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# Instrumental communication

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Instrumental communication is the type of communication carried out through instrumental interaction.

Instrumental interaction [→ Instrumental interaction] is a type of multisensory-motor interaction between humans and physical objects during which the human manipulates a physical object to perform a task that is not only the object manipulation for itself. In such interaction, the object with which the human interacts to perform the task is transformed into an instrument. Instrumental interaction is an integrated activity, merging ergotic, epistemic and semiotic activities.

Although an instrumental interaction is a manual performance, since the manipulated object is an instrument, the output of the performance can differ from the manipulation activity *per se*. The aim of instrument and instrumental interaction – in other words the consequence of the physical, cognitive and cultural transformation of a physical object into an instrument – is to produce a result through which symbolic information is conveyed. This sort of symbolic information is the support of a particular sort of communication between humans, which we call, precisely, instrumental communication.

Importantly, one should note that there exist forms of communication that cannot be imagined, that could not exist, without an instrumental interaction. Hence, instrumental communication is a side, an aspect of human-human communication in general.

Examples of instrumental communication situations are: *this* hole in a wall, with its imperfection, which was produced by human-wall interaction through a tool, and which engraves this interaction, communicates how it was done; music listened by a listener, produced by an instrumentalist playing on his instrument through an instrumental interaction; the way of skiing for anyone, when considered as the main feature to be focused on; the grace of a pirouette in dance, etc… More generally, the features that differentiate things produced by hands and by the body, such as in craftworks, arts, sports, etc., that are produced through an instrumental interaction, carry instrumental communication.

In the notion of instrumental communication interface [Cadoz, 1994] [Cadoz, 2002] [Luciani, 1993], the instrumental interaction occupies a peculiar place within the general aim of multimodal interfaces. Multimodal interfaces usually aim at producing and conveying symbolic information. That is also the objective of instrumental interaction, based on what we called instrumental communication. Consequently, in the context of multimodal interfaces, instrumental and non-instrumental interaction are complementary, conveying two complementary types of information and creating two complementary types of communication between humans.

Hence, as evidence, instrumental communication is a major mean to build enactive knowledge.

## References

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