Importance of transfer of learning pdf

Imagine that every time people enter a new environment they have to learn how to behave without leading previous experiences. Few new tasks, such as online shopping, would be disorienting and depending on trial and error tactics. Fortunately, people use aspects of their previous experiences, such as choosing goods and paying afterwards, to guide their behavior in new settings. The ability to use learning acquired in one situation to help another is called transmission. Transmission has a direct impact on education. Teachers hope students will transfer what they learn from one class to another and to the outside world. Teachers also hope students will pass on experiences from home to help in terms of classes at school. There are two main approaches to the study of transmission. One approach is characterized by knowledge and acquisition conditions that optimize transfer chances. Another approach explores the nature of individuals and the cultural contexts that turn them into more adaptable participants. Knowledge-based transfer approaches There are several knowledge-based transfer approaches. Transfer from the instructions. Ideally, the knowledge students learn in school will apply outside of school. For some topics, it is possible to train students for specific situations they will encounter later, such as typing for a keyboard. For other topics, teachers cannot anticipate all applications outside of school. When school lessons don't have direct context mapping outside of school, memory without understanding can lead to inert knowledge. Inert knowledge occurs when people acquire an idea without learning the conditions of its subsequent application, and therefore fail to apply this idea appropriately. Remembering the Gathygorase formula, for example, does not guarantee students that they know how to use the formula to find the distance of shortcuts. Knowing when to use an idea depends on knowing the contexts in which the idea is useful. The ideas that people learn are always parts of a larger context, and people need to determine which aspects of that context are relevant. Imagine, for example, a small child learning to use a hook of sweets to bring a toy closer. As the child learns the action, there are a number of contextual features that they could also learn. There are random features – it's Christmas; there are surface features – sweets are small and striped; and there are deep features – sugar can be rigid and hooked. The transfer instruction must help the child to discern deep features. In this way, the child can subsequently use the umbrella handle to gather the stuffed animal instead of trying a rope with candy stripes. When people learn, they not only encod the target idea, but also encod the context in which it happens, even if that context is random. For Since 2010, Gooden and Baddeley have asked adults to learn a list of words on land or underwater (while diving). After that, the adults are divided; Half tried to remember the words underwater and half on land. Those people who learned the words underwater remembered them better underwater than on land, and those people who learned the words on land remembered them better on land than underwater. This result reveals the context of memory dependency. Context dependency is useful because it limits ideas to appear in appropriate contexts, rather than rubbing people's thoughts in strange times. But context dependency can be a problem for transmission, because transmission, by definition, must occur when the original learning context does not return — when someone is no longer in school, for example. Surface features, which are easily visible to students, differ from random features, because surface features are related to the idea, not the context in which the idea appears. Surface features can be useful. A child can learn that fish have fins and lay eggs. When he sees a new creature with fins, he can decide it's a fish and conclude that she too lays eggs. Surface features, however, can be imperfect signs. People can overgenerate and show negative gearing. For example, a child may have seen a dolphin instead of a fish. Humans can also subgenerate and not transmit. The child can see the eel and assume that it does not lay eggs. Good instruction helps students see below the surface to find deep features of the idea. Deep features are based on structures that are an integral part of the idea that may not be easily visible. To a physicist, sloping flats and scissors share the same deep lever structure, but beginners can't see this similarity and fail to use a formula learned for tilted planes to reason with scissors. Analogies are built on deep features. For example, the color is to paint as sound is a song. On the surface, color and sound differ, as well as images and song. Nevertheless, the relationship used to create allows you to compare the common structure between them. Analogy is an important way for people to discover deep features. In the 1990s, Kevin Dunbar studied laboratory meetings of cell biologists. He found that scientists often used analogies to understand the new discovery. They usually transmitted almost analogies, not distant. By far analogy conveys an idea from a distant body of knowledge that shares few surface features, as might be the case when using the structure of the solar system to explain the structure of atoms. A close analogy relies on a structure that comes from a similar body of knowledge. The scientists in Dunbar's study used almost analogies in biology because they had precise knowledge of biology, leading to more productive transmission. Instructions can help Determine deep features by using analogue examples, not individual examples. In a 1983 study, Mary Gick and Keith Holyoak asked students how to kill a tumor with bursts of radiation, given that a powerful bang kills nearby tissue, and a faint burst does not kill the tumor. Students learned that the solution uses more weak radiation beams that converate to tumors. Some time later, the students tried to solve the problem of how a general could attack a fortress: If a general brought in enough soldiers to attack the fort, they would tear down the main bridge. The students did not suggest that the general could divide his forces across multiple bridges and then meet at the fort. Students' knowledge of the convergence solution was inert, as it was only related to the radiation problem. Gick and Holyoak found that they could improve transmission by providing two analogue examples instead of one. For example, students worked with a radiation problem and an analogous traffic congestion problem. This helped the students abstract the convergence scheme from the context of radiation and they were able to transfer their knowledge to the fortress problem. Transferring to instruction. At school, transferring can help students learn. If students can be transferred in previous knowledge, it will help them understand the content of the new lesson. The lesson on Pythagoras' theorem becomes more understandable if students can be transferred in previous knowledge of real triangles. Otherwise, the lesson simply involves pushing algebraic symbols. Unlike transferring to extracurricular settings, which depends on spontaneously retrieving relevant prior knowledge, teachers can directly support transferring to settings at school. A common approach that helps students recruit prior knowledge uses cover stories that help students see the importance of what they will learn. The teacher could discuss the challenge of finding the moon's distance from Earth to motivate a lesson in trigonometry. This example includes two ways in which transfer in previous knowledge can support learning. Previous knowledge helps students understand the problems that a particular body of knowledge intends to solve – in this case, distance problems. Prior knowledge also allows students to construct a mental model of the situation that helps them understand what the components of trigonometric formulas relate to. Sometimes students can't transfer knowledge to school settings because they don't have the relevant knowledge. One way to help overcome the lack of prior knowledge is to use contrasting cases. While pairs of analogies help students abstract deep features from surface features, pairs of contrasting cases help students notice deep features. Contrasting cases counteract examples that differ only by one or two features. For example, a teacher may ask students compare examples of acute, right and blunt triangles. Given the contrasts, students may notice what makes a real triangle recognizable, which in turn helps them build precise mental models to understand the lesson about Theorem of Jahagorej. Person-based upload approaches Another approach to transmission raises the question of whether variables at the person level affect transmission. For example, do IQ tests or persistence predict the possibility of transmission? Research based on a person relevant to instruction asks if some experiences can transform people in general ways. Transfer from the instructions. The permanent question was whether instruction could turn people into better thinkers. People often believe that mastering formal discipline, such as Latin or programming, improves the rigor of thought. Studies have shown that it is very difficult to improve people's reasoning, with instructions in logical reasoning that are notoriously difficult. While people can learn to reason with one situation appropriately, they don't necessarily apply that thinking to new situations. However, longer-lasting experiences can largely transform individuals to the extent that they apply a particular method of reasoning in general, regardless of situational context. For example, the cultural experiences of American and Chinese adults lead them to a different approach to contradictions. There have also been attempts to improve learning abilities by improving people's ability to transfer. Ann Brown and Mary Jo Kane showed little children how to use a sample solution to help solve an analogue problem. After several lessons on transferring knowledge from samples to problems, children spontaneously began to transfer knowledge from one example to another. Whether this type of teaching has broad effects – for example, when a child leaves a psychologist's laboratory – remains an open question. Most likely is the accumulation of many experiences, rather than isolated, short-term lessons, which has broad implications for personal development. Transferring to instruction. When children enter school, they come with identities and dispositions that are informed about the practices and roles available in their homes and neighborhoods. Schools also have practices and roles, but they may seem foreign and unsusible to extracurricular identities. Na'ilah Nasir, for example, found that students did not pass on their basketball street statistics to make sense of the statistics lessons in their classrooms (nor did they use school procedures to solve statistical problems in basketball). From access to transfer knowledge, it could be argued that school and basketball statistics were analogous and that children did not see common deep features. From a person's approach to transmission, the cultural contexts of the two settings were so different that they supported different the role and interpretation of social requirements. People can look at and express themselves quite differently in a school and non-school context, and therefore there will be little transfer. One way to bridge home and school is to change teaching contexts so that children can build identities and practices that are consistent with their extracurricular persona. Educators, for example, can bring elements of surrounding cultures into the classroom. In one intervention, African-American students learned literary analysis by building on their linguistic practice of insignia. These children brought their cultural heritage to school subjects, and this nurtured a school identity in which students considered themselves competent and engaged in school. Conclusion A common disconnect between context in school and outside school has led some researchers to argue that transmission is irrelevant. Jean Lave in 1988. Adults rarely used their school algorithms when shopping. Being competent customers and considered to be such, it could be concluded that learning in schools does not have to be transferred. This conclusion, however, is based on a narrow view of transmission that is limited to identical uses of what someone has learned or identical expressions of identity. From an educational perspective, the primary function of transmission should be to prepare people to learn something new. So while customers didn't use the exact algorithms they learned at school, the school instruction prepared them to learn how to solve problems with their best buy when they didn't have paper and a pen on hand. This is the central importance of transfer for education. Teachers cannot create experts who spontaneously transfer their knowledge or identities to deal with any problem or context that might arise. Instead, teachers can only put students on a trajectory toward expertise by preparing them for transfer for future learning. BOALER, JO AND GREENO, JAMES G. 2000. Identity, agency and knowledge in mathematical worlds. In multiple perspectives on teaching and learning mathematics, ed. Jo Boaler. Western Port, CT: Ablex. BRANSFORD, JOHN D.; FRANKS, JEFFREY J.; VYE, NANCY J.; and SHERWOOD, ROBERT D. in 1989. New approaches to instruction: Because wisdom cannot be said. Similarity and analogue reasoning, ed. Stella Vosniadou and Andrew Ortony. Cambridge, Eng.: Cambridge University Press. BRANSFORD, JOHN D., AND SCHWARTZ, DANIEL L. IN 1999. Transfer review: a simple proposal with multiple implications. In a review of research in education, ed. Asghar Iran-Nejad and P. David Pearson. Washington, D.C.: American Educational Research Association. 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