

高専における他教科の知識活用を目指したアクティブラーニング単元の開発

(神戸市立高専一般科¹・琉球大学教育学部²) ○佐藤 洋俊¹・福本 晃造²・大塩 愛子¹

Development of Active Learning Units Aiming at Utilizing Knowledge of Other Subjects in College of Technology.

(¹Department of General Education, Kobe City College of Technology, ²Faculty of Education, University of Ryukyus) ○Hirotooshi Sato,¹ Kozo Fukumoto,² Aiko Oshio¹

Aiming at utilizing knowledge of other subjects, classes were carried out to investigate drinking water. Students experimented to investigate soft water and hard water using analysis kits and various instruments and chemicals. After experiments, they made mutual presentations including knowledge of other subjects with tablet devices and their smartphones. Questionnaire about application of knowledge of other subjects was carried out to find improvements of these units.

According to the result of questionnaire, 30% of students did not know hard water and soft water. Students could apply prior knowledge of earth science and geography. Many students took up this unit by utilizing tablet devices and smartphones sufficiently. Some students left comments in which they want to explore unknown samples through trial experiments if they will have an opportunity.

Optimal assignment setting is required continuously to withdraw inter-subject collaboration. To balance students' ideas and completion of experiment, teacher have to prepare instruments and reagents carefully.

Keywords : Active Learning, Inter-subject collaboration, ICT Devices

他教科の知識活用を目指して飲料水の同定と調査を行う授業実践を行った。軟水や硬水を未知試料として学生は分析キットや各種器具薬品を用いて実験を行った。実験後他教科の知識を織り交ぜタブレット端末やスマートフォンを活用し相互発表を行った。発表後は学生の知識活用等についてアンケートを採って課題を探った。

アンケート結果によると、軟水と硬水について知らなかった学生は3割程度と意外に多かった。学生は地学、地理の知識を活用できたと回答した。多くの学生がタブレット端末やスマートフォンを活用し本単元に取り組むことができていた。自由記述では未知試料を探求する課題実験をやってみたいとのコメントがいくつも見られた。

他教科の知識を引き出す課題設定の工夫が継続的に必要である。また、学生の自由な発想と実験完遂を両立させるため、器具や薬品をどの程度準備すべきかより慎重な検討が求められる。