

## COMPLETION REPORT

Moving towards Ethical and Socially Responsible Engineers: A Study on Engineering Ethics education in Japan and Malaysia

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This investigation has revealed several interesting findings with regard to engineering ethics education in Japan and Malaysia in producing ethical and socially responsible engineers. Firstly, the attainment of ethics educational objectives among engineering students of Japan was better than the attainment amongst students of Malaysia. Secondly, the attitude towards engineering socio-ethical issues among the respondents of Japan was far much positive compared to respondents of Malaysia. Finally, there were significant differences in attaining nine key engineering ethics educational objectives and the attitude towards socio-ethical issues of engineering except for the confidence in solving engineering ethical problems. The results obtained are more positive in Japan compared to Malaysia due to the engineering ethics education.

In Malaysia, engineering ethics education is taught in traditional method which more emphasize on disseminating knowledge only. Whereas in Japan, the ethics education is well structured, integrated into technical subjects and also adapting innovative ethics pedagogy which not only transferring knowledge; it is also build the decision making skills and instill socio-ethical values among students. This method of effective pedagogy that adapted in Japan also lead towards achieving the ethics educational objectives as well as build positive attitude towards engineering ethics issues.

On the other hand, case studies that have been used to expose students on engineering ethic decision making process could be enhanced via integrating real and most recent engineering problems that happened in both local and global contexts. This could build confidence among the students to face the real ethical dilemma as a real engineer.

Instituting the findings of this study, the overall effectiveness of engineering ethics education could be improved in engineering programme. Thus, it is worthwhile for every university that offers engineering programme to look back into the current pedagogical practices of engineering ethics education. Dereliction of this pivotal course in engineering programme can prevent the benefits of engineering and technology being reaped for the sake of the world economy, societal well being and environment sustainability.

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