

Key Word Sign and Gesture - An inclusive strategy for promoting language and learning through embodied action

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Short Abstract

Key Word Sign is a communication strategy that involves the simultaneous use of manual signs and speech, to support understanding of information and expression of messages. A full grammatically correct sentence is spoken, whilst key words or concepts are concurrently signed. Key word sign is the primary form of unaided Augmentative and Alternative Communication (AAC) and, along with use of gesture, is an evidence-based strategy commonly used as part of a multimodal communication approach to promote the development of speech, communication, and interaction skills in individuals with communication disability or difficulty, and functional communication across the lifespan.

The body plays a central role in learning across the lifespan. The idea of embodiment - acquiring new concepts through one's own use of action and through the actions of others - is not new, however there has been limited exploration of the theory within the field of AAC. Unaided AAC modes like key word sign and gesture uniquely involve extensive use of the body during production; more so than verbal speech alone or movements used to directly access aided AAC systems. This paper will offer a synthesis and reflection on contemporary research exploring the role of embodied action in cognition, language, communication and learning; specifically the role of sign and gesture in forming and maintaining internal representations of new concepts and demonstrating understanding.

Practical examples of how parents, family members, educators, and allied health professionals can enhance opportunities for embodied learning through modelling and use of key word sign and gesture, will be provided.

Long Abstract

Key Word Sign is a communication strategy that involves the simultaneous use of manual signs and speech, to support understanding of information and expression of messages. A full grammatically correct sentence is spoken, whilst key words or concepts are concurrently signed. Key word sign is the primary form of unaided Augmentative and Alternative Communication (AAC) and, along with use of gesture, is an evidence-based strategy commonly used as part of a multimodal communication approach to promote the development of speech, communication, and interaction skills in individuals with communication disability or difficulty, and functional communication across the lifespan.

Use of gesture is an important part of an unaided AAC approach. Gestures are a form of 'action' and are described as "empty handed movements that do not interact directly with external objects and make no lasting changes upon the environment" (Congdon & Goldin-Meadow, p. 529). Gestures are classified as deictic (referring to a spatial location or specific referent e.g., pointing), representational (iconic gestures that show similarity between form and referent and are used symbolically e.g., flapping arms to indicate a bird), and metaphorical (gestures that demonstrate the meaning of an abstract idea or concept).

Evidence demonstrates that children learning language and communication can recognise and comprehend the meaning of different gestures well before attempts to produce those same gestures and they go on to use gestures to communicate and represent information that they cannot yet represent in speech. The type and sequence of gesture use, and bi-modal combination of speech and gestures, can be predictive of language development and offer insight into conceptual development that an individual may be experiencing. Specifically, evidence of 'speech-gesture mismatch' (where different information is conveyed in the spoken and gestural components of an utterance) is an important indicator of readiness to learn, as well as directly influencing learning and acquisition of new knowledge and concepts.

A significant feature of the mechanism of gesture use, is the fact that it engages the motor system, and it is well established that when learners can activate multiple systems to represent information (cognitive, linguistic, sensory, motor), conceptual representation is more enduring and longer lasting. Unaided AAC modes like key word sign and gesture uniquely involve extensive use of the body during self-production, but also engage the motor system through mirror neurons when observing and learning from gestures and signs produced by others. This is the idea of embodiment - acquiring new concepts through one's own use of action and through the actions of others. The critical discussion presented in this paper will consider the role and potential of gesture and manual sign in harnessing embodied action during learning, exploring the impact on functions such as visual attention, working memory and cognitive load, representation and interpretation of concepts, activation and reactivation of the motor system, and integration with spoken language. Ultimately, the idea will be presented that use of gesture and key word sign has pedagogical value in supporting learning of new concepts, including language, mathematical ideas, and abstract metaphorical representations, and can be a flexible and powerful component of multimodal communication systems and approaches.

Within the time available, to ensure that the theoretical concepts presented have practical value, examples of different gesture forms and ways to incorporate gesture and key word sign into relevant routines, activities and learning opportunities for individuals across the lifespan, will be presented. The audience will be offered the opportunity to experience use of gesture and key word sign and reflect on its contribution to an embodied approach to modelling and supporting language, communication and interaction within their setting or context.

References

Congdon, E.L., & Goldin-Meadow, S. (2021). *Mechanisms of Embodied Learning through Gestures and Actions: Lessons from Development*. In M.D. Robinson and L.E. Thomas (eds) *Handbook of Embodied Psychology* pp. 527-546. https://doi.org/10.1007/978-3-030-78471-3_23