



香港城市大學
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Invention of microsystems through a self-motivation-driven learning process

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Abstract:

Individuals with high self-motivation and curiosity to knowledge can achieve dramatically more effective learning. Instead of conveying knowledge in a rather passive 'blackboard-type' manner, we should first enhance students' motivation and interest to a specialized field of knowledge to achieve more successful education. We believe such self-motivated attitude is the key to effective learning. Here, we propose to implement a self-motivation-driven workflow for teaching of microsystem design to CityU students. Microsystems, which are systems built in a very small (micron) scale, involve integrated knowledge from multiple engineering fields, e.g. mechanics, electronics, and manufacturing. The implementation starts with guiding groups of volunteered students to discover their own interested microsystem-related projects. We will then arrange discussions to learn together with the students, in order to come up with feasible designs. The next stage includes manufacturing and testing of the prototypes. By solving the design problems, students can discover for the optimal designs. We heartedly believe the proposed self-motivation-driven learning workflow can provide CityU students hands-on experience on novel idea generation and product development. In the last stage, students summarize what they have learnt as technical laboratory documents; and the knowledge can then be passed to other students as sustainable learning materials.