ABSTRAK

Jonni Sitorus. 2018. Lintasan Proses Berpikir Kreatif Siswa SD dengan Penerapan Model Pembelajaran Matematika Realistik. Disertasi: Universitas Negeri Medan.

Penelitian ini bertujuan untuk mendeskripsikan kemampuan berpikir kreatif peserta didik SD; memukan tahapan proses berpikir kreatif matematika dan pengetahuan kognitif peserta didik SD; dan menganalisis lintasan belajar kreatifnya, ditinjau dari persfektif teori. Penelitian ini dilakukan dengan 2 pendekatan yaitu kuantitatif dan kualitatif. Pendekatan kualitatif bertujuan untuk mengonstruksi teori dari pemahaman suatu fenomena yang terjadi pada lintasan proses berpikir kreatif peserta didik SD dengan penerapan model pembelajaran matematika realistik melalui *grounded theory* dengan 5 tahapan, yaitu: tahap inisiasi, pengumpulan data, analisis data, sintesa dan penemuan teori, and uji validasi teori. Hasil penelitian menunjukan bahwa: (1) kemampuan berpikir kreatif matematika peserta didik pada PMR dapat dikelompokkan menjadi 4, yaitu: sangat tinggi sebanyak 2 orang (7,69%); tinggi 9 orang (34,62%); cukup 10 orang (38,46); dan rendah 5 orang (19,23%). Tingkat berpikir kreatif (TBK) matematika peserta didik dikelompokkan menjadi 2, yaitu TBK 4 (sangat kreatif) dan TBK 3 (kreatif). Secara keseluruhan, nilai rata-rata kemampuan berpikir kreatif matematika peserta didik adalah $\chi = 74,62$. Semua peserta didik dapat memberikan jawaban yang *fluency, flexibility* dan *novelty*, tetapi kemampuan peserta didik untuk memberikan banyaknya jawaban pada masing-masing indikator berpikir kreatif berbeda-beda. Nilai rata-rata kemampuan berpikir kreatif matematika peserta didik pada masing-masing indikator berpikir kreatif adalah *fluency* $= 77,69$; *flexibility* $= 66,67$; dan *novelty* $= 50,64$; (2) tahapan proses berpikir kreatif serta pengetahuan kognitif peserta didik adalah: a) orientasi: berusaha mengenali & memahami, berpikir, ingin mendapatkan ide, mencari, memahami, membaca, bertanya, dan memanfaatkan; b) persiapan: mengingat, mencari, meniru, berdiam diri, berusaha, membaca, bertanya, mengumpulkan, berdiskusi, memanipulasi, merepresentasi, merumuskan, membayangkan, memanfaatkan, menggali, berintuisi, menganalisis; c) inkubasi: menenangkan diri, mengistirahatkan, mengalihkan, merenung, berpikir, ingin memunculkan ide, membaca, memahami, mengingat, membayangkan, mengeram ide, dan bercanda/ bercakap-cakap; d) iluminasi: menganalisis, mengaitkan, menyelesaikan, mengembangkan, memanfaatkan, mensintesa, mengkoneksikan, merepresentasi, menerapkan, mensinergikan, memunculkan, menetapkan, membagi, menerjemahkan, menemukan, menyesuaikan, membandingkan, melanjutkan, memilih dan mengubah; dan e) varifikasi: memverifikasi, menemukan, mendiskusikan, mencari, mengecek ulang, merevisi, mengganti, memanfaatkan, menganalisis, membandingkan, berpikir logika, meragukan, bertanya, membaca, memeriksa, mengukur kembali, dan mengubah; dan (3) titik lintasan belajar kreatif sebanyak 5, yaitu: orientasi masalah kontekstual, rencana tindakan, realisasi rencana atau bertindak, penguasaan konsep kreativitas matematika dan evaluasi hasil.

Kata Kunci: *pembelajaran matematika realistik; lintasan belajar kreatif, tahapan proses berpikir kreatif, pengetahuan kognitif, grounded theory, pembelajaran matematika.*

ABSTRACT

Jonni Sitorus (2018). *Creative Thinking Process Trajectory for Primary Students by Implementing of Realistic Mathematics Education in Indonesian Version.* *Dissertation*: Universitas Negeri Medan.

This study aims to describe the creative thinking ability for elementary school students; to find the mathematics creative thinking process stage and the cognitive knowledge for elementary school students; and to analyze the creative learning trajectory, based on theory perspective. This research was conducted with 2 approaches namely quantitatively and qualitatively. The qualitative approach aims to construct the theory based the understanding of a phenomenon that occurs in the path of creative thinking process of elementary school students by applying the realistic mathematics learning model through grounded theory with five stages: initiation stage, data collection, data analysis, synthesis and theoretical discovery, and testing the theory validity. The results showed that: (1) the students' creative thinking ability by implementing RME can be grouped into 4, namely: very high of 2 students (7.69%); high of 9 students (34,62%); enough of 10 students (38,46); and low of 5 students (19,23%). Students' mathematics creative thinking level (CTL) is grouped into 2, namely CTL 4 (very creative) and CTL 3 (creative). Overall, the average score of students' math creative thinking ability is $(\chi) = 74.62$. All students can provide the fluency, flexibility and novelty answers, but the ability of students to provide answers to each creative thinking indicator is different. The average score of students' mathematics creative thinking ability in each creative thinking indicator is fluency = 77,69; flexibility = 66,67; and novelty = 50.64; (2) the students' creative thinking process stages and its cognitive knowledge are: a) orientation: trying to recognize & understand, thinking, wish to get ideas, seeking, understanding, reading, asking, and utilizing; b) preparation: remembering, seeking, imitating, keeping quiet, trying, reading, asking, collecting, discussing, manipulating, representing, formulating, imagining, utilizing, digging, intuiting, analyzing; c) incubation: calming down, resting, diverting, pondering, thinking, wish to come up with ideas, reading, understanding, remembering, imagining, clashing ideas, and joking/chatting; d) illumination: analyzing, associating, completing, developing, utilizing, synthesizing, connecting, representing, applying, synergizing, generating, assigning, distributing, translating, discovering, adjusting, comparing, continuing, selecting and modifying; and e) varification: verifying, finding, discussing, searching, rechecking, revising, replacing, utilizing, analyzing, comparing, logical thinking, doubting, asking, reading, checking, re-measuring, and altering; and (3) the creative learning trajectory of 5, namely: contextual problem orientation, action plan, plan or action realization, mastering of math creativity concept, and result evaluation.

Keywords: realistic mathematics education, creative learning trajectory, creative thinking process stages, cognitive knowledge, grounded theory, mathematics education.