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Humanoid Research on Brain-Impaired Children: Comparative Policies

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Abstract

The purpose of this paper is to provide rigorous, narrative and in-depth scrutiny on the policies in humanoid research on brain-impaired children. In the health care industry, the use of therapeutic robots in rehabilitation has been significant. Thus, the paper will explore the fundamental, benchmarking issues of similar policies and guidelines of other nations to suit Malaysia's research environment. The methodology for this study will employ library research and content analyses including insider input. The four policies are; the Malaysia National Welfare Policy (1990), the Malaysia National Social Policy (2003), the Malaysia National Policy for Persons with Disabilities (2007), and the Malaysia National Plan of Action for Persons with Disabilities (2007-2012). From the five policy papers, it is expected that any research projects involving children with mental disabilities will require the compliance with the current statutes and policies but should there emerge a unique case, an extension to one of the policies would have to be undertaken to circumvent ethics in research practices. Also, the narrative outcome from this scrutiny includes a discussion of the relevance of these policies.

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1. Introduction

The number of children born with various mental or brain impairments have increased in tandem with the world population explosion. The care needed for these special children would depend on their disability. Therefore, the quality of pediatric-centered care in special institutions require innovative technologies [1] to assist with the augmentation, improvement and development of the children's education, social and hygiene skills, among others.

As again noted by Net *al al*, [1], assistive robots, which in this case are the humanoids, will focus on aiding patients with disabilities. The motivation for the study involving human beings require a policy guideline to ensure ethical practices in Malaysia.

2. Background

In the past decade, research projects on neuroscience or brain science have been tremendous [2]. It is also anticipated that robots will be commonplace [3] in any domestic and healthcare settings. As opined by Kernaghan [3], a diverse assortment of robots, with varying purposes, capacities, forms and sizes is emerging with significant implications for policy, service and regulatory responsibilities of government". Therefore, it this statement is applied to the current Malaysian scenario on the use of humanoids for brain-impaired children, certain policies and ethical standards have to be in place before, during and after the research projects are conducted. Aside from these, contemporary public sector ethics such as personal moral responsibility, privacy and accountability are crucial to the emerging fields of ethics and policies [3] in humanoid robot research.

Humanoids, is a type of assistive robot where the research projects within this area is rapidly growing. The use of humanoids or assistive robots in health care settings, particular for brain-impaired children, is seen as one of the most important applications of robots [1]. Notwithstanding, humanoids for education [4] and skill development and augmentation are equally as important.

3. Statutes and Policies, Malaysia

Before the conduct of the actual study, the statutes and policies of the five identified has to be described.

3.1. Malaysia National Welfare Policy (1990)

As stated in the Caucus Report [5], Malaysia's concerns for the "optimum development of its children is reflected in the numerous socio-economic policies and plans which seek to create a conducive and enabling environment that are sensitive to the children's needs, be it normal or disabled children". The policies and plans are; the Five Year Development Plans, the New Economic Policy, the National Development Policy, the National Education Philosophy, the National Welfare Policy and the National Social Policy. Anyhow, the National Welfare Policy "aims to create a society whose members are imbued with the spirit of self-reliance, enjoy equal opportunities and care for one another especially for the less fortunate". This can be construed to include mentally-challenged children.

3.2. Malaysia National Social Policy (DSN) (2003)

The general objective of the National Social Policy is to "ensure that every individual, family and community, regardless of ethnicity, religion, culture, gender, political affiliation and regions can participate and contribute to national development and achievement of well-being on an ongoing basis". Specifically, the assurance that the basic needs of the individual, family and community are fulfilled. In relating objective one to the study, the policy with the scope's realms are already in place and therefore, the outcome of the study should have significant impact for the project to continue and progress. The second objective is to build and empower human beings throughout their life.

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