

Science Communication in DNA nano-engineering

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DNA nano-engineering is a new field of technology that gives the foundation of Molecular Robotics. Most of people know the word “DNA”, however, for them DNA is regarded as a molecule that contains genetic information. In order to understand the concept of DNA nano-engineering, structural and functional aspects of DNA as a nano-material is crucially important. Understanding properties of DNA is usually difficult for layman because it requires many background knowledge in biology, chemistry and physics. The purpose of this research is to develop an aid that helps general people understand the properties of DNA. We need to make the understanding process as interesting as we can, to let learners self-motivated. As a consequence, it will increase the number of people interested in DNA nano-engineering.

As a first step of this attempt, we have made a movie to explain basic principles of DNA nano-engineering. We also have conducted experiments with visitors who came to our open laboratory. By using questionnaire we measured the level of understanding and interest. Some analysis of the result will be reported in the poster. As the next step, we adopt gamification method [1] to improve the effectiveness of the learning process.

[1] Jane MacGonical, “Reality Is Broken : Why Games Make Us Better and How They Can Change the World”, Penguin Books (2011)