

## ABSTRACT

**Yusmarni, 2020. Constructivism-Based Think Create Apply as a Learning Model. Dissertation. Postgraduate Program of Universitas Negeri Padang**

Students' mathematical problem solving and Habits of Mind (HOM) were discovered quite low in the preliminary test and therefore, learners' problem solving and critical thinking skills in mathematics were considered to be limited. Teacher's learning models do not support learners' constructing knowledge so it is critical to implement the Constructivism-Based Think Create Apply learning model or TCABK model so that learners' can improve their problem solving and HOM. The aim of this study is to produce a TCABK learning model with valid, practical, and effective.

The research design of this study was based on Plomp's theory (2013) with three stages of development, namely (1) preliminary research phase, (2) prototyping phase, and (3) assessment phase. The trial sample for this TCABK model is class X students in high school in Jambi city and Muaro Jambi District. The data collection technique used observation instruments, problem-solving tests and HOM questionnaires to obtain the validity, practicality, and effectiveness of the developed model. The data set was analyzed descriptively and statistically.

The components of the TCABK learning model developed to include 1. The syntax consists of: (a) orientation, (b) Think, (c) Create, (d) Apply, (e) Reflection and Evaluation; 2. The social system consists of (a) the teacher acts as a guide, facilitator, motivator, and reflector, (b) the student's social system is the nature of cooperating, helping each other, and being responsible; 3. The principle of reaction consists of (a) providing guidance, (b) facilitating the learning process, (c) reconstructing information, (d) reflecting, (e) providing assessments; 4. The instructional impacts that occur are (a) the ability to reconstruct concepts and principles, (b) the ability to analyze logically and critically, (c) more absorption, (d) mathematical problem solving; 5. The accompaniment impact consists of (a) HOM, (b) creative thinking, (c) effective thinking, (d) analytical ability, (e) self-confidence; and 6. A model support system is a rational model book, Teacher Work Guidebook, Student Work Guidebook.

The achievement of the research results shows that the model and model support system devices meet the elements of validity, practicality, and effectiveness. Then the TCABK learning model that has been developed has higher effectiveness than the usual learning model implemented by teachers in schools.

## ABSTRAK

**Yusmarni. 2020. “Model Pembelajaran *Think Create Apply* Berbasis Konstruktivisme”.Disertasi. Pascasarjana Universitas Negeri Padang.**

Kemampuan pemecahan masalah matematis dan kebiasaan berfikir atau *Habits of Mind* (HOM) peserta didik belum sesuai dengan harapan. Penyebabnya adalah peserta didik belum mampu berfikir kreatif dan logis dalam menyelesaikan masalah matematis. Peserta didik belum bisa mengkonstruksi pengetahuan setelah mengikuti pembelajaran. Penyebabnya model pembelajaran yang digunakan guru belum tepat Oleh sebab itu perlu mengembangkan suatu Model pembelajaran *Think Create Apply* berbasis Konstruktivisme atau model TCABK yang mampu membuat kemampuan pemecahan masalah matematis dan HOM peserta didik lebih meningkat. Tujuan penelitian ini secara umum adalah menghasilkan suatu model pembelajaran TCABK dengan kriteria valid, praktis dan efektif.

Design research penelitian ini dari teori Plomp (2013) dengan tiga tahap pengembangan yakni (1) preliminary research phase, (2) prototyping phase, dan (3) assesment phase. Sampel uji coba model TCABK ini adalah peserta didik kelas X di Sekolah Menengah Atas di kota Jambi dan Kabupaten Muaro Jambi. Teknik pengumpulan data menggunakan instrumen pengamatan, serta tes pemecahan masalah dan angket HOM untuk memperoleh validitas, praktikalitas, dan efektivitas model yang dikembangkan. Kumpulan data dianalisis secara deskriptif dan uji statistik untuk melihat HOM dan peningkatan pemecahan masalah matematis.

Komponen model pembelajaran TCABK yang dikembangkan meliputi: 1. Sintaks terdiri dari: (a) orientasi, (b) Think, (c) Create, (d) Apply, (e) Refleksi dan Evaluasi; 2. Sistem sosial terdiri dari: (a) guru berperan sebagai pembimbing, fasilitator, motivator, dan reflektor, (b) sistem sosial peserta didik adalah sifat mau bekerjasama, saling membantu, dan tanggung jawab; 3. Prinsip reaksi terdiri dari: (a) memberi bimbingan, (b) memfasilitasi proses pembelajaran, (c) merekonstruksi informasi, (d) melakukan refleksi, (e) memberikan penilaian; 4. Dampak instruksional yang terjadi ialah: (a) kemampuan merekonstruksi konsep dan prinsip, (b) kemampuan menganalisis secara logis dan kritis, (c) daya serap lebih banyak, (d) pemecahan masalah matematis; 5. Dampak pengiring terdiri dari: (a) HOM, (b) berfikir kreatif, (c) berfikir efektif, (d) kemampuan menganalisis, (e) percaya diri; dan 6. Sistem pendukung model adalah buku rasional model, buku Pedoman Kerja Guru, buku Pedoman Kerja peserta didik.

Ketercapaian hasil penelitian menunjukkan model dan perangkat sistem pendukung model memenuhi unsur kevalidan, kepraktisan, dan keefektifan. Kemudian model pembelajaran TCABK yang telah dikembangkan mempunyai keefektifan yang lebih tinggi daripada model pembelajaran biasa yang dilaksanakan guru di sekolah.