapai ridho dan membantu agama-Nya, penulis berterima kasih dan memberi penghargaan setinggi-tingginya kepada:

1. Tim pembimbing sekaligus penguji terdiri dari Prof. Dr. H. Tatang Herman, M.Ed. dan Drs. H. Sumar Hendayana, M.Sc., Ph.D. yang telah meluangkan waktu, tenaga, dan pikiran dalam mensukseskan *workshop* serta membimbing penulis menyusun tesis.
 2. Ibunda Asminingsih dan Ayah Jamil Azhari untuk do'a dan semangatnya.
 3. Tim penguji Prof. H. Udin Syaefudin Sa'ud, Ph.D. dan Prof. Dr. H. Didi Suryadi, M.Ed., serta tim validator untuk saran, masukan, dan pertanyaan yang konstruktif dalam rangka penyempurnaan *draft* tesis yang disusun.
 4. Kaprodi Pendidikan Dasar Prof. Dr. päd. Wahyu Sopandi, M.A., MR Prodi Pendidikan Dasar Dr. H. Atep Sujana, M.Pd. dan jajaran Dosen Prodi Pendidikan Dasar atas semua ilmu dan pengetahuan yang diajarkan selama masa studi penulis.
 5. Staf akademik di lingkungan Sekolah Pascasarjana atas bantuan-bantuan birokratifnya.
 6. Keluarga besar Syeh Daud, Sayyid Mahmud Al-Mahdali, H. Mustofa, Ibnu Hasyim, M. Hasyim, dan Ust. M. Herdiansyah Yusuf, S.Th.I atas semangat dan do'a-do'anya.
 7. Beasiswa Pendidikan Indonesia (BPI) dari Pusat Laporan dan Pembiayaan Pendidikan Kemdikbudristek RI berkolaborasi dengan Lembaga Pengelola Dana Pendidikan Kemenkeu RI atas *support* dananya.
 8. Walikota Palembang melalui Dinas Pendidikan serta Badan Kepegawaian dan Pengembangan SDM Kota Palembang untuk tugas belajar yang diberikan.
 9. Adik-adik Griya Bestari Bandung untuk kebersamaan dan dukungan moril serta Ali Sahin Abi untuk motivasi dan dukungan materiilnya.
 10. *Sensei* Kanako Kusanagi, Ph.D. atas inspirasi, motivasi, dan sarannya.
 11. Rekan-rekan seperjuangan *awardee* BPI UPI dan mahasiswa Pendidikan Dasar 2021 atas *sharing* pembelajarannya selama menjadi mahasiswa pascasarjana.
 12. Kepala, dewan guru, dan Kelas IV SD Negeri Jatinangor atas kerjasamanya.
 13. Pihak lain yang terlibat baik di penulisan tesis maupun selama studi penulis yang tidak dapat disebutkan satu persatu namun tidak mengurangi *takzim* penulis.
- “... Dan apabila kamu menghitung-hitung rahmat Allah niscaya kamu tidak akan dapat menghitungnya” (**QS. An-Nahl: 18**). “Barangsiapa yang pergi untuk menuntut ilmu, maka ia berada di jalan Allah hingga ia pulang.” (**HR. Tarmidzi**)

ABSTRAK

Penelitian ini berangkat dari masalah dalam pembelajaran matematika di jenjang Sekolah Dasar seperti tidak berorientasi pada proses dan kurang interaktif yang diindikasikan oleh *pedagogical content knowledge* guru masih belum mempunyai, urgensi integrasi perangkat *information and communication technology (ICT)* untuk mendukung pembelajaran serta rendahnya rapor pendidikan sekolah dalam hal numerasi. Tujuannya adalah penguatan kepada para guru tentang *TPACK* pembelajaran matematika bersama para ahli serta menghasilkan produk program pengembangan kompetensi guru berbasis penguatan *TPACK* pembelajaran matematika dengan pendekatan *lesson study*. Model penelitian yang digunakan dalam penelitian ini adalah *Educational Design Research (EDR)* untuk mengembangkan desain pendidikan, fase pertama dilakukan analisis dan penguatan, fase kedua dilakukan desain dan pengembangan pembelajaran dengan bantuan metode *transcript-based lesson analysis* dan analisis refleksi, lalu pada akhirnya produk pembelajaran hasil pengembangan kompetensi dan refleksi guru divalidasi untuk didiseminasikan. Berdasarkan hasil data yang diperoleh peneliti pada saat penelitian pendahuluan, transkrip pembelajaran yang telah dianalisis masih menunjukkan bahwa pembelajaran matematika di subyek studi masih *teacher-centered*. Namun setelah dilakukan *workshop* dan pendampingan, dialog pembelajaran menunjukkan peningkatan pembelajaran siswa ke arah yang lebih kolaboratif. Dalam konteks *post-lesson discussion (PLD)*, refleksi didominasi oleh saran terhadap perkembangan siswa memiliki kecenderungan *sustainability* atau keberlanjutan yang bagus. Produk *lesson design* yang dihasilkan memiliki validitas tinggi meliputi penilaian terhadap konten pembelajaran matematika, pendekatan *TPACK*, dan praktikalitas serta didukung dengan bagusnya respon siswa dari wawancara. Simpulan dan rekomendasi dari penelitian ini adalah program ini memiliki dampak yang bagus dilihat dari perencanaan, implementasi dan refleksi sehingga model pengembangan profesi guru yang ditawarkan direkomendasikan untuk diterapkan.

Kata kunci: *educational design research, lesson study, pengembangan kompetensi guru, TPACK, transcript-based lesson analysis*

ABSTRACT

This research departs from problems in learning mathematics at the elementary school level such as teacher-oriented and less interactive which indicated incompetency of teacher in terms of technological, pedagogical, and content knowledge, as well unsatisfying education report in terms of numeracy. The purpose is to strengthen the teachers about TPACK of mathematics learning through workshop with experts and at the end of the process justifying TPACK reinforcement-based teacher competency development program in mathematics learning through the lesson study approach. The research model used in this study is Educational Design Research (EDR) to develop an educational design, the first phase is analysis and reinforcement, the second phase is the design and development of learning with the help of transcript-based lesson analysis method and reflection analysis, then in the end the learning products resulting from competency development and teacher reflection are validated for dissemination. Based on the results of the data obtained by the researcher during the preliminary research, the learning transcripts that have been analyzed still show that the learning of mathematics in the study subjects is still teacher-centered. But with the help of workshop and mentoring, learning dialogue shows an increase in student learning in a more collaborative direction. In the context of post-lesson discussion (PLD), reflection is dominated by suggestions towards the development of student that indicates good sustainability. Lesson design products have high validity including an assessment of the content of learning mathematics, TPACK approaches, and practicality as well as supported by good student responses from interviews. The conclusions and recommendations from this research are that this program has a good impact in terms of planning, implementation, and reflection hence the model of teacher professional development offered is recommended to be implemented.

Keywords: educational design research, lesson study, teacher competency development, TPACK, transcript-based lesson analysis

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