

Pre-intentional and early intentional communication intervention strategies

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Overview

- What is communication?
- How does communication develop?
- How might this differ in learners with severe and complex communication difficulties?
- What assessment approaches are most useful?
- What approaches to teaching or therapy are useful for these learners?

What is Communication?

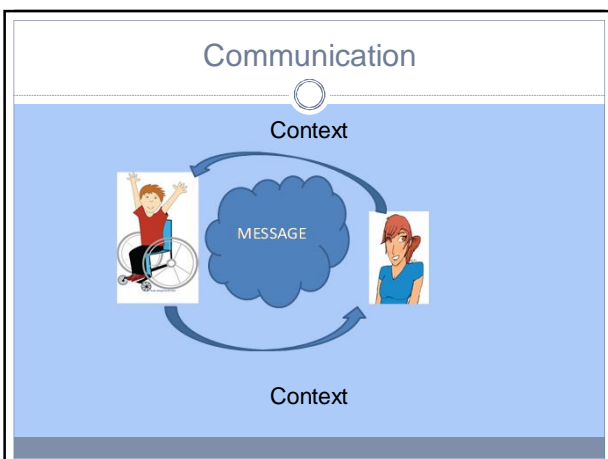
'Communication is about two or more people working together and coordinating their actions in an ongoing response to each other and the context'
(Bunning, 2009, p.48)

'Communication may be intentional or unintentional, may involve conventional or unconventional signals, may take linguistic or non-linguistic forms, and may occur through spoken or other modes.'

www.asha.org/policy/GL1992-00201.htm

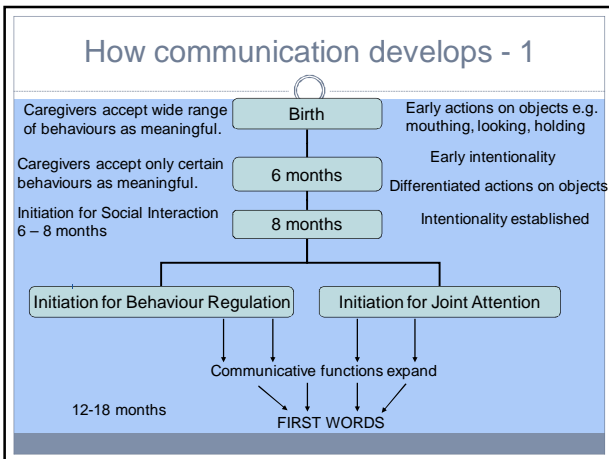
Advantages of this Definition

- We can view everybody as a communicator.
- The roles of 'sender' and 'receiver' become blurred.
- The importance of the communication context is recognised.
- Communication is a joint effort.



Importance of Communication

- In children with cerebral palsy, communication problems were significantly associated with having a psychiatric disorder (Bjorgaas et al., 2012, Norway).
- In children with intellectual impairment, family carers' psychological distress is moderately associated with the severity of the child's delay in communication (Emerson et al., 2004, UK)
- Kommunikasjon: Rett til å lære!

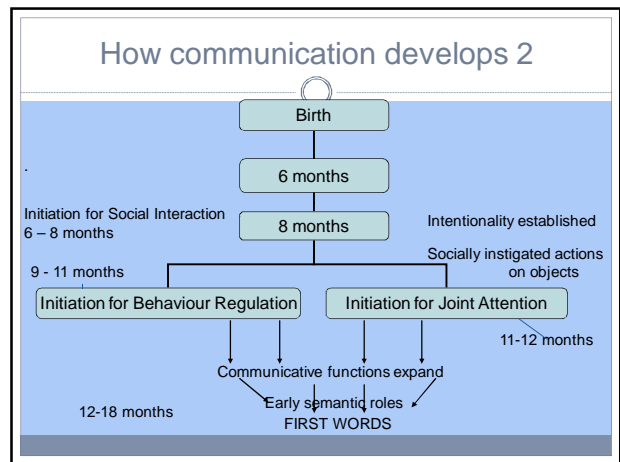


Intentionality – The most important thing you will ever learn!

- The realisation that your actions have consequences, that you can have an effect on the environment.
- Achieved during Piaget’s stage of Secondary Circular Reactions (4-6 months in typically developing infants, though earlier under experimental conditions).
- Presumably acquired as a result of repeated chance experiences.

Secondary Motivational Impairment or Learned Helplessness

- A lack of awareness that one can have an effect on the world.
- Can cause a progressive reduction in attempts to engage with objects and people.
- May be associated with increased self-involvement or self-stimulatory behaviour.



Development: Key points & challenges

- Communication develops from both cognitive and social routes.
 - Implications for people with severe motor impairments?
 - Implications for people with sensory impairments?
 - Implications for people with learning difficulties?
 - Implications for people with autistic spectrum disorders?
- Input (comprehension) and output (expression) are both important.
 - Do we tend to emphasise one over the other?

Stages in Early Communication 1 (Coupe-O’Kane & Goldbart, 1998)

- *Level 1: Pre-intentional – Reflexive:* A limited repertoire of mainly reflex behaviours can be interpreted by familiar people. Internal stimuli are as significant as external ones.
- *Level 2: Pre-intentional – Reactive:* A wider range of voluntary behaviours are treated as meaningful by caregivers. The range of likely interpretations widens a little and the child will be more responsive to affective messages from the caregiver.

Iacono et al., (2009) say that it may not really be possible to distinguish between stages 1 and 2

Stages in Early Communication 2

- **Level 3: Pre-intentional – Proactive:** Person's behaviours are goal directed. The behaviours function as signals to others who assign both communicative intent and meaning to them. Child extracts meaning from other people's intonation and facial expression.
- **Level 4: Intentional – Primitive:** Person has learned to affect the environment by acting on another person. Interpreting "primitive" communicative acts relies on the context. Child understands other's NVC and starts to show situationally cued understanding.

Stages in Early Communication 3

- **Level 5: Intentional – Conventional:** Person has acquired a range of semantic roles (meanings) which can now be communicated to others using more conventional forms, including single signs, symbols and words.
- These are easier for others to understand and less dependent on context.
- The range of communicative functions expands and the person will understand many single words.

General intervention strategies 1

- What do we need to consider in supporting early cognition?
 - Positioning, to facilitate access to objects and environment.
 - Wide range of objects to stimulate exploration.
- What do we need to provide to support early social development?
 - Responsive, enjoyable interactions with others.
 - Consistency? Time?

General intervention strategies 2

- How can we promote the development of intentionality?
 - Opportunities to affect and control the environment, can be both high and low/no tech.
- How can we promote development of intentional communication?
 - Provide consistent feedback on any potentially communicative behaviours.
 - Establish opportunities to shape communicative behaviours.

General intervention strategies 3

- How do we encourage the development of communicative functions?
 - Provide an environment which offers opportunities for real, functional communication.
- How do we encourage the acquisition of semantic roles?
 - Provide a content-rich environment with opportunities for joint activities.

Importance of staff and parent training

Communicative Functions

- Drawing attention to self i.e. wants attention
 - Drawing attention to an action/event, an object, others
 - Gaining attention for communication
 - Requesting a) action/event, b) object, c) information, d) recurrence
 - Rejecting a) action/event, b) object, c) other people
 - Protesting
 - Greeting or Social Communication
 - Giving information about a) self, b) the environment
 - Responding or answering
 - Commenting; Directing others
- (Roth & Spekman, 1984a&b)

Same function – different levels

- **Request:**
 - Grabbing -> Reaching -> "Gimme" / "Drink" -> "Would you mind passing me the water."
- **Reject:**
 - Throw plate -> Shake head -> "No!" / "Don't want it!" -> "I'd really rather not."
- **Greeting:**
 - Smile -> Wave -> "Hi!" -> "Darling! It's lovely to see you."

Assessment of Early Communication

- If we are assessing pre-intentional and early intentional communication, does the origin of the assessment, e.g. Norwegian, English, etc., matter?
- Most communication assessments assume children's development will follow a broadly typical trajectory – can we assume this will be true?
- Because our clients/students' communication can be idiosyncratic, a familiar person should be involved in the assessment and assessment should be carried out over time.

Norwegian Communication Assessments

- Norwegian version of the U.S. Ages and Stages Questionnaire (ASQ); a screening tool, not detailed enough to show change in children with complex needs.
- Janson, H. (2003). Norsk utgave, ASQ: A parent-completed, child-monitoring system (2nd ed). Oslo: Regionsenter for Barn og Unges Psykiske Helse.
- Or parent communication interview e.g. von Tetzchner et al., (1996).
- Others??

Other assessments

- **Affective Communication Assessment (Coupe et al., 1985)**
 - For children and adults. A free example is available online.
 - Explores pre-intentional communication and transition to intentional communication in detail.
- **Routes for Learning (W.A.G. 2006)**
 - For classroom use. Free, online with resources.
 - Assesses early cognition and communication
- **Communication Matrix (Rowland 2013)**
 - For children and adults. Free, online with resources.
 - Assesses expressive communication 0-24 month level

Affective Communication Assessment

- Video of child's responses to various stimuli which can be interpreted as e.g. likes, dislikes, wants and rejection (Coupe-O'Kane & Goldbart 1998).
- Available online or from Melland High School, 50 Wembley Road, Manchester M18 7DT, U.K.
- Training material and example available at <http://complexneeds.org.uk/modules/Module-2.4-Assessment-monitoring-and-evaluation/All/m08p020b.html>

Format of ACA

	Taste of milk	Smell of vinegar	Mother's voice	Swing
Head	Turns towards	Turns away	Turns towards	Turns towards
Mouth	Open	Closed Distressed	Smile	Open
Body move-ments	Arms move	Turns away	Turns towards	Waves arms
Vocalis-ations	-----	-----	Aaaaah!	Laugh, Aaaaah!
Interpret-ation	Wants	Doesn't want/like	Likes	Wants

Sample communication passport page



Cause & effect – switches - 1



Using simple switches or other cause & effect devices can teach children that their actions have consequences, i.e. intentionality.

e.g. operating a switch by action or sound to make or to convey a choice (Lancioni et al., 2006a & b), or gain social contact (Lancioni et al, 2009).

Cause & effect - switches

- Intentionality can be seen as a step towards intentional communication and may lead into more advanced AAC.
- Switch-based approaches could be more widely used by practitioners in the UK (Mansell, 2010) – True in Norway too?
- Growing evidence base, though few evaluations in naturalistic settings; exceptions – Barber (2000), Singh et al. (2003)

Intensive Interaction 1



Developed in a hospital school setting by Nind and Hewett (e.g. Hewett & Nind, 1998; Nind & Hewett, 2006).

- Based on the highly responsive, individualised interactions between babies and their caregivers.
- A way of developing enjoyable interactions between people with complex communication needs and significant others, increasing sociability.

Intensive Interaction example

<https://www.youtube.com/watch?v=qkJKktBaTRY>

Intensive Interaction 2

- A growing number of formal evaluations since Nind (1996) including some using Single Case Experimental Designs.
- Positive changes in observable behaviour related to interaction ability (Leaning & Watson, 2006).
- Results in rapid increases in social engagement (Zeedyk et al., 2009).
- Care staff can learn to use II but find it hard to embed in daily routine (Samuel et al., 2008).

Objects of Reference 1

- Objects which are used to represent people, situations or events in order to support communication.
- Drawn from work with people with dual sensory impairments (McLarty, 1997).
- Aim for increased awareness of associations between the objects and people, activities, etc., leading, eventually, to expressive use.

Objects of Reference 2

- Used to signal what is about to happen and to support making choices.
- A concrete link into language, through increasingly abstract representations:
 - Index -> Icon -> Symbol -> Qualifiers.
- Could be a route into symbol use, e.g. PECS.
- Linked with visual timetables.
- Only one published evaluation (Jones et al., 2002).

Narrative approaches 1

- Language and multisensory props are used to construct a narrative.
- **Sensory or multi-sensory stories** aim to provide the learning opportunities and pleasure of engaging with a story, without the need to understand the language used.
- **Social stories** aim to aid understanding of a social or personal situation or series of events.
- Some approaches combine these two aims.

Narrative approaches 2

- A few small-scale studies, typically levels 3b & 4: social stories (Ali and Frederickson, 2006) and multisensory stories (Mitchell and van der Gaag, 2002).
- Multisensory storytelling leads to positive changes in engagement and may increase attention (Young, 2011). A well-designed study.
- Teachers do not always follow the guidelines (ten Brug et al., 2012).
- Single message switches support participation.

From Gesture to Sign

- Gestures, e.g. reaching and pointing, are part of early communication.
- Signs are more formalised representations.
- Baby sign for typical babies – popular in Norway?
- Not well researched in babies (Johnston et al., 2005) but may support comprehension (Mueller & Acosta, 2015).
- Limited evidence, but may support communication in autism (Goldstein, 2002).
- Staff learn signs but may not use them (Chadwick & Jolliffe, 2009).

Picture Exchange Communication System

- PECS - emphasises the transactional nature of communication (Bondy and Frost, 1994).
- Aims to establish the idea of communication by teaching children to exchange a picture symbol for something they want through highly structured training.
- Designed for children with autism, but now more widely used.
- Recent studies (Ganz et al, 2009; Howlin et al. 2007; Sigafoos et al, 2007) provide modest support for use with children with autism

Staff and Family Training 1

- Indirect teaching/therapy.
- Content may be from one of the approaches described.
- Many evaluations, but often not good quality.
- Some good studies:
 - Damen et al ., (2011, Netherlands)
 - Foreman et al., (2013, Australia)
 - Koski et al., (2010, 2014, Finland)
 - Samuel et al., (2008, UK)

Staff and Family Training 2

- Very few studies of parent/family training, see review by Pennington et al., (2009).
- Findings for sustainable training impact:
 - Support from senior staff.
 - On-going coaching/mentoring.
 - Combination between formal training and individual practical input.
 - Address knowledge, skills AND attitude.

Conclusion

- Our model of communication to informs assessment and teaching of early communication skills.
- We need more research on communication development in children with complex needs.
- Some teaching/therapy approaches have evidence of effectiveness, but we need more research to show what works best for which children.
- All these approaches require staff and parent training.
- The communication environment is also very important.

Thank you

Any questions?

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