

Students' prior
knowledge about a
topic often influences
their ability to learn
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The process of meaningful learning involves recognizing a relationship between new information and something else already stored in long-term memory. When we use words like comprehension or understanding, we are talking about meaningful learning. Some students approach school assignments with meaningful learning in mind. They try to make sense of new information in terms of what they already know. These students are likely to be the high achievers in the classroom. Other students instead use such rote learning strategies as repeating something over and over to themselves without really thinking about what they are saying.

As you might guess, these students have more difficulty in school. By organizing information, we make connections among various pieces of information rather than learn each piece in isolation; in the process, we often make connections with existing knowledge in the long term memory as well. Learners are more likely to organize information if the material fits an organizational structure with which they are already familiar—for example, if the material can be placed into discrete categories or into a hierarchical arrangement. They are also more likely to learn new material in an organized fashion if that material has been presented to them with its organizational structure laid out for them. People sometimes use their prior knowledge to expand on a new idea, thereby actually storing more information than was actually presented to them. This process of adding to newly acquired information in some way is called elaboration. In most cases, the more students elaborate on new material—the more they use what they already know to help them understand and interpret the material—the more effectively they will store it in long-term-memory.

Students who elaborate on the things they learn in school are usually better students than those who simply take information at face value. Numerous research studies indicate that visual imagery-forming “ mental pictures” of objects or ideas-can be an effective method of storing information. People differ in their ability to use visual imagery: Some form visual images quickly and easily, while others form them only slowly and with difficulty. For those in the former category, imagery can be a powerful means of storing information in long-term memory.

By picturing something the student already knows and relating the new piece of information to that picture, the student can use this connection in order to transfer the new piece of information into long-term-memory.