Exploring the Use of Concept Chains to Teach Scientific Concepts ——Understanding of Photosynthesis

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Abstracts:
Based on current researches on concepts ontology and researches about concepts learning, we see the importance of teaching concepts in science curriculum. Almost all of the learning theory and researches focus on understanding concepts, such as constructivism, concept change model, meta-conceptual awareness, meta-cognition, incompatibility and Dual Situated Learning Model. We also found the connection among concepts could affect the understanding of some specific concepts, such as photosynthesis. Students must learn concepts because it is necessary for citizens get scientific literacy. But how to learn lots of concepts focus on one specific subject in a good learning process matched with the ontology of concepts and students' cognition? Because of some advantages of concepts chains, this study tries to using concept chains to find and represent a good learning process of learning and teaching concepts of photosynthesis. And then check whether this concept chains is good for students' learning in mainland of china, for example in Beijing in senior high school, G10-11.