ABSTRAK

Maria Priska Herwidasari. 2026. Pengembangan Modul Ajar Berbasis *Deep Learning* Guna Memfasilitasi *Mathematical Thinking* Dan *Self Efficacy* Di SMA Santa Maria Yogyakarta. Skripsi. Program Studi Pendidikan Matematika, Jurusan Pendidikan Matematika dan Ilmu Pengetahuan Alam, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Sanata Dharma Yogyakarta.

Mathematical thinking dan *self efficacy* merupakan kemampuan yang penting bagi murid namum membutuhkan pendekatan dan perangkat yang tepat untuk memfasilitasinya. *Deep learning* merupakan alternatif pendekatan yang bisa memfasilitasi kedua kemampuan tersebut. Penelitian ini memiliki tujuan (1) mengembangkan modul ajar menggunakan pendekatan *deep learning* dan (2) menguraikan kemampuan *mathematical thinking* dan *self efficacy* yang berhasil difasilitasi. Penelitian ini menggunakan jenis penelitian kualitatif-kuantitatif dengan metode R&D. Data dalam penelitian ini dikumpulkan menggunakan instrumen lembar validasi, angket kepraktisan, soal *mathematical thinking*, angket *self efficacy*, pedoman wawancara, dan pedoman observasi. Hasil penelitian ini menunjukkan bahwa (1) proses pengembangan modul ajar dilakukan menggunakan tahap ADDIE dengan hasil berikut. 1) *Analysis*: perlu adanya modul ajar guna memfasilitasi *mathematical thinking* dan *self efficacy*, 2) *design*: kegiatan pembelajaran pada modul ajar *deep learning* menggunakan model *Problem Based Cooperative Learning* (PBCL), 3) *development*: validasi modul ajar sangat layak dengan saran penambahan soal dan perintah soal diperjelas, 4) *implementation*: dilakukan dua kali pertemuan dengan ketercapaian pelaksanaan 96,875% dan respon positif, 5) *evaluation*: semua elemen *deep learning* tercapai dengan kualitas modul ajar sangat layak (88,14%), praktis (73,06%), sangat efektif meningkatkan *mathematical thinking* (N-Gain 0,81), tetapi belum efektif meningkatkan *self efficacy* (peningkatan 46,67%). (2) Modul ajar telah berhasil memfasilitasi setiap indikator *mathematical thinking* dan *self efficacy*. Saran penelitian berikutnya adalah memperhatikan aspek-aspek *self efficacy* lebih detail seperti memberikan pengalaman keberhasilan yang menyeluruh, skala angket lebih detail, dan implementasi pada beberapa pertemuan.

Kata kunci: modul ajar, *deep learning*, *mathematical thinking*, *self efficacy*

ABSTRACT

Maria Priska Herwidasari. 2026. *The Development of Teaching Modules Based on Deep Learning to Facilitate Mathematical Thinking and Self-Efficacy at* SMA Santa Maria Yogyakarta. *Undergraduate Thesis. Mathematics Education Study Program, Department of Mathematics Education and Natural Sciences, Faculty of Teacher Training and Education, Sanata Dharma University*, Yogyakarta.

Mathematical thinking and self-efficacy are important skills for students but require the right approach and tools to facilitate them. Deep learning is an alternative approach that can facilitate both skills. This study aims to (1) develop a teaching module using a deep learning approach and (2) describe the mathematical thinking and self-efficacy skills that were successfully facilitated. This study uses a qualitative-quantitative research type with the R&D method. Data in this study were collected using validation sheet instruments, practicality questionnaires, mathematical thinking questions, self-efficacy questionnaires, interview guidelines, and observation guidelines. The results of this study indicate that (1) the process of developing the teaching module was carried out using the ADDIE stage with the following results. 1) Analysis: there is a need for a teaching module to facilitate mathematical thinking and self-efficacy, 2) design: learning activities in the deep learning teaching module use the Problem Based Cooperative Learning (PBCL) model, 3) development: validation of the teaching module is very feasible with suggestions for adding questions and clarifying question instructions, 4) implementation: two meetings were conducted with an implementation achievement of 96.875% and positive responses, 5) evaluation: all elements of deep learning were achieved with the quality of the teaching module being very feasible (88.14%), practical (73.06%), very effective in improving mathematical thinking (N-Gain 0.81), but not yet effective in improving self-efficacy (46.67% increase). (2) The teaching module has succeeded in facilitating each indicator of mathematical thinking and self-efficacy. Suggestions for further research are to pay attention to aspects of self-efficacy in more detail, such as providing a comprehensive experience of success, a more detailed questionnaire scale, and implementation in several meetings.

Keywords: *teaching modules, deep learning, mathematical thinking, self-efficacy*