

Practical Research of a Model for Industrializing Barrier-free Apparatus and Effects of Disabled Persons ' Participation into Society by use of Assistive Technology for Communication Disorders

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【Outline of survey】

The principal researcher, Tohru Ifukube, has been conducting assistive technology for people with hearing impairments, speech production disorders, and visual Impairments. In this research, we propose a model which enables barrier-free apparatus to be industrialized and show the effect how the apparatus supports to create the employment for disabled persons.

In order to solve the above two problems; the industrialization model and the employment creation, we will adopt two assistive technologies; a semi-automatic captioning system for the deaf and a tactile jog-dial for the blind which we have designed and put into practical use.

The semi-automatic captioning system converts speech signals into letters by use of a computer and then display them onto a screen with the speaker ' s face. The tactile jog-dial converts texts of Web-information into speech while displaying rich texts such as sizes, colors, and some fonts of the letters, onto the tactile sense of a finger-tip.

【Expected results】

We expect three productions from the research. One is to get basic knowledge regarding a human brain function which processes the simultaneously presented two information; letters and faces, speech and touches. The second is to get a way how the assistive apparatus can be put into practical use and also to know what percentage of the disabled create new employment. Thirdly, we will be able to propose how Japan should promote the public good while opening the new market.

【References by the principal researcher】

book: " A challenge of Assistive Technology - Its science and business to support the physically handicapped- " T. Ifukube, Chukou-Shinsyo , 2004
Paper: TAJODA:Proposed tactile and jog-dial interface for the blind,
C.Asakawa,H.Takagi,S.Ino,T.Ifukube, IEICE Transactions,Vol.E87-D,No.6,2004

【Term of project】 FY 2005 - 2008

【Budget allocation】 85,500,000 yen

【Homepage address】 <http://www.human.rcast.u-tokyo.ac.jp/>