

FUSING SCIENTISTS' AND STUDENTS' CONCEPTUAL CORRESPONDENCES TO IMPROVE TEACHING OF METAL COMPLEX ISOMERISM IN HIGHER EDUCATION-AN EDUCATIONAL RECONSTRUCTIVE PROCESS

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ABSTRACT

The study was conducted to explore Scientists' and Students' perspectives on metal complex isomerism. These correspondences formed a powerful grain for conceptual change in content-oriented instruction for 15 third year chemistry major students at the University of Education, Winneba-Ghana. The interpretive case study was used to explore students' responses on geometrical isomers of complexes. Based on the researchers' interpretation and the Model of Educational Reconstruction (MER), a clarification of geometrical isomerism in coordination chemistry content structure was developed. The generated conceptions from four (4) university-level textbooks and students, primarily informed this clarification process. These conceptions on metal-complex isomerism (geometrical) from scientists and students were brought into meaningful correspondences. All data were analysed by qualitative content analysis, addressing students' reasoning during a ten (10) week class sequence. The research afforded students access to use their constructed knowledge rather than being passive recipients of scientist-presented knowledge. The study discussed the relevance of geometrical isomerism in Higher Education (HE).

Keywords: Constructed knowledge, correspondences, Educational Reconstruction, geometrical, isomerism, metal complex.