International Journal of Neurological Disorders

Case Report

Establishment of Stability in Social Interest and Other Prerequisites for Communication in People with Profound Learning Disabilities-

Karl Henry Jacobsen*

Department of Psychology, Norwegian University of Science and Technology, Norway

***Address for Correspondence:** Karl Henry Jacobsen, Department of Psychology, Norwegian University of Science and Technology, Norway, Tel: +474-142-2618; Fax: +477-359-7694; E-mail: Karl.Jacobsen@NTNU.no

Submitted: 30 November 2018; **Approved:** 18 February 2019; **Published:** 21 February 2019

Cite this article: Jacobsen KH. Establishment of Stability in Social Interest and Other Prerequisites for Communication in People with Profound Learning Disabilities. Int J Neurol Dis. 2019;3(1): 004-006.

ISSN: 2639-7021

ABSTRACT

When we interact with people with profound learning difficulties, we often experience that the contact breaks down. These breakdowns may be caused by instability in attention in people with profound learning difficulties. Instability in attention may be a consequence of dysfunction in many dimensions like immature central nervous system, reduced cognitive development, epilepsy and lack of adjustment in the environment. To stabilize attention in these people we need models that include all these different dimensions. This paper offers a description of a boy with profound learning difficulties, who had instability in his attention, and what dimensions we took into consideration to get his attention more stable. This creates a draft of a model for stabilization of attention for people with profound learning difficulties.

Keywords: Multidimensional classification system; Prerequisites for communication; Visual attention; Communication; Social interest

INTRODUCTION

Social interest and other prerequisites for communication are often hard to establish as stable behaviors in people with profound learning disabilities. The effort to establish social interest may often fail from abrupt decline in attention or instability in behavioral state [1-4]. Learning obstacles may therefor often be enlarged from instability in attention [1-4], which causes frequent break-downs in social contact and information pick-up for people with profound learning disabilities, and thereby camouflage their potentials for social interest, communication, learning and general development.

THE CASE

Espen, the case in this study was a 12-year-old boy diagnosed with profound learning disabilities. He had no speech or formal communication, and suffered from severe cerebral palsy, epilepsy and dysphagia (eating and swallowing difficulties). To be mobile, he was dependent on other persons to move him around in a wheelchair. A typical day: Espen arrives at school in low spirit, and is easily irritated. The interaction with him interrupts frequently by Espen's anger and it is difficult to adjust exterior conditions to stabilize him. During the day, his spirit becomes higher, but shifts frequently and abruptly to low, and the interaction between Espen and people in the surroundings breaks down.

From observations of Espen, interacting with him and dialogue with caregiving persons in daily contact with Espen about his daily functioning, a characteristic pattern emerged: He is visually attentive to objects and other people, but his attentiveness does often, and after a short period of time (1-3 minutes) markedly decline and his spirit changes to low. Ten randomly chosen video clips of interactions with other people showed that Espen's attentional spans lasted in mean two minutes and 45 seconds with a range from 52 seconds to three minutes and 37 seconds. The abrupt fall in visual attention and change to low spirit in Espen frequently occurs simultaneously, without leaving a clear picture of any order or causation. It is reasonable to assume that instability in spirit and attentiveness obstructs his interpersonal and cognitive developments as well that it camouflages his cognitive capability. Espen's mother agreed that the pattern described above is characteristic for Espen, but she also reported that she had observed that he could be attentive to a television program constantly without interruptions of decline in attention for more than ten minutes. She estimated that this had happened five to ten times. As she described, these prolonged attentional spans had no connection to a favorite program that he recognized. It could be to the news, sports or children's television. His mother's observation contributed to the idea that stabilization of visual attention would stabilize his spirits and unravel his cognitive capability in form of increased and improved social interest and interaction with others. The aim of this study is to stabilize Espen's visual attention, and the hypothesis is that stabilization of Espen's visual attention will stabilize his social interest and contribute to stabilization of his spirits. The paper includes suggestion of a model for stabilization of functions in people with profound mental retardation. Visual attention illustrates in this case as an example of a function.

This study had two phases. The first phase contain adjustment of the exterior conditions to stabilize Espens' visual attention. The second phase contain adjustment of inner conditions. Methods and results presents separately for the two phases.

METHOD AND RESULTS

Phase 1

Adjustment of exterior condition to improve Espen's visual attention: A reflex free data screen with 100-Hertz resolution adjusted to his sitting position. Balancing his sitting position through casting of a new sitting-shell in his wheelchair. Adjustment of illumination to increase the visibility of the stimulation on a data screen. Stimulation on the screen consisted of big moving objects with high contrast to the background color. We exposed him for this new and adjusted stimuli-situation under different conditions, like variation of point in time, after he had a meal and a rest, and when he seem to feel well and was attentive. In spite of our effort to stabilize Espen's visual attention in phase 1, we had no observations that confirmed a positive change. Then randomly chosen video clips after phase 1 showed no markedly change in attentional span from before the adjustments was introduced (mean attentional span two minutes and 38 seconds with range from one minute and 38 seconds to three minutes and 11 seconds). After the first phase, in spite of many important adjustments to improve learning conditions, there was no change in the stability of Espen's visual attention or his spirits, and still frequent breakdowns in Espen's social contact with others.

Phase 2

Adjustment of inner conditions. We assessed his hearing and vision. His hearing was normal. His *visus* was 0.25 (assessed while Espen was wearing his spectacle lenses correction). We had a limited access to his cognition, emotions and his endurance due to his sudden shifts in attention and spirits. This limited knowledge decided the content in the stimulation. An evaluation at the hospital showed that he was undernourished. To improve his nutrition he received nourishment through an intelligent pig. An evaluation of his medication for epilepsy at the neurological department at the local hospital showed that his doses was too high. Reduction of his medical doses for epilepsy came in his new medical description. After phase-two Espen's visual attention functioned in a more stable manner and was radically prolonged. Three months after phase 2 was accomplished ten randomly chosen video clips showed that mean duration of attentional span had changed markedly to seven minutes

and 18 seconds, with a range from four minutes and two seconds to 13 minutes and two seconds. His spirits did very seldom change to low when there was no visible cause present, and after a short period-of-time, he showed new cognitive capability in form of recognition of objects on and off the screen. His social interest did also increase noticeably. He also showed more initiatives for contact. As a result, of the work with adjustments on many dimensions in Espen's life, a model is developed and presented below:

DISCUSSION

There was a positive confirmation of the main hypothesis in this study: Stabilization of Espen's visual attention will increase his social interest and stabilized his spirits.

Stabilization in Espen's visual attention did not occur after adjustments of only exterior conditions like visibility of stimulus, illumination and motivational talking. When inner conditions like nutrition, epilepsy, cognition, emotions and pain were taken in to consideration, visual attention became stable for a longer period-of-time. Treatment of medical conditions like undernourishment and epilepsy may in a directly manner affect stabilization of basic functions in a person with profound learning difficulties, but medical treatment may mainly affect stabilization of basic functions in this group indirectly through improving cognitive processes, emotional processes and by increasing energy. Stabilization of Espen's visual attention seemed not to be a result from any linear effects, but rather a result of complex dynamic interaction involving direct and indirect effects. This is in accordance with the 11th edition of a multidimensional classification system to assess and understand people diagnosed with mental retardation published by American Association on Intellectual and Developmental Disabilities (AAIDD) [5].

Parmenter TR [6] has commented on this multidimensional classification system with focus on historical development of assessment tools for each dimension, and in what ways the dimensions in the multidimensional classification system may be implemented in treatment plans and systems of support. In treatment plans for people with profound learning disabilities, it may be of great importance to have models, which shows how the dimensions suggested by AAIDD are possible to combine, may affect each other and form a dynamic whole. Reduced social interest and participation in social interaction with others from people with profound learning disabilities may be a consequence of health conditions, reduced intellectual abilities, contextual elements or reduced adaptive behavior, or as an interacting effect of these factors. The dimensions in the classification system may be interrelated, in the way that output (behavior) is a result from complex interaction between the dimensions. If so, we need models for habilitation that take into consideration this complex interaction. This case shows the need for multidimensional models when we make habilitation plans for a person with profound learning difficulties, and it also demonstrates the need for models to analyze how the dimensions dynamically interact.

It may not have been different if we had an opposite order of the two phases. If we only had improved inner conditions mostly related to health, the benefit of these improvements may not have resulted in increased social interest and improvement of communication. Adjustments of exterior conditions may be necessary to collect a behavior gain from health improvements. This call for interdisciplinary collaboration for this group. Models for integration of different dimensions are necessary to take care of this interdisciplinary approach when we work with people with profound learning difficulties. This understanding will also with high probability, increase their well-being and quality of life.

The stabilization of visual attention facilitated development of social interest, ability to communicate and unraveled cognitive capabilities that were earlier camouflaged by his drops in attention and shifts in spirits. The stabilization of basic functions may be a necessary step to take before training or goal directed programs are set into function.

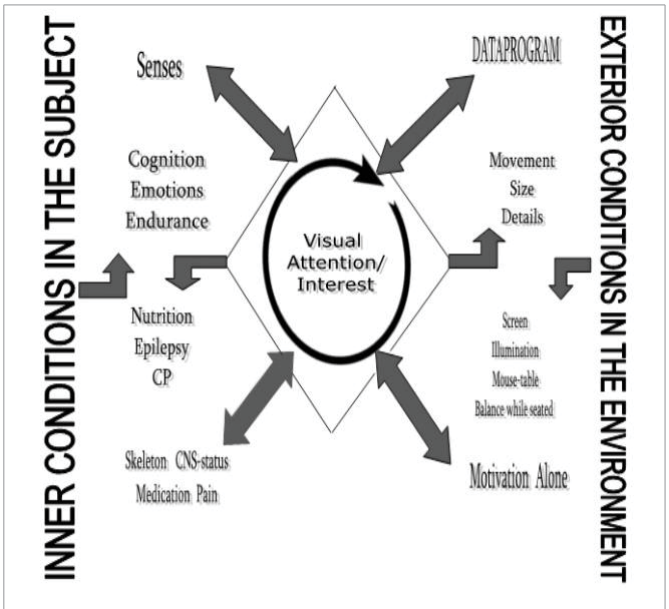

Figure 1: Figure one illustrates that inner and exterior conditions may interact in many ways to improve a targeted basic function. In this case, visual attention/ interest is the target function. Espen was the case to illustrate the need for such a dynamic model.

REFERENCES

1. Bethany PM, Muriel DS, Richard RS, Lesley BO. Interaction of behavioral state and microswitch use in individuals with profound multiple impairments. Journal of Developmental and Physical Disabilities. 2005; 17: 35-53. https://goo.gl/iQhHq3
2. Guess D, Roberts S, Siegel-Causey E, Rues J. Replication and extended analysis of behavior state, environmental events, and related variables among individuals with profound disabilities. Am J Ment Retard. 1995; 100: 36-51. https://goo.gl/S8GTjv
3. Jacobsen K, Grøttland H, Flaten MA. Assessment of visual acuity in relation to central nervous system activation in children with mental retardation. Am J Ment Retard. 2001; 106: 145-150. https://goo.gl/1Xmta1
4. Jacobsen K, Magnussen S, Smith L. Hidden visual capabilities in mentally retarded subjects diagnosed as deaf blind. Vision Res. 1997; 37: 2931-2935. https://goo.gl/c2HgJ6
5. Schalock RL, Borthwick DSA, Bradley VJ, Buntnix WHE, Coulter DL, Craig EM, et al. Intellectual disability: definition, classification, and systems of supports (11th Edition). American Association on Intellectual and Developmental Disabilities. 2010; 259. https://goo.gl/wxzYGt
6. Parmenter TR. What is Intellectual disability? How is it assessed and classified? International Journal of Disability, Development and Education. 2011; 58: 303-319. https://goo.gl/mN9mZ3