Emotional development of deaf children: a proposal for intervention

Renata Sarmento-Henrique¹ & Marta Giménez-Dasí²

1. Phd student, UNED
2. Department of Developmental Psychology, Universidad de Valencia

ABSTRACT

This paper briefly presents the relationship between theory of mind and emotional development in deaf children. Current research suggests that the factor that best explains the delay in theory of mind of late signers is their extremely reduced experience of early conversation and its role as a vehicle to structure the mind. This absence of conversation is the factor that upholds and justifies our proposal for intervention. It is proposed a programme that explicitly tackles all of the abilities that make up emotion understanding in the early stages of its development. The intervention is based on peer dialogue as from the methodology called Philosophy for Children (P4C). The proposal is designed to intervene in four emotional components (identification, expression, labeling and regulation) related to the four basic emotions (happiness, anger, sadness and fear).

KEYWORDS

Emotional development, deafness, deaf children, theory of mind, intervention program

Introduction

The emotional development of typically developing children occurs in a context of hearing and language in which sound plays an important role, even at pre-verbal stages when the first interactions take place between a baby and his or her carer. Later on, when children acquire language, they are continually at the receiving end of comments on individual feelings and those of others¹. Various studies have highlighted the close relationship that exists between language and emotional development. The frequency, style and content of speech between parents and their children, for example, including references and explanations of feelings, all have a positive effect on the child’s understanding and control of his/her own feelings². Other studies have uncovered a strong association between three elements that are clearly linked: language, emotion understanding and theory of mind (ToM). One of the first studies to highlight this connection in the typical population was that of Cutting & Dunn³. As a result of this work others have explored the same association in children with atypical language acquisition.
Emotional understanding in deaf children

In terms of deafness in particular, research suggests that interaction between (hearing) carers and deaf children tends to be shorter in duration, less frequent and less conversational than the interaction that takes place between carers and children who are able to hear\(^1\). Hearing carers looking after deaf children explain feelings less often. In addition, we should also bear in mind that deaf children are not able to benefit from conversations in which they are not involved either actively or directly\(^1\). In this way, deaf children lose most opportunities from incidental learning\(^1\) that is so important in the understanding of our own culture, the communication rules and the development of self-consciousness. The meaning of this information is not directly and explicitly taught\(^4\). Therefore, it seems that deaf children (with hearing parents) have less opportunities to interact with their family members, carers and peers and to learn implicitly about the different aspects surrounding feelings. This, in turn, has a strong impact on the social and emotional development of the child at a later stage.

Some studies emphasise the specific deficits found in deaf children when it comes to understanding emotions. In the present study, we will examine some of these briefly. Firstly, deaf children demonstrate emotional states to the same extent as their hearing peers\(^5\). However, they tend to use less vocabulary related to feelings and find it more difficult to recognise the emotions of others\(^6\).

Gray et al\(^7\) compared the activity of deaf children with those of hearing children in tasks of emotional pairing. Their results showed that deaf children (7-11 years of age) find it harder than hearing children to match pictures of facial expressions with statements about emotional states. However, this ability improved with age in deaf children and, as with hearing children, they identified happiness, sadness and disgust more easily than surprise, anger and fear.

In a comparative study of deaf and hearing children between the ages of 6 and 10, by means of a task in which situations that invoked certain emotions were described, Rieffe & Meerman Terwogt\(^8\) demonstrated that both groups of children were able to correctly predict basic feelings and refer to mental states. However, the majority of deaf children were not able to make exact predictions straight away. In addition, all of the deaf children of 6 years of age had to be asked the name of the feeling at least once by the experimenter, whilst this was not necessary with the hearing children. The former also tended not to focus on the causing factors and explained the unexpected emotion of the character in terms of wishes instead of beliefs.

In short, deaf children seem to have more difficulties in identifying feelings and understanding the emotional process, although certain contradictions are indeed present in the empirical evidence. Some studies point towards the fact that deaf children achieve poorer results in emotion understanding than their hearing peers\(^1\). However, previous research has failed to detect differences in the productivity of hearing children and those with deafness of similar ages in activities associated with matching, labelling and emotion understanding\(^9\).

Emotional development, theory of mind and communication

Emotional development, in its broadest sense, implies at least some of basic elements of theory of mind (ToM). There is no doubt that ToM and emotion understanding are aspects that are closely linked in terms of their development. In this sense, some of the conclusions drawn in studies that analyse the acquisition of ToM in deaf children can also be extended to the development of emotion understanding. Communication elements that underlie mentalizing skills of these children also allow us to predict and understand the path that their emotional development follows. We therefore adopt the conclusions offered in studies on ToM to formulate our proposal for intervention. These conclusions can be summarised in two main statements: on the one hand, the opportunities to interact, which are the basic foundations of socio-cognitive development, can be scarce for deaf children who are late signers\(^2\). On the other hand, the communication and/or language problems of late signers affect both the development of ToM and their emotional development.

Van Gent\(^5\) suggests that reduced communication, miscommunications and difficulties in gaining and sustaining visual attention with a deaf child due to lack of communicative skills or to communicative insecurity on the part of hearing caregivers may hamper opportunities of developing shared meaning and

---

\(^1\) We understand incidental learning to be the process that occurs when information is learned through passive exposure to events.

\(^2\) When we refer to late signers, we refer to deaf children whose parents are hearing. Such children represent the vast majority of the deaf population. When we refer to native signers, on the other hand, we refer to deaf children whose parents are also deaf. These children develop the ability to use sign language in a natural, maternal way, just as hearing develop the ability to use spoken language. They represent 10% of the deaf population.
interactional reciprocity. In this sense, Doherty\textsuperscript{10} affirms that a lack of early linguistic experience may have some pervasive effects on child development: less experience on mental state words, an absence of conversation relevant to mental states and also consequent limitations on social interaction.

A number of studies have shown that deaf children develop mentalizing skills later on, whilst deaf children who are native signers develop theory of mind at an equal level to their hearing peers.\textsuperscript{11-14} This indicates that early access to language in situations where language is a means and an integral element of communication has an important impact on the development of mentalizing skills.\textsuperscript{15}

In a recently published study, Peterson\textsuperscript{13} suggests that the early opportunities of native signers to share conversations on thoughts and feelings at home and at school are crucial for their understanding of false beliefs, as well as for their emotional development. Peterson\textsuperscript{13} also affirms that the ability to communicate through sign language and having deaf parents both have a positive influence on the development of ToM.

Despite the coherence of this proposal, it is important to highlight here that the type of school that deaf children attend is of great importance, since the development of ToM of native signers who attend exclusively oral schools is as delayed as that of late signers who attend bilingual schools.\textsuperscript{15} Therefore, being a native signer does not guarantee an optimum development of ToM. In addition, the school environment of the child must also encourage the use of sign language to communicate.

Another element that also seems to be linked to the development of ToM is emotional attachment. It has been proven that the closeness of the emotional bond between native signers and their siblings (either with hearing impairments or without) can have an impact on the understanding of ToM at a level above that of their age-group and referential communication abilities.\textsuperscript{16} This suggests that positive relationships between siblings can facilitate access to the complex world of individual mental and emotional states and those of others, as has been highlighted by Perner, Ruffman & Leekam\textsuperscript{17} and Peterson.\textsuperscript{18}

In short, the studies reviewed show us that the development of ToM is affected by a number of variables: firstly, children must be exposed to language at an early age (sign language in the case of deaf individuals). In addition, educational contexts are needed that allow the use of sign language on a permanent basis and, finally, it is important that close personal relationships with carers and siblings exist through which the child can share and experience mental and emotional states.

All of these studies have led to an explanatory hypothesis on the differences shown by deaf children when it comes to the acquisition of mentalizing skills. This hypothesis, labelled the conversational hypothesis, is based on the assumption that the delay in the development of ToM is the result of the sparse conversational interaction that these children have in their environments at an early age.\textsuperscript{11} Although hearing parents can make an effort to learn sign language, they never become competent enough to hold a fluent conversation on mental states when their deaf children are still young.\textsuperscript{19} This lack of conversational input on the individual’s own mental state and that of others puts deaf children late signers in a situation of clear disadvantage against their native signer peers and hearing children.\textsuperscript{12}

From our point of view, current research suggests that the factor that best explains the delay in ToM of late signers is their extremely reduced experience of early conversation and its role as a vehicle to structure the mind. This absence of conversation is the factor that upholds and justifies our proposal for intervention. Working from this evident need for dialogue, we propose a programme that explicitly tackles all of the abilities that make up emotion understanding in the early stages of its development.

**A proposal for intervention based on dialogue between peers**

As we have already shown, hearing loss can limit access to information, affect relationships between parents and their children, and have an impact on the socio-emotional development of the child. For this reason, and because of the implications that this may have on the child’s development, we believe it is necessary to design and implement programmes to promote communication between parents and their children and encourage the socio-emotional competence of deaf children.

Our proposal for intervention has two key characteristics. Firstly, it is based on the typical patterns of the acquisition of emotion understanding as observed in children of pre-school age. In this sense, the content of the proposal has a particular order that focuses on the spontaneous progress of children with typical development.\textsuperscript{20,21} Secondly, the idea we propose is based on the concept of dialogue between peers. We have been driven to propose this methodology for two main reasons: On the one hand, the absence of...
conversation on mental states and feelings is the main cause of their difficulties and these children are given less opportunity to interact. On the other hand, studies on typically developing children show that dialogical activity between peers gives rise to a far more significant level of learning and, therefore, one that is longer-lasting and can be generalised to other contexts. Explaining social and emotional matters (who are often implicit) through dialogue helps us to integrate understanding without a doubt. However, when dialogue takes place between peers and the adult has little involvement, this also favours intrinsic motivation, reflection, creativity, critical thought and the complete construction of understanding.

Based on these theoretical elements, our proposal is designed to intervene in four components related to the four basic emotions (happiness, anger, sadness and fear):

1. The **identification** of the facial expressions linked to basic emotions.
   This is the primary and most basic component that children can handle. This ability is acquired at around 30 months. Work on acquiring this ability can begin in a very straightforward way (for example, from identifying feelings in simple sketches) to much more complex (i.e. dialogues in which the characteristics of facial expressions or gestures are analysed in detail).

2. The **expression** of basic emotions.
   This component seems closely related to the previous one and involves expressing basic emotions so that others are able to recognise them. Activities designed to work on this component may also begin in a very basic way (for example, expressing basic feelings in front of a mirror, through miming or solving riddles) and move on to more complex dialogues on how each individual expresses his emotions or how they can be expressed through visual arts or music.

3. The **linguistic labels** of basic emotions.
   Language is fundamental in the understanding and development of emotions. It allows us to talk about internal feelings and gives children a means of contact with reality. Children are usually able to correctly label the four basic emotions between the ages of three and a half to four. As with the previous component, activities can be proposed in a very straightforward way (for example, describing the labels or searching for synonyms) or through complex dialogues (for example, through searching for metaphors that refer to emotional states, making detailed descriptions of emotional states or giving a name to the different nuances that derive from the basic emotions).

4. The **control** and regulation of basic emotions.
   Finally, controlling emotions is a key element from which all of the social repercussions of emotions can be tackled. It takes children many years to be able to control their emotional states adequately. Activities to work on this component can be based on learning basic behavioural techniques or can be much more complex through the use of dialogue (i.e. children invent strategies and consider which are the most efficient, reflect upon the social consequences of not controlling their emotions, etc).

**References**


processing? Journal of Clinical and Experimental Neuropsychology, 32(9), 923-928. doi: 10.1080/13803391003596447


