

Tokyo City University's Initiative: Developing Interdisciplinary Engineering Professionals for Addressing Complex Societal Challenges

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CONTEXT

Achieving the global goals seen in the SDGs, which involve a wide range of factors, is a global challenge for the future. To achieve this, it is necessary to develop engineering talent who can create new value. Tokyo City University is therefore implementing a social problem-solving program that crosses and integrates faculties and departments, primarily in the Faculty of Science and Engineering. This program is linked to the existing curriculum of the faculties and departments and constitutes a degree program consisting of 124 credits. The name of this program is commonly known as the "HIRAMEKI Program," and the first class graduated this March, so we would like to announce the results of that program.

PURPOSE OR GOAL

The aim is to develop highly independent problem-solving engineering talent. To that end, students are selected from multiple faculties and departments. The curriculum is designed to address themes such as social issues by consolidating and integrating specialized knowledge, thereby cultivating the capacity to identify concrete challenges and to generate innovative perspectives and methodologies for their resolution.

APPROACH OR METHODOLOGY/METHODS

The main class format is group work using design thinking and other methods and also incorporates ideations and hackathons. To confirm the increase in these non-cognitive abilities, regular surveys were conducted once a year, and a survey on the value of the program in terms of employment and further education was also conducted and analysed, and use the results to improve our methods. In addition, contests were introduced to increase student incentives, and third-party evaluation through awards and the results of hearings with stakeholders through voluntary external activities were also included.

ACTUAL OR ANTICIPATED OUTCOMES

Although the results are currently being analyzed, positive results have been seen in areas such as "perception of personal growth," "perception of having acquired skills through the program," "future aspirations," "value in job hunting and graduate school admissions," as well as examples of use of the program in finding a job or advancing to graduate school.

CONCLUSIONS/RECOMMENDATIONS/SUMMARY

As we hypothesized, the interdisciplinary and interdisciplinary "Inspiration Program" at Tokyo City University can be said to be a program that helps develop interdisciplinary engineering talent for problem solving.

KEYWORDS

social problem-solving program / cross-disciplinary engineering talent