

THE MODEL OF EDUCATIONAL RECONSTRUCTION: SCIENTISTS' AND STUDENTS' CONCEPTUAL BALANCES TO IMPROVE TEACHING OF COORDINATION CHEMISTRY IN HIGHER EDUCATION

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ABSTRACT

The general knowledge of coordination chemistry, nomenclature and geometry was characterised by domain-specific students' conceptions as observed in this study. Based on the Model of Educational Reconstruction (MER), a clarification of coordination chemistry content structure was developed and made available for teaching. Generated conceptions from four (4) university-level science textbooks and students own ideas informed this clarification process. In this interpretive study, conceptual balances from scientists and fifteen (15) third year students of the University of Education, Winneba were brought into meaningful correspondences. Students' chemical drawings were analysed by qualitative content analysis and two (2) interventions adopted to be implemented in a subsequent study. Examples of how to bring students' conceptions vis-à-vis scientists' conceptions into balance have been discussed in this study.

Keywords: coordination chemistry, Educational Reconstruction, domain-specific, conceptual balances.