Tactual Profile
An Assessment Procedure for Tactual Functioning in Children and Adolescents

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Abstract. The current poster describes the Tactual Profile. This is an instrument which has been provides a procedure to assess the tactual functioning in children, from birth up to 15 years of age, who are blind of who have a severe visual impairment. The development, the aims, the contents and the framework of the instrument are described.

1 The Development

Tactual Profile was initiated by the Visio Institute from the Netherlands. This is an organisation for blind and visually impaired children and adults. The instrument was developed by a group of practitioners working with visually impaired children: special education, remedial teacher visual and tactile functioning, occupational therapists and home-workers [1]. Based on experience and on scientific literature [2], [3], [4], [5], [6], a first concept was made. After this, collaboration was sought with scientists of the universities of Nijmegen and Utrecht. A first trial version was made, which has been used as a starting point for a validation study [7]. This study resulted in the current version of Tactual Profile. At the moment a research is carried out to investigate the reliability and content-validation.

2 The Tactual Profile

Tactual Profile has been primarily geared towards the development of children, 0-15 years of age, who are born blind or who have no more than some residual vision. The Tactual Profile includes different areas of tactual functioning: cutaneous and proprioceptive.

Tactual Profile aims to measure the tactile prerequisites of every-day activities and school-related subjects. The tactile demands the child has to meet in its environment serve as a starting point. Tactual perception and functioning are explicitly viewed in a broader context than just reading Braille of understanding geographical maps and graphics. The outcomes of an assessment with Tactual Profile may be used as a basis for intervention.

Initially the instrument is developed for children and adolescents who are blind or severely visual impaired from birth, who don't have additional impairments. However the expectation is that Tactual Profile should also be suitable for children who become severely visually impaired at an intermediate stage. Perhaps some parts of the instrument can be used to assess the tactual development of children with a visual and intellectual disability.

3 Contents

Tactual Profile consists of:

- **Theoretical work guide**
  This is the so-called 'heart' of the instrument. It consists of six components: theoretical justification, manual, alarm signals, categories containing items for assessment, list of materials and worksheets which are needed to administer the profile and an overview of factors which influence tactual perception and functioning.
- **Viewing box**
  The box contains materials to determine if the child had some residual vision, for example perception of light, outlines or bold lines.
- **Material box**
  For some of the items specific materials are necessary. Because these are not easily obtainable, they are included in the kit of Tactual Profile.
- **Work guide with exemplary sheets**
  These are folders containing a number of work sheets which correspond with specific items.
- **Report on the validation study**
  A scientific study was conducted to test the practicability and value of Tactual Profile.

4 The Framework

The aim of Tactual Profile is to assess the tactual functioning of blind and visually impaired children. Because the instrument was made from a clinical point of view, children aren't blindfolded. If they have residual vision, they are allowed to use that, because in daily living, they use this too.

In order to assess the tactual functioning of the children, the framework of the instrument consists of two parts: an item-set and a frame of reference.

4.1 The Item-Set

Tactual Profile provides items, graded according to age-level and domain of tactual functioning. There are 6 different age-groups: 0-2; 2-4; 4-6; 6-9; 9-12; 12-16 years of age. Based on experience, the developers of Tactual Profile categorised the items on age. After the validation study of Roelof Schellingerhout [8] the order of nearly all the items changed. On the basis of the data of this study, the items were placed in order of difficulty, which referred to the number of children that passed a certain item.

The Tactual Profile distinguishes three domains of tactual functioning. Each domain is divided in different categories. Not every category has items for each age-group. Tactual Profile consists of 430 items. Each item is described and consists examples of material that can be used to observe the item. Sometimes the materials are regular and can be find very easily; the materials that are very specific, are included in the kit of Tactual Profile. The administrator can make the following judgements: the child carries out the item completely well, partly well or not at all.

The domains and categories of the Tactual Profile are:

Tactual sensory functioning. (106 items) This refers to the passive perception. It contains of the following categories: tactual awareness, noticing, body consciousness, touch sensitivity and proprioception. Items of these categories are for example: 'is able to point out the belly and the back', 'is able to match balls of material on texture' and 'can read braille with six fingers'.

Tactual motor functioning. (52 items) This refers to the tactual perception that requires motor proficiency. It includes the following categories: exploration, manipulation, two-handedness and middle & near space. Some examples of the items of this domain: 'explores an object with the mouth and hands', 'turns a small object between thumb and finger-tips' and 'is able to draw a line on raised paper along a ruler'.

Tactual-perceptual functioning. (162 items) This refers to the interpretation of tactual information. It contains the following categories: recognition, detail perception, tactual discrimination, construction/reproduction, tactile-spatial perception, part-whole relationship, figure-ground perception, two-three dimensional representation and tactual 'language'. Some items of these categories are: 'is able to distinguish familiar and unfamiliar persons by using touch', 'is able to find a detail on a smooth line', 'recognises an object on account of a part' and 'is able to build a three-dimensional construction'.

Practical skills. (110 items) These are the skills necessary to function well in daily living. This domain contains the following categories: haptic strategy, to link a function to an object, life skills, play, to define task sequences and usage of variables. Items of these categories are for example: 'explores objects with parts of the face', 'uses touch to avoid danger' and 'puts one flat form on the other to compare the size'.

4.2 Frame of Reference

Tactual Profile offers a frame of reference distinguishing various factors which influence tactual perception and functioning in blind and visually impaired children. The developers of the Tactual Profile compose this theoretical model. It is based on literature and on the experience they've got by working with blind and severely visually impaired children.

This list of factors can serve as a frame of reference when observing a child. It can play an important role in diagnostics and decisions concerning training schemes and intervention programs. The factors are divided into three domains, which are:

General child-variables. This includes environment, physical condition, modalities, psychological make-up, intelligence, mental skills, concentration & attention, memory.

Specific child variables. This includes motor proficiency, tactual acuity, touch zones, proprioception, tactual experience, sequential perception, tactual database, visual database, haptic strategy.

Stimulus variables. This includes texture, shape, size, relief, weight, line, temperature, material, the factor time, spatial aspects, tactual distracting factors, sensorial distracting factors.

The purpose of this outline is to provide assistance in observing the tactual perception and functioning of *this* child, with *these* abilities, under *these* circumstances, in a differentiated way.

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