Title of Project： Educational Cloud Platform for Improving Education and Learning by Using Educational Big Data

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Research Area : Learning Management Systems
Keyword : Learning Analytics, Digital textbook, e-Book, Educational Big Data, Learning Logs

【Purpose and Background of the Research】
This research aims at developing an "educational cloud platform" that enables leaners and teachers to capture teaching and learning activities in both formal and informal learning setting, to organize an educational big data, and to reuse the data for improving teaching and learning processes. We will apply the educational could platform in K12, higher education, and adult learning settings. That is, lifelong learning logs will be accumulated and be provided as an open data. By analyzing the data, "educational data science" will be established.
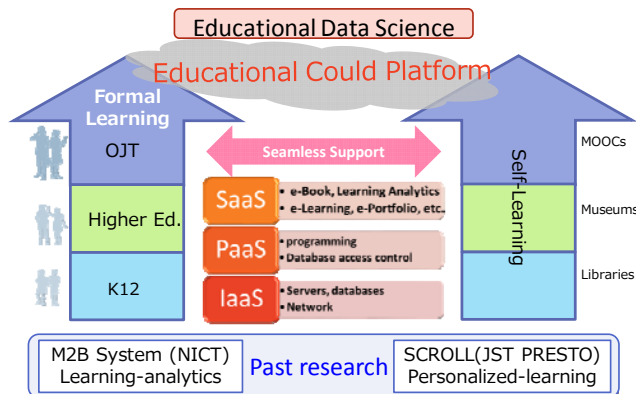

Figure 1   Overview of this research.

【Research Methods】
To improve teaching and learning, we will introduce an educational cloud platform by combining (1) M2B system (called Mitsuba) that consists of a learning management system (Moodle), an e-portfolio system (Mahara), and an e-book system (BookLooper), with (2) SCROLL (System for Capturing and Reuse Of Learning Logs). M2B system has been supported in the line of "Research and Development on Fundamental and Utilization Technologies for Social Big Data" by the National Institute of Information and Communications Technology (NICT). SCROLL is developed by the support of JST PRESTO.

【Expected Research Achievements and Scientific Significance】
In educational technology and learning science research, there is still an unsolved problem, how to construct educational big data, how to use it and how to analyze and evaluate it. This research tackles these issues and lead a research filed called educational data science.
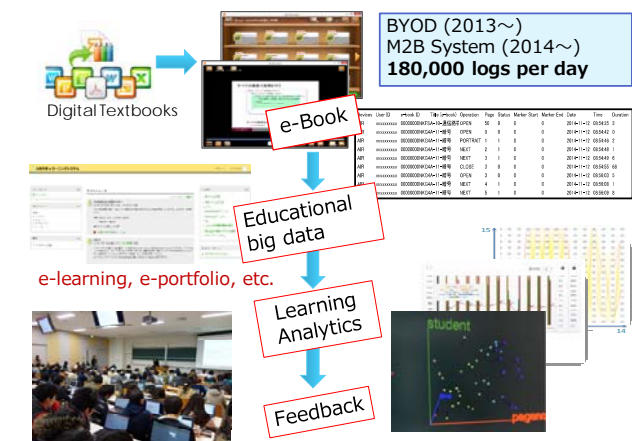

Figure 2   Data flow.

【Publications Relevant to the Project】
・Ogata, H., et al., Ubiquitous Learning Project Using Life-logging Technology in Japan, Educational Technology and Society Journal, Vol.17, No.2, pp.85-100, 2014.
・Ogata, H., et al., Learning Analytics Towards the usage of Educational Big Data, Journal of Japanese Society for Information and Systems in Education, Vol.33, No.2, pp.58-66, 2016.

【Term of Project】 FY2016-2020

【Budget Allocation】 140,900 Thousand Yen

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