THE USE OF DRAWING METHOD FOR DIAGNOSING STUDENTS' MISCONCEPTION ABOUT PLANT STRUCTURE IN RELATION TO PHOTOSYNTHESIS

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Abstract

The study of diagnosing students' misconception about plant structure in relation to photosynthesis among middle school using drawing method was conducted to identify students' misconception using drawing method concerning on this important concept. A descriptive research was applied in this study and a number of eight grade students (N=32) is participated in this research. Purposive sampling was implemented as the sampling technique of this study. Data was gathered from thirty two students' drawings, modified Certainty of Response Index (CRI), interview, and questionnaire. These drawings were analyzed and categorized based on five level of drawings criteria by Köse. The result showed that the students intensify on Level 4 in which students' drawings mostly demonstrate partial understanding and no misconception found in the concept of plant structure in relation to photosynthesis. From the drawings, there were 25% students identified which held misconception on plant structure and it is followed by 40,63% drawings with misconception for photosynthesis concept. This findings was supported by modified CRI analysis which shows there was 37,63% students that held misconceptions. Based on modified CRI analysis and interview result also found that students mostly held misconception on determining time when photosynthesis happen, location of photosynthesis occurred, and structure and function of plant that related with photosynthesis concept. Besides that, other interesting facts showed that the students cannot grasp the idea of root system, shoot system, and photosynthesis as interrelated concept in science. The main causes of students' misconception come from students' itself, textbook, and their interaction with environment.

Keywords:Drawing method, students' misconception, plant structure, photosynthesis.

PENGGUNAAN METODE MENGGAMBAR UNTUK MENDIAGNOSA MISKONSEPSI SISWA PADA KONSEP STRUKTUR TUMBUHAN DALAM KAITANNYA DENGAN KONSEP FOTOSINTESIS

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Abstrak

Penelitian mengenai diagnosa miskonsepsi siswa pada konsep struktur tumbuhan dalam kaitannya dengan konsep fotosintesis telah dilaksanakan untuk mengidentifikasi miskonsepsi siswa pada konsep tersebut dengan menggunakan metode menggambar. Metode yang digunakan dalam penelitian ini adalah metode deskriptif dengan melibatkan sejumlah siswa (N=32) kelas VIII dan pengambilan sampel dilakukan secara *purposive sampling*. Data penelitian ini diperoleh melaui gambar siswa, tes pilihan ganda disertai modifikasi Certainty of Response Index (CRI), wawancara, dan angket siswa. Data gambar siswa dianalisis dan dikategorikan berdasarkan lima level gambar yang dikembangkan oleh Köse. Hasil penelitian menunjukkan bahwa presentasi tertinggi dari gambar siswa berada pada Level 4. Berdasarkan data gambar, terdapat 25% siswa yang mengalami miskonsepsi pada konsep struktur tumbuhan dan 40,63% siswa pada konsep fotosintesis. Penemuan ini ditunjang dengan analisa tes pilihan ganda beralasan terbuka yang disertai dengan modifikasi CRI. Berdasarkan analisis CRI dan wawancara juga menunjukkan bahwa terdapat 37,63% siswa mengalami miskonsepsi dalam menentukan waktu dan tempat terjadinya fotosintesis, struktur dan fungsi tumbuhan yang berkaitan dengan konsep fotosintesis. Selain itu, penelitian ini menemukan bahwa siswa belum berhasil memahami konsep sistem akar, sistem pucuk, dan fotosintesis sebagai konsep yang saling berhubungan. Penyebab utama miskonsepsi siswa berasal dari siswa itu sendiri, buku, dan interaksinya dengan lingkungan.

Kata kunci: *metode menggambar, miskonsepsi siswa, konsep struktur tumbuhan, fotosintesis.*