



ARTICLE RESPONSE

Congenital Deafblindness and human communication
Or: how much is 6 x 9 again?

Response to Nafstad and Daelman

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Introduction

In their contribution *Excursions into the richness of human communication. Theory and practice during and before the 10 years of the International Master program on Communication and Congenital deafblindness* give Anna Nafstad and Marlene Daelman a meta-view on communication analysis and intervention, based on their experiences with the International Master program. It is a fascinating overview that makes clear how in a relatively short period of time great progress is made in unraveling the communication processes of individuals with congenital deafblindness (CDB) with their environment. In 10 years a lot of knowledge emerged on the development of communication processes and the possibilities for intervention.

When we add to this the PhD theses that on this subject in recent years in Groningen are written under the primary responsibility of Marleen Janssen (Martens, 2014; Boers, 2015; Damen, 2015; Huiskens, 2015; Bloeming in preparation) then we don't exaggerate saying that there has been a knowledge-explosion due to the hard work of master's and PhD students and their supervisors. They all deserve sincere congratulations with this result. It would take no effort to spend a few pages of text on their work as a kind of laudation, but – although they deserve it very much – it perhaps is more inspiring to connect in a few paragraphs some critical comments and suggestions with each other. The text of Anna Nafstad and Marleen Daelman (2016) will be the starting point for this.

Two preliminary remarks

1. Reading the text, it is striking how often terms are used as: fundamental, universal or basic processes of meaning making, languaging and communication. The frequent usage of these terms ('fundamental', 'universal', 'basic') does involve at least two risks. In the first place, it is difficult to state that in psychological processes one aspect is more fundamental than the other, because they form together a whole and complete system in which all of them are fundamental relative to each other. And if they all are fundamental processes, then it makes no sense to label them that way, resulting in an unwanted inflation of terms. Secondly, it is imaginable that it also leads to less attention to already long-existing ('old') relevant hypotheses and research methods which too rapidly are considered as not-fundamental, not-universal or not-basic. In fact, it has to do with a choice: is the intention to create a new 'academic school' of people who share common beliefs and methods, or is the basic philosophy that everything is allowed to learn as much as possible about the processes and possibilities for influencing human communication with people with CDB? The analysis of Nafstad and Daelman makes not clear yet which of the two options ultimately is preferred: a single- or a multi-theoretical approach. However,

their meta-view illustrates that the current ideas about complex processes emerged from different theories and multiple viewpoints. A synthesis doesn't necessarily need an overarching theory, but needs a professional who interprets the different views.

2. Meaning is a complex concept. Perhaps it is too complex, in the sense that the term 'meaning' at one time indicates that a gesture, word or symbol is recognized, understood and shared, while at other times it refers to an intention or a goal, but perhaps also to a plan or planned action. Saskia Damen (2016) in her dissertation avoids the possible confusion by speaking in certain cases of 'meaning and purpose' and in other cases of 'shared meaning'. Maybe it is a good idea to develop a clear and shared definition of 'meaning' or – if that turns out to be impossible – to agree upon the additional adjectives to specify the context.

Research on Meaning-making

The 'process of meaning-making' in human communication is a central theme in the research of the Working Group on Congenital Deafblindness and Communication that started more than 25 years ago and that, among other activities, resulted in the International Master program on Communication and Congenital Deafblindness and in several PhD-theses. Two main-titles of recent PhD-thesis illustrate this. The first example is the thesis *Meaningful Modalities* by Hermelinde Huiskens (2015), the second is the thesis titled *A Matter of Meaning* by Saskia Damen (2015). 'Meaning' as an important topic in psychology is linked to the publication of *Acts of Meaning* by Jerome Bruner (Bruner, 1990). It is an impressive book and many authors refer to this publication or to his ideas, sometimes just by mentioning his name to underpin an argument, but without mentioning the title of his work in the reference list. It happens to more great scientists, because some of their ideas have become incorporated in our way of thinking and other ideas remain in the background. And there arises an interesting point that is worth mentioning.

In the preface of *Acts of Meaning* Bruner describes the splitting and fragmentation in cognitive sciences and states (1990, p. xi):

It is not surprising (...) that a reaction has set in against the narrowing and "sealing in" that are afflicting psychology. The wider intellectual community comes increasingly to ignore our journals, which seem to outsiders principally to contain unsituated little studies, each a response to a handful of like little studies.

In their presentation Nafstad and Daelman demonstrated how video-and computer-technology easily can be used from micro- and macro-analytical perspectives, and they stated that when micro- and macro- analytical perspectives blend something particular can be seen as variation of something universal.

For the aforementioned recent PhD studies on CDB, the following characterizations by Nafstad and Daelman certainly apply: 'micro-analytical and looking at particular cases through a microscope, using video technology'. But, and that deserves a compliment, in most cases there is an explicit connection with the macro-perspective. However, it can do no harm to point out that the publication guidelines of international academic journals should not impose any restrictions on discussing the broader perspectives and theoretical backgrounds of the analytical studies. It is not enough just to mention a theory or an important author. What is needed are discussions about the consequences of different theoretical views for the interpretation of the results and vice versa: what is the importance of the findings in relation to different theories? Little studies do not have to be unsituated or narrowing.

How Much is 6 x 9 Again?

Suppose you are renovating your house and you need six rows of nine large floor tiles. The simple calculation is that 6×9 is 54, but perhaps you prefer to calculate 9×6 . The result remains the same, even though six piles of nine tiles look different than nine piles of six tiles. The piles also differ in weight. What is important here is that there is a concrete quantity of objects which you can touch ('the real world'), with in your brain a mental concept how such a floor looks like, while there is also a notation in mathematical symbols (' 6×9 '). Together they form a triple-code (Dehaene & Cohen, 1995). Educators fight a war over the best way to teach mathematics, known as the 'math war'. The dispute is about how the relationship between the concrete reality, the mental concept and the symbolic representation develops and what is the most optimal school curriculum. One of the views is known as the 'realistic approach', which builds on ideas that we know as 'co-constructivism'. The assumption is that cognitive development will benefit from interactions and social relationships that are more or less symmetrical. Both student and teacher have a unique input, but what they create together has an added value. In this approach (neo) Piagetian and (neo) Vygotskian ideas come together (Leseman, Rollenberg, & Gebhart, 2000). The co-constructivistic ideas in mathematics education were a few decades ago received with optimism. But today we know that there are some drawbacks to this approach. One drawback is that the average level of numeracy in school stagnates or even goes backwards. A second disadvantage is that, in particular, the weak students experience more problems and do not benefit from

remediation that is grounded on the same constructivistic principles. In other words, there are doubts about the overall effectiveness of the co-constructivism, in spite of the attractive assumptions. Meta-analyses show that pupils with severe learning difficulties especially benefit from (among others) direct instruction, frequent practice and repetition, and from a division into subtasks (Swanson, Hoskyn & Lee, 2000), besides ample attention for their self-confidence and a good affective relationship with their environment (Elbaum & Vaughn, 2003).

Intervention Principles

What has *How much is 6 x 9 again?* to do with the richness of human communication?

The connection has to do with 'intervention' as an important topic, in combination with constructivism.

In case of serious and resistant learning disabilities interventions from a (co-) constructivistic point of view turned out to be disappointing. More direct and analytical intervention principles appear to be more effective. The question is whether this information may be helpful in developing interventions aimed at communication and deafblindness. One reason to ask this question is that in the last 10 years the orientation in the study on the development of communication processes and deafblindness focuses gradually on dialogical theory. Both constructivism and dialogical theory have the same theoretical roots. So, it is imaginable that other theoretical perspectives should be involved in the search for effective intervention principles.

The title of the introduction in the text of Anna Nafstad and Marleen Daelman is: *A meta-view on communication analysis and intervention*. However, intervention gets relatively little attention in their next paragraphs, at least explicitly. That's not a criticism of their text, but it is just an observation. It illustrates the growth of a relatively new scientific domain that has to begin with the study of how phenomena develop and are structured, searching for influences that play a role and processes that can be influenced. Just like in other disciplines focused on the study of developmental problems, the research projects with a scope on the description of phenomena outnumbers the studies on specific intervention principles that are designed to stimulate a learning process by way of a detailed planning of help steps.

In order to illustrate the usefulness of intervention principles we start from the following fictive goal of a learning process. It is not an exhaustive and fully elaborated example, but it illustrates the relationship between the planned learning outcome and the possible pathway towards it. Suppose that we formulate the following developmental goal:

A person is able to self-initiate a targeted (inter)action or to respond to an external stimulus or challenge, self-confident and appropriate in the context.

Note that the intention or purpose of the (inter)action is not explicitly included in the foregoing formulation. Not because they are not important, on the contrary, but to focus in this example on those aspects that often receive little attention. What aspects are relevant for an intervention, of course dependent on personal and situational factors? A first analysis gives the following suggestions:

1. '*A person is able to self-initiate a targeted (inter)action*': In fact, it implies that there is a purposeful internal mental stimulus, which assumes a certain level of mental functioning.
2. '*... an external stimulus or challenge ...*': In order to stimulate the development of the mental functioning a stepwise approach is possible starting with touching concrete stimuli, followed by the representation by a model, where possible with verbal support, and resulting in the representation by a single symbol (a code, letter, digit, ...).
3. '*... to react ...*': In daily life we often react mentally and not always aloud and observable by others. But help steps can go from concrete manipulation, to pointing or drawing, if possible vocalizing, and using codes.
4. Stimuli and responses appeal to processes. Such processes between stimulus and response are to build up from imitation and repetition, via recognition and comparison, to analysis and transformation, and eventually to a more or less unconscious performance.
5. '*... appropriate in the context*': The ideal situation that actions can be adapted to any type of context is the result of different foregoing stages, including going from isolated and context-free, to be able to integrate new experiences what has already been experienced or learned before, and to use it in other situations.
6. '*... self-confident*': Before people are able to provide themselves with full feedback and, so to speak, to control themselves (self-confident), a lot of changes have taken place, such as: from external to gradually more internal feedback, from direct to increasingly delayed, from result-oriented to process-oriented, from material to social.

The aim of the preceding illustration has been to link the learning process to an analysis of the possible intervention steps. And there are many steps possible, quite apart from the combinations and compensations that are not mentioned here, as well as the socio-affective component related to the content of what has to be learned. Elsewhere – in a context of designing remedial intervention for people with very persistent and severe learning difficulties – we have described all these steps in one model, that can best be characterized with the metaphor 'music mixer' or 'DJ Mixer' (Ruijsennaars, 2005). A music mixer consists of buttons and controls that are adjustable in a cyclical process, but that never all will be switched simultaneously to the maximum. Using the keys and controls and the order under each of them is not a matter of intuition, but is based on theoretical and empirically proven valid principles that obviously should not contradict each other. The argument is that in situations where people with complex problems need to be stimulated in their development to reach a desirable next level of functioning, that the environment must create the opportunities to realize the optimal learning process using reliable and valid knowledge about all possible steps and about the choices and decisions to be made during the intervention. This is not about intuitive eclecticism, but about reasoned choices, based on theoretical and empirical knowledge.

The foregoing analysis of possible intervention steps could be called atomistic, analytical, reductionist and meaningless. That is partly true, but Nafstad and Daelman are right when they emphasize that the microscope and the broader vision should not be mutually exclusive. They can complement each other, or rather, they can blend. To support people with severe and multiple disabilities different theoretical schools offer relevant ideas. A nice illustration in the text of Nafstad and Daelman is the case of Thomas and the blue tunnel. By looking from a new theoretical perspective to an already often observed video fragment, you see sometimes suddenly something that remained hidden before. Or as the well-known former Dutch soccer player and recognized oracle Johann Cruyff put it: "You will only see it when you get it". The analysis of video recordings and the repeated observations from different points of view is of great value. This analysis should include intervention videos and should not only focus on, for example, description and counting the number of interactions or the number of mutual confirmations, but also on the choice of the most optimal next step out of a range of possible alternatives, taken from several theoretical orientations. Think of the music mixer with its combinations of buttons and controls including the sequences in types of stimuli and responses, types of processes, different applications and contexts, and types of feedback.

To Conclude

In recent years, enormous progress has been made regarding congenital deafblindness and human communication. The overview of Nafstad and Daelman makes this clear in an impressive way. They rightly conclude:

The lived lives of the people with CDB with regard to communication was until quite recently a nameless circumstance. The Master study has changed that since the interests and concerns of the academic society can reach beyond that of mainstream culture.

Starting from the idea that people with CDB can contribute to their own communicative development an exciting discovery was made, finding ways to stay in the dialogue in spite of asymmetry and tension. The dialogical theory is an important source of inspiration, but it would be wise not to forget other theories and keep focus on the analysis of possible intervention steps that can be described in several dimensions. There is no doubt that also the coming years great progress will be made. The commitment of all those involved is impressive. They all deserve a great compliment.

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