

Transfer and Transformation

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In the psychology of learning, transfer (lat. *transfere* - to bring across) refers to the ability to transfer experiences and learning content to other situations and is a characteristic of successful learning. This often refers to situations outside the classroom, 'learning for life'.

Transfer processes in the psychology of learning

In the psychology of learning, transfer performance is regarded as a characteristic of successful learning processes. Starting from a specific action, conclusions are drawn about the thought processes behind it. The transfer of learning can concern individual elements or the rules or structures of a learning process. Transfer can be practised systematically, which is particularly successful in adulthood (e.g. in behaviour therapy).

In order to be able to transfer newly learned courses of action, tasks or application situations to another situation, the new situation must have similar characteristics to the learning situation. Skills are required to recognise a new situation as suitable in order to be able to make a transfer. These skills are of a cognitive nature and concern the ability to discriminate, the ability to generalise and to weigh up with foresight the extent to which the means to be used will serve the desired purpose. (In technical terms: the ability to differentiate and generalise, as well as to weigh up ends and means with foresight).

Theories of learning transfer in the psychology of learning

The US psychologist Edward Lee Thorndike developed the theory of 'identical elements' around 1930. According to this theory, transfer from one task to another only takes place if there are common, exactly identical perceptual and behavioural elements in both tasks. Thorndike's theory was criticised and further developed by the psychologist Charles E. Osgood (1949). He tried to represent the transfer effect on the basis of the similarity of the elements in the initial and the new learning situation (as a function of stimulus and response similarity). The 'Osgoodian transfer level' was named after him.

The American sociologist Ch. H. Judd (1908) developed a theory on the transfer value of general solution principles. Its application in the classroom assumes a curriculum built on gradual, positive transfer from lower to higher levels of learning.

With regard to the result of the transfer, a distinction is made:

Positive transfer: Already learned skills facilitate the learning of new, similar skills through a high degree of correspondence between the previous and the new learning situation. For example, if you can play the recorder, it is easier to learn the flute (In sports pedagogy, relearning is considered to be much more time-consuming than relearning, which is why this example may be questioned.).

Negative transfer: Here, so-called ‘proactive inhibition’ makes the new learning more difficult or interferes with it, or ‘retroactive inhibition’ impairs an earlier learned content by the later learned one. [sic!] Inhibition of the existing to the new learning takes place when, for example, a car driver has to cope with left-hand traffic instead of right-hand traffic in another country.

Zero transfer: shows no effect on subsequent learning. The person is at a loss when faced with a similar task or situation, as if it were something completely new.

A distinction is made with regard to the complexity of what is learned:

Lateral transfer refers to the application of what has previously been learned to learning material of the same complexity.

Vertical transfer refers to the application of what has been previously learned to a subject of higher complexity.

What the Lexicon of Eurhythmics¹ says

Transfer means the transfer of what has been learned to new, changed situations, so that the new learning process is influenced by what has been learned earlier on the basis of other material. Prerequisites for transfer are

1. that what was learned first has been generalised (the same behaviour is shown in many similar situations)
2. that at least one element of the old and the new situation is the same.

In the field of movement, for example, a successful transfer means when skills that have been practised or automated in other contexts can be extracted and combined into new movement actions or inserted into new ones. A violinist may learn to play the cello more quickly than a pianist because of the many similar structural elements of the two actions and the high transfer offers associated with them; but a pianist learns it more easily than the musical beginner who has hardly any skills and knowledge available for transfer to the new action.

¹ Ring, Reinhard & Steinmann, Brigitte (1997): Lexikon der Rhythmik, Kassel: Gustav Bosse, p. 309

Eurhythmics practitioners usually assume that transfer effects do not only happen within their teaching, but that transfer regarding perception and learning and social behaviour in particular takes place in situations outside the classroom. Observations such as an improvement in the learning disposition or the overall behaviour of eurhythmic learners is not necessarily a sign of successful transfer, but a change in behaviour, the cause of which may be seen as eurhythmics.

On the other hand, a statement such as Feudel's, for example, that experience in space changes one's taste for domestic interior design (Feudel, 1965: 78), clearly implies a transfer of perceptual and action content. Even though it is extremely difficult to scientifically prove such transfers, it can be safely assumed that it is possible to transfer what has been learned in eurhythmics. This is because in eurhythmics, not only skills and processes are practised, but also tasks are created again and again, appear in new contexts and are constantly varied, so that if there are enough similarly structured tasks, at least a generalisation of a certain behaviour will most likely occur. If, through generalisation, a newly acquired behaviour, e.g. waiting, listening, relaxing or being able to lead a group, is included in the learners' repertoire, then their behavioural structure changes and it can be assumed that this behaviour can also be used flexibly outside the lesson - far away from the protected space - as long as the conditions for transfer are fulfilled in the structure of the new situation (the more similar the more favourable).

Considering the prerequisites for transfer, the methodical procedure of eurhythmics can support behavioural change in a very targeted way. Obviously, abilities from the areas of communication/interaction, perception, problem solving, and physical education can be promoted.

Aesthetic transformation

In eurhythmics, transfer performances also represent a typical teaching principle as a transformation process (Latin *transformare*, trans - over, beyond and forma - shape): The recognition of structural elements or shapes that were first perceived through one sensory channel and subsequently (or almost simultaneously) the recreation of the characteristic features on another sensory level ('Show what you hear, play what you see').

Aesthetic figures are characterised by their appearance as an entity. They are perceived as a whole. But the whole consists of many individual parts which, depending on the perceiver, are recognised as more or less significant. The complexity reveals itself immediately when one differentiates the parameters involved, e.g. of a musical motif: timbre, melodic line,

volume, rhythm. Depending on which element is perceived primarily, a transfer into movement can also lead to very different results. The mood or character of music is also sometimes transformed into narrative or expressive movement scenes that fit the content but do not directly represent the musical information; ‘realisations’ (cf. Jaques-Dalcroze) are based precisely on the realities of the individual persons.

If one wants to initiate more complex transformation processes beyond a stimulus-response scheme, it makes sense to examine the given material for its structural features. What is the attention to be drawn to? Is a transformation to take place simultaneously or later? What is to be achieved with the transformation?

Gudrun Schaefer suggests observing the following methodological principles (p. 72, excerpt):

- Conciseness and unambiguity of the specifications facilitate the process of recognition
- The larger the subject-specific repertoire of skills in the media used (visual, movement, voice/language, music), the easier the transfer.
- The less agreements are made about the figures/elements to be transferred, the more room for interpretation, imagination and associations can develop. Conversely, improvised sequences in music and movement are more consistent if prior agreements have been made about common actions, the formal structure or a theme.

Properties of aesthetic transformation processes²

Here, processes are meant in which the basis for creative action is the translation between two media of expression. However, transformation can also take place (monomodally) within a medium.

According to Brandstätter, art can be seen from an energetic perspective ‘as a consciously designed aesthetic transformation of cognitive and emotional energies’ (Brandstätter 2013: 89). Following this thought, the transformation of inner (cognitive and emotional) movements is generally the basis of artistic designing or producing. Central here are the aspects ‘aesthetic’ - referring to perceptual processes and expressive media - and ‘conscious’ - referring to an intentionality, a will to express and certain selected criteria.

² Text extract from: Pilgrim, Hanne: *Transfer.Perform.Transform in: Steffen-Wittek/Weise/Zaiser: Rhythmik - Musik und Bewegung*, Bielefeld: transcript, 2019. p. 378f.

Transformation is a term that is used in many different ways and in many different contexts. Originating from Latin, it initially means "reshaping". Brandstätter states that the word *trans* refers to a constellation in which there is a movement from one point to another. This movement leads across, but also beyond to another place (Brandstätter 2013: 87ff.). Weise also compares the process to 'crossing over' from one riverbank to another, which is to be practised with care and actively shaped. Knowledge of vocabulary, semantics and syntax of both languages in the sense of expressive media is essential in this process. (Weise 2013: 9). Fixed transmission mechanisms in space, time, force and form are not advisable, since in music as in movement, several parameters and the context always interact. Simple classifications, such as loud = much use of force, would not always do justice to the respective characteristics: 'If the *fortissimo* acts as a discharge of tension, it can possibly be answered more conclusively in movement with a fall of the body as a result of a sudden relaxation than with an increase in force. What is much more important is allowing different solutions in connection with judging coherence.' (Ibid.)

The attempt to reproduce the aesthetic statement of a source medium (for example, image) in analogue form through a second, different medium (for example, music) is interesting as a research subject insofar as the media of expression follow different regularities. Concretely speaking: How can an image as a phenomenon anchored in space be translated into music as a phenomenon existing in temporal structures? Ultimately, music will follow its own music-specific regularities in the creation of a composition. However, the adoption of features from the medium of the image (e.g. spatiality, colourfulness, proximity and distance of pictorial elements from one another) will at the same time open up new potentials for music, be it through experimenting with new time sequences, nuancing timbres, harmonic progression or formal arrangement of parts. Through the process of crossing the boundaries between the media, new spaces of meaning and association emerge as creative potentials.

These spaces of association and meaning allow access to unconscious areas as a source of creative transformation and thus form an essential aspect of creative action in intermedial transformation processes. The original striving in eurhythmics for a translation of music into movement that is as consistent as possible thus opens up into a field that

- understands aesthetic perception as a call to action;
- produces individual modes of perception and expression;

- understands the tension between similarity and difference as enrichment;
- initiates artistic development processes.

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