ABSTRACT

Cinthia Fatimah. Implementation of STEAM Approach (Science, Technology, Engineering, Art and Mathematics) to develop 21st Century Skills Using Project Based Learning. Jakarta : Chemistry Education Study Program. Faculty of Math and Science. State University of Jakarta. Jakarta. July 2017.

This study aims to develop 21st century skills students through the application of the STEAM approach (Science, Technology, Engineering, Art and Mathematics) using project based learning (PjBL) in chemistry learning on acid and base solution. Twenty first century learning supports collaborative, creative and innovative skills to solve problems. Therefore, the focus of this research is develop 21st century skills using project based learning through STEAM approach. Implementation of STEAM approach in Indonesia is still rare. This research was conducted in 59 Senior High School Jakarta in the second semester of academic year 2016/2017. The subject of the research is students of XI MIPA 3 class. This research is a qualitative research.. The data collection techniques used were interview, observation, journal reflective, documentation, and questionnaire of 21st century skills. The results of the study show that STEAM`s stage that integrated PjBL can bring up the 21st century skills. Implementation of STEAM's approach in learning using PjBL can develop 21st century skills of critical thinking and problem solving, creative and innovative, communication and collaboration, information literacy, media literacy, technological literacy, flexibility and adaptability, initiative and self-direction, social and cross-cultural interactions, productivity and accountability, leadership and responsibility.

Keywords: 21st Century Skills, STEAM Approach, project based learning,