



TRANSFER OF LEARNING

More understanding, better learning

Transfer

An act of moving something or someone to another place

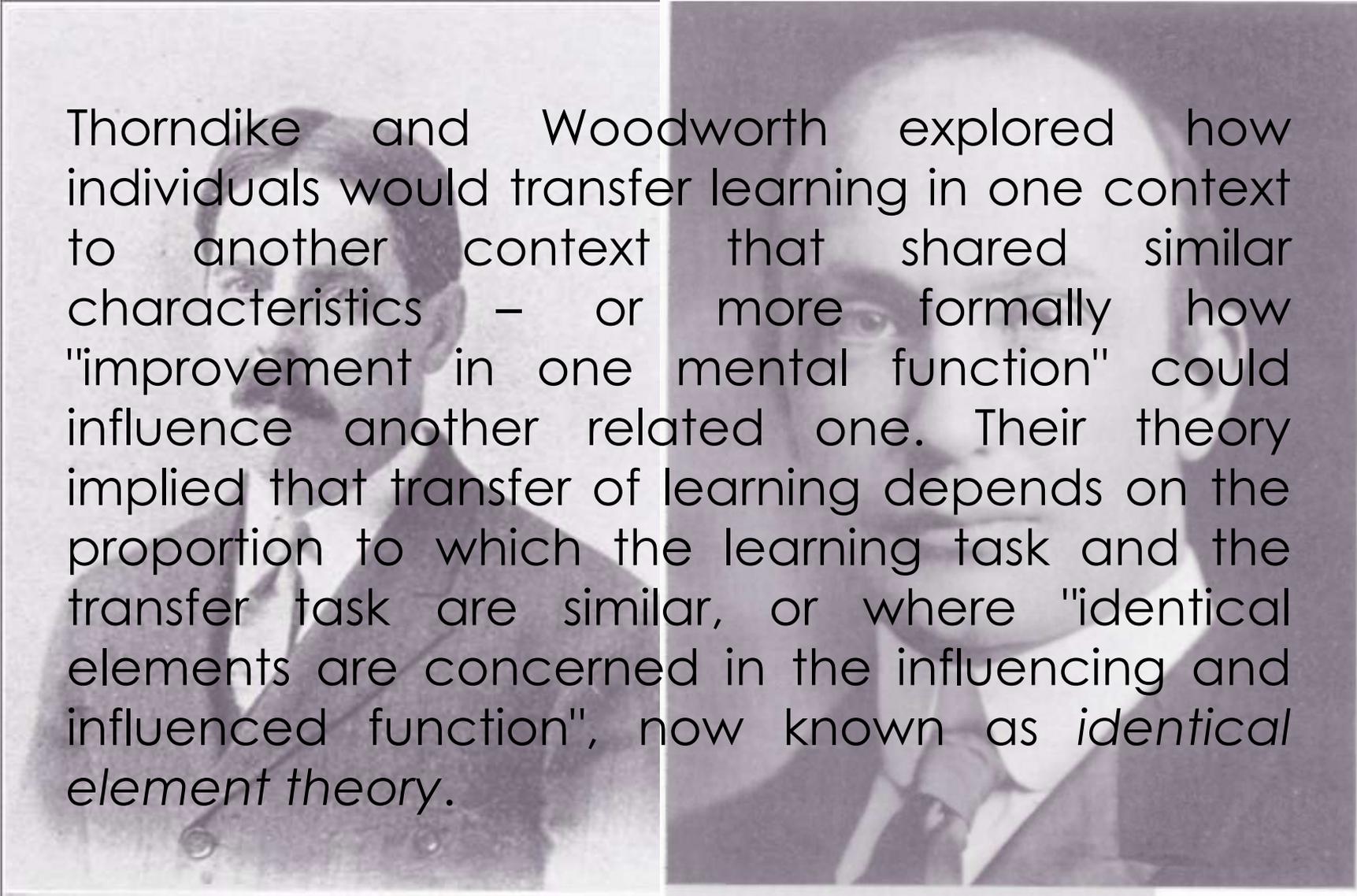
Learning

An act of gaining knowledge or skill by experience, study, being taught, or creative thought

TRANSFER OF LEARNING



The notion was originally introduced as *transfer of practice* by Edward Thorndike and Robert S. Woodworth.



Thorndike and Woodworth explored how individuals would transfer learning in one context to another context that shared similar characteristics – or more formally how "improvement in one mental function" could influence another related one. Their theory implied that transfer of learning depends on the proportion to which the learning task and the transfer task are similar, or where "identical elements are concerned in the influencing and influenced function", now known as *identical element theory*.

Transfer of learning is the study of the dependency of human conduct, learning, or performance on prior experience. [wikipedia.org]

Transfer of learning occurs when learning in one context or with one set of materials impacts on performance in another context or with other related materials. [Perkins and Salomon, 2012]

TRANSFER OF LEARNING

- http://en.wikipedia.org/wiki/Transfer_of_learning
- Perkins, D. and Salomon, G. (2012). *Transfer of Learning*. England: Pergamon Press



IMPORTANCE:

TRANSFER OF LEARNING

“There is no more important topic in the whole psychology of learning than transfer of learning ... Practically all educational and training programs are built upon the fundamental premise that human beings have the ability to transfer what they have learned from one situation to another ... The basic psychological problem in the transfer of learning pervades the whole psychology of human training ... There is no point to education apart from transfer.” (Desse, 1958, p.213)

Transfer of Learning: Importance

- If there were no transfer, students would need to be taught every act that they would ever perform in any situation. Because the learning situation often differs from the context of application, the goal of training is not accomplished unless transfer occurs. All new learning involves transfer based on previous learning (Bransford, 41).
- If we did not transfer some of our prior knowledge, then each new learning situation would start from scratch. Assumption of education: what is taught in a course will be used in relevant situations in other courses, in the workplace and out of school.

Transfer of Learning: Importance

- ✓ It is the very essence of understanding, interacting and creating. Furthermore, it is the ultimate aim of teaching and learning.

Transfer of Learning: Importance

SOURCE: Doyle, S., Leberman, S., and McDonald, L. (x). *The Transfer of Learning: Participants' Perspectives of Adult Education and Training*



What gets transferred?

TRANSFER OF LEARNING

Explanations of transfer usually fall somewhere between two general points of view:

- **General Transfer** occurs when students learn general principles or attitudes that they apply elsewhere.
- **Specific Transfer** occurs when students learn specific facts and techniques and then use these in new situations that contain the same elements or features of the original learning situation.

WHAT GETS TRANSFERRED?

Seifert, K. (1991). Educational Psychology. Boston, USA: Houghton Mifflin Company



Different Levels & Types

TRANSFER OF LEARNING

Positive Transfer

Transfer is said to be positive when learning in one context improves learning or performance in another context.

Negative Transfer

Negative transfer occurs when previous learning or experience inhibits or interferes with learning or performance in a new context.

LEVELS AND TYPES OF TRANSFER

SOURCE: Doyle, S., Leberman, S., and McDonald, L. (x). *The Transfer of Learning: Participants' Perspectives of Adult Education and Training*

Simple versus Complex Transfer

Simple transfer happens when little or no effort is required to apply what has been learned in one situation to a new situation. In class, students are taught how to use a spread sheet to create a budget. Later they need to create a budget for a club trip, and set up a spread sheet for this. This is an example of simple transfer. However, if the same students were engaged in gathering data for a research project and thought about the ways in which the spread sheeting program could assist with the data management and analysis, this would be an example of more complex transfer.

LEVELS AND TYPES OF TRANSFER

SOURCE: Doyle, S., Leberman, S., and McDonald, L. (x). *The Transfer of Learning: Participants' Perspectives of Adult Education and Training*

Near and Far Transfer

Another distinction used is between near and far transfer. Usually these terms distinguish the closeness or distance between the original learning and the transfer task. **Near transfer** has also been seen as the transfer of learning within the school context, or between a school task and a very similar task. **Far transfer** is used to refer to the transfer of learning from the school context to a non-school context.

LEVELS AND TYPES OF TRANSFER

SOURCE: Doyle, S., Leberman, S., and McDonald, L. (x). *The Transfer of Learning: Participants' Perspectives of Adult Education and Training*

High Road and Low Road Transfer

Low road transfer happens when stimulus conditions in the transfer context are sufficiently similar to those in a prior context of learning to trigger well-developed semi-automatic responses. High road transfer, in contrast, depends on mindful abstraction from the context of learning or application and a deliberate search for connections.

LEVELS AND TYPES OF TRANSFER

SOURCE: Doyle, S., Leberman, S., and McDonald, L. (x). *The Transfer of Learning: Participants' Perspectives of Adult Education and Training*



Conditions of Transfer

TRANSFER OF LEARNING

Positive findings of transfer, near and far, suggest that whether transfer occurs is too bald a question. It can, but often does not. One needs to ask under what conditions transfer appears.

Thorough and diverse practice

Transfer may depend on extensive practice of the performance in question in a variety of context. This yields a flexible relatively automatized bundle of skills easily evoked in new situations.

Explicit abstraction

Transfer sometimes depends on whether learners have abstracted critical attributes of a situation.

CONDITIONS OF TRANSFER

Active self-monitoring

Metacognitive reflection on one's thinking processes appears to promote transfer of skills.

Arousing mindfulness

Mindfulness refers to a generalized state of alertness to the activities one is engaged in and to one's surroundings, in contrast with a passive reactive mode in which cognitions, behaviours, and other responses unfold automatically and mindlessly (Langer 1989).

CONDITIONS OF TRANSFER

SOURCE: Doyle, S., Leberman, S., and McDonald, L. (x). *The Transfer of Learning: Participants' Perspectives of Adult Education and Training*

Using a metaphor or analogy

Transfer is facilitated when new material is studied in light of previously learned material that serves as an analogy or metaphor. Things known about the ``old" domain of knowledge can now be transferred to a ``new" domain thereby making it better understood and learned.

CONDITIONS OF TRANSFER

SOURCE: Doyle, S., Leberman, S., and McDonald, L. (x). *The Transfer of Learning: Participants' Perspectives of Adult Education and Training*



Factors Affecting Transfer

TRANSFER OF LEARNING

Initial acquisition of knowledge is necessary for transfer.

- Rote learning (memorizing isolated facts) does not tend to facilitate transfer, learning with understanding does
- Transfer is affected by degree to which students learn with understanding

FACTORS AFFECTING TRANSFER

Context plays a fundamental role.

- Knowledge learned that is too tightly bound to context in which it was learned will significantly reduce transfer

Knowledge that is overly contextualized can reduce transfer; abstract representations can promote transfer (Bransford, 41).

FACTORS AFFECTING TRANSFER

Attempts to cover too much too quickly may hinder transfer.

Motivation affects the amount of time people are willing to devote to learning.

- People are more motivated when they can see the usefulness of what they are learning

FACTORS AFFECTING TRANSFER



Strategies:

TRANSFER OF LEARNING

- Teach subject matter in meaningful contexts
- Employ informed instruction
 - Students should learn not only how to explain a concept, but also to understand when and why the concept is useful
- Teach subject matter in circumstances as similar as possible to those in which it will be employed

STRATEGIES FOR PROMOTING TRANSFER

- Provide chances to practice using the subject matter in situations that embody the full range of practical applications that the learner is likely to come across
- Present opportunities for allocating practice after the information has been originally learned
 - Practice should be spread out over a period of time (not combined into a single study session)
- Encourage positive attitudes toward subject matter
 - Students will be less likely to avoid topics when they are encountered somewhere else

STRATEGIES FOR PROMOTING TRANSFER



SUMMARY:

TRANSFER OF LEARNING

- Transfer is improved when the learner abstracts the profound principles underlying the information being learned, and that abstraction is assisted by chances to experience concepts and principles in numerous contexts (Mestre, 6).
- In school, students study a topic until reaching some level of mastery and then move on to the next topic. However, research suggests that transfer is improved by visiting the topics often rather than once intensely (Mestre, 7).

SUMMARY

- Clarity and coherence are most efficient as helping learners attain core knowledge, but after accomplishing some level of knowledge it may serve the learner better to rely less on instruction and more on his/her own mental efforts to make sense and refine the knowledge into a form useful for future use (Mestre, 8).
- Students must generalize, have a desire to solve new problems, move toward new situations, and ultimately take risks.

SUMMARY
