AN APPLICATION OF DIGITAL CHEMISTRY TELLING (DCT) INTO THE BASIC INORGANIC CHEMISTRY COURSE TO IMPROVE STUDENTS’ LISTENING AND SPEAKING SKILLS: IN SUPPORTS FOR THE VISION TOWARDS A WORLD CLASS UNIVERSITY (WCU)

EXECUTIVE SUMMARY

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Digital chemistry telling (DCT) an audio visual medium that utilizes ICT, especially computers as its hardware and Windows® MovieMaker® and Audacity® Portable as its software, for educational purposes. One of the advantages of this medium is the use of images and sound effects which can be determined by the designers or creators themselves. To support the global communication that requires mastery of a global language (especially English), DCT is a very suitable medium as designers can include sound effects in English to optimize the students’ listening and speaking skills. It is also suitable to support such specific courses as Basic Inorganic Chemistry which is oriented to the comprehension of abstract concepts. This study aims (i) to design implementation strategies of DCT in Basic Inorganic Chemistry course; (ii) to develop an appropriate course to increase students’ active participation; and (iii) to develop an evaluation system capable of providing an integrated assessment (both process and results of learning) in Basic Inorganic Chemistry course. The outcome will be in an increased capacity in bilingual, scientific communication and an improved coordination and collaboration between lecturer and students in Basic Inorganic Chemistry to promote reciprocity of benefits.

This research was conducted in two cycles for one semester at the Basic Inorganic Chemistry course during the academic year 2008/2009. The method of implementation follows the principles of classroom action research consisting of four stages: (i) Planning; (ii) Action implementation; (iii) Observation which includes the recording and interviewing; and (iv) Reflection. Technique of analyzing data used in this study is the grouping of certain categories that become the researchers’ focus (Miles and Huberman: 1984), which, in this case, include students’ comments, responses, questions, suggestions or criticism.

Research shows that learning through the DCT gives good results. Qualitatively, the classroom observations showed an increasing active participation of students, both in making the DCT and in conducting discussions in English. Quantitatively, the observation results on the learning activities showed an average value of 4 (scale 1-5) for such number of aspects as the DCT media production activities, presentations, questions and answers, recording activities, reading and writing activities, and paragraph writing. Meanwhile, a good perception can be seen from the participants’ response, in which 72.01% of the participants were more motivated to learn more and 82.67% of the participants wanted to go on with this model. Mastery of some materials in Chemistry was slightly obstructed due to language barriers, but this could be overcome through providing lecturers’ review at the end of each session.

Keywords: media, DCT, Basic Inorganic Chemistry