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Paper

Jennie, Y.J. Wu

Ministry of Education

contact:

jennie@mail.moe.gov.tw

Revolution of University Environment Through Strategic Alliances of Academy-industry Cooperation on Engineering Education

To coordinate the feature faculty teams from vary departments or universities has been a great challenge. However, the interdisciplinary learning is highly demanded on engineering talent education at universities. How to encourage the collaborating faculty team to plan the vital learning programs has been one of major concerns at Ministry of Education, Taiwan, R.O.C. In order to stimulate the collaboration among relative departments in universities and colleges for energetic academy-industry cooperation, the Science and Technology Advisory Office of the Ministry of Education (STAO) undertook the approaches to steer strategic alliance among academies and corporations since 1998. The main theme of the alliance is to funnel all the relative efforts and resources among campuses for the vital learning programs. The measures for facilitating the vital mechanism of strategic alliance based on the target technologies or industries have shown great impact on engineering education at universities. In Taiwan, there are departments of Aerospace set in universities and colleges to cultivate the human resources required. Nevertheless, plenty of related departments, such as mechanical engineering, electrical engineering, electronic engineering, and industrial engineering are widely established concerning about the field of aerospace. The national development of aerospace is identified as these four domains: aeronautic maintenance, aerospace electrics, quality assurance and aerospace parts manufacturing. Therefore, there were respective national education-resource-alliance centers established based on these four domains. Meanwhile, the aerospace education development program office was commissioned by STAO for supervising and integrating the educational resources out of these centers. The related departments in universities or colleges participate as partners in one of these four alliances in line with their respective department strength on Aerospace Technology. The alliance centers are responsible for coordinating relative departments and corporations to integrate and develop educational resources for the demanded human resources.

Retaining the excellent quality of human resource on aerospace technology only can be through the effective management and application of educational resources from energetic academy-industry cooperation. This paper will illustrate the impact of the strategic alliance on university environment through the knowledge-based academy-industry cooperation. The outlook of spiral growth in alliance via international cooperation will be discussed.