

Öğretmen Adaylarının Fotosentez Konusu Hakkında Kavram Yanılgılarının Vee Diyagramı Aracılığıyla Belirlenmesi Ve Bu Araca Yönelik Görüşlerinin Tespiti

Determination Of Photosynthesis Misconceptions' Through Vee Diagrams And Preservice Teachers' Views Towards These Tools

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Extended Summary

Purpose

This study was carried out to determine preservice teachers' misconceptions about photosynthesis through Vee diagrams. The study also determined preservice teachers opinions' about this tool. Vee diyagram is a process that determine and eliminate misconceptions, withdrawal the students interest in the subject and bring together theory and practice in providing scientific ways (Tatar, Korkmaz ve Ören, 2007). The purpose of this study was performed to determine preservice science teachers' misconceptions related to photosynthesis topic and preservice science teachers' opinions about Vee diyagrams.

Method

This study was carried out General Biology Laboratory (II) course in the spring semester 2011-2012 academic year. Vee diyagrams prepared by preservice science teachers were used data collection tools. The qualitative data was semi-structured interviews about preservice science teachers views on Vee diyagram technique. The data collected by semi-structured interview technique with descriptive statistics and content analysis were calculated. This research groups consisted of a total of 86 (62 female, 24 male) department of Science Education preservice science teachers. Preservice science teachers were asked to create Vee diagrams in General Biology Laboratory II course on the topic of photosynthesis. When doing experiment preservice teachers participated in the process and noted experiment making process and experiment results.

Results

Vee diagrams prepared by preservice teachers, it was observed that different focus questions were formed. This is thought to arise preservice teachers focus on different parts of the photosynthesis issues. Vee diagram, used to as an

alternative measurement and assessment techniques, preservice teachers have received the most points “theory principles” and “event objects” sections. Similar results were found in semi-structured interviews. Preservice teachers stated that this parts’ Vee diagram was easy to prepare. Preservice teachers obtained from parts of “data-data transformation” and “claims results” least score from Vee diagram assessment scale.

In the process, preservice teachers wrote difficulty parts’ Vee diagram “data-data transformation” and “claims results”. In the study was found that preservice science teachers had misconceptions about photosynthesis rate, where photosynthesis took time/place, definition of photosynthesis, and occurring products by photosynthesis. The literature was encountered similar misconceptions. It was found that preservice teachers deemed that Vee diagrams important in terms of to visual, attention to subject of charm, better understanding and ensuring integrity of the subject. The use of Vee diagram in the laboratory course preservice science teachers have stated that develop a positive attitude towards laboratory course and opined clearer the process of making scientific research.

Discussion and Conclusion

It was concluded that used Vee diagram in the General Biology Laboratory course preservice science teachers developed positive attitudes towards that tool. Laboratory environment with development is hoped that beter learning takes place. Experiments reported by Vee diagram laboratory method will remove from traditional and students attitude in a positive way laboratory method are expected to change. Teachers and preservice teachers can be used Vee diagram to detect students’ misconceptions. Besides it was supposed that Vee diagrams was used regularly in the process to bring a solution to eliminate misconceptions. In teacher training institutions “teaching methods and techniques” and “measurement and evaluation” in the course different methods, techniques and tools should be provided the opportunity to learn. Teachers and preservice teachers can be given various trainings about Vee diagram preparation, implementation and evaluation. And Vee diagram as a measurement and evaluation tool used to assess students in the process. Vee diagram on self and peer assessment techniques through the use of assessment of students can be themselves and each other. Vee diagram is prepared by preservice teacher on computer, the technology can be integrated in the course. At the end of the research was found that Vee diagram process was important to use of the General Biology Laboratory course. It is advised to spread the use of Vee diagram in other courses.