Innovative Educational Technology for Special Education and Usability Issues

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## Sample

First of all, the prototype developed with the help of Kinect technology to improve social skills of students had revised and evaluated by an instructional technology specialist and a special education specialist at early stages of project before 2 special education teachers were interviewed about the prototype and some students were observed while they were interacting with the prototype. Additionally, before the prototype was developed, developers tested similar Kinect based games with 5 students with special needs in order to understand attitudes and abilities of the students related to usage of the games. In parallel of development of Kinect based prototype, an interactive multi-touch table/board game, which aims to help improvement of the life skills of the students, was tested with 2 students with special needs and then 3 special education teachers were interviewed in order to investigate the weaknesses of the interactive multi-touch table game and poor aspects of it. Lastly, smart/interactive toys were tested with 1 student with special needs and
evaluated 1 special education teacher in order to get feedbacks in development process.

# Abstract

The purpose of this study is to introduce educational technology project, OZTEK, for special education students and present usability issues related to those developed technologies. With the OZTEK, the researchers intend to develop innovative, technology enhanced learning environments to support the education of children with such special needs and to investigate effectiveness of such learning environments.
Within the scope of the OZTEK, to provide support for special education, various instructional technologies have been developed, which are unique in terms of innovation regarding not only in Turkey but also other countries in the world. Throughout the project the following products will be developed which can either be used separately as standalone tools or together as a whole obtained by integration to each other: Interactive multimedia educational software that will detect body movements, interactive multi-touch table/board, applications and smart/interactive toys.
In this paper, the findings regarding how computer supported educational materials for special education have been developed, what kind of usability challenges were faced with, how challenges have been overcome and how those technologies are used by teachers and students are presented.

# Outcome

"In general, findings related the materials showed that quality of verbal instructions, size of designed objects and controls, having a user manual and real-like design are at the forefront of usable designs in special education field. For instance, if verbal instruction can be used effectively and properly, it can reduce usability issues." (Çağıltay et al., 2014, p.162)