

Progress Seminar

Seminar Title	: Design and evaluation of a kinesthetic-control based alphabet learning game for primary school students
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Venue	: Room No. ID-007, Creative Automation Lab., Dept. of Industrial Design
Date and Time	: 10 May 2022 (5.15 pm)
Abstract	: In the present day, primary-education institutions are actively exploring digital tools for teaching and training children. As a consequence, we find various pedagogical systems being increasingly supported by various advanced technological tools and platforms offering interesting digital learning environments.

The aim of this research work is to share the outcomes of an exercise to integrate kinesthetic technology in embodied-learning activities for augmenting classroom learning of English alphabets to primary school students. Today, a popular tool used for implementing interactive learning systems is the Microsoft Kinect device. The device can be deployed in a typical "catcher game" setting where a player may interact with the game kinesthetically and attempt to catch synthetic targets which appear to be falling from the top of a digital screen. In the past, such a catcher game paradigm has been adopted by different researchers to improve fundamental literacy and numeracy activities in children using digital games. Such learning-based games have primarily focused on the development of cognitive skills, motor skills, and academic skills.

In this study, a catcher game was developed using Kinect technology to augment learning of the English alphabets using a recognition and reward game strategy. In a playful classroom setting, 18 primary school students (Class 2 and 3) with variable knowledge of the English alphabet were provided English alphabet training with the help of a digital game. Their alphabet recognition performance was compared with a control group of 16 students before and after the game-based learning treatment. The results showed a statistically significant improvement ($p < 0.05$) in the intervention group as compared to the control group. The results point positively to the idea that interactive game-based learning could contribute positively and significantly to child development when combined smartly with the traditional modes of classroom learning.