

The learning and teaching process



How do children and teenagers learn? What shapes learning? What consequences does this have for the learning process? This article aims to provide information on these and other questions.

1 How do children and teenagers learn?

We assume that children are personalities created in the image of God. This starting point influences our conception of the learning process. Because the child is a personality, we view learning as an **active process** emanating from the child. The experimental work of Jerome Bruner and his associates at Harvard University provides suitable evidence for this belief.[1] The child arrives at **thinking, willing, and feeling knowledge and skill** by means of **thinking, willing, and feeling**. It can transfer the resulting abilities thinking, develop them further and apply them differently.

Focuses of Learning

Learning is first about acquiring **knowledge, knowledge of how to do things enablings), and behavioral changes** in all areas of God-imagery. All of this is underpinned by biblical values and norms.

Human learning is so complex that many different aspects must be considered in describing it.

- Learning begins with **perception**. Perception is the reception and interpretation of sensory stimuli. The reception of stimuli proceeds through the sense organs. Interpretation occurs through memory. Since each person has only a limited perceptual capacity, perception is selective and partial. In order to be able to perceive new things, what is already known (redundancy) must be about 80%, otherwise the learner is overwhelmed. In order to be able to process what is perceived correctly, it needs **attention or concentration**. Concentration is the conscious willingness to interpret what is perceived. Since concentration is tiring, tension and relaxation should alternate in the lesson.[2]
- By interpreting and processing what is perceived, one arrives at knowledge, empowerment, and behavioral change. In this process, **memory** plays a critically important role. It is therefore important to help the child to be able to use his memory better. The common memory model distinguishes three systems: 1. the sensory information memory, 2. the short-term or working memory and 3. the long-term memory.[3]

- Memory performance can be substantially increased if **multiple input channels to the brain** - the visual, auditory, tactile - are used when teaching.[4] In addition, memory performance can be substantially increased by teaching **clear concepts**. Clear concepts enable clear thinking.[5]
- Farther, the child can memorize and retain **what is taught in a clear orderly manner better than what is presented in a disorderly manner**. [6]
- If the teacher presents too much material in class, memory performance is very low because of saturation inhibition. Also, when children feel over- or under-challenged, memory performance is low.[7]

It is now known that the more that is already in the memory, the more it can absorb. The more a person has learned, the more they can learn.[8]
- Newer theories conceive of learning as **information processing by analogy with a computer**. This theory is primarily concerned with observing, encoding, storing, retrieving, generalizing, and solving specific problems.[9] However, this analogy fails to satisfy. Children not only have to grasp the information in an appropriate way, like the computer, but they have to be guided to process it correctly, mentally and spiritually, according to certain norms and values. They must learn to select critically so that they are not crushed by today's flood of information. In addition, they should learn to distinguish the important from the unimportant. Exactly this is no longer possible for the adolescents growing up in our society, since last judgment criteria, after one has said goodbye to the standards of the Bible, are missing.[10]
- Further, learning is enhanced by **problem solving** because problem solving involves the transfer of memory stocks - knowledge and procedures. The given knowledge may not be sufficient to get from a certain initial state to the desired goal state. Thought must now solve this problem.
- In order that what has been learned in various ways is also **retained**, it must be repeated, deepened, practiced and applied.[11] Then what has been learned is well retained if it is still **repeated, deepened and practiced** within the lesson. Repetitions in a subsequent lesson already largely fall flat, because what has been performed has already been forgotten. This circumstance makes the forgetting curve of H. Ebbinghaus clear.[12] In view of the retention of what has been learned **the memorization of certain key points can be a great help**. Unjustly one meets memorization in our time with disdain.[13]
- In learning certain enablers, elements of other enablers are learned along with them. What is learned can consequently be **transferred** to other areas. Especially identical elements and general principles, rules are suitable for this. They help to grasp other areas faster.
- The acquired knowledge should become a deed, an action in the life of the child. In the case of difficult instructions, a lot of practice is needed when putting them into action. How important **the deed, the action** is, Hans Aebli, coming from the reflections of Jean Piaget, has unfolded.[14] He shows that it is always a matter of establishing new relationships between things and problems.

All the learning ideas just presented understand learning as an active process of the child.

Thinking, willing and feeling shape the learning process

It still seems important to me to point out that in the learning process in a child's life not only **thinking** plays a central role, but also his **will and feeling**. The sidelining of feelings in contemporary theories of learning fails to recognize their importance in the thinking and learning process.[15]

- They play a central role in the learning process
 - Because will and feeling play a crucial role in the learning process, **motivation** is of great importance.[16] Above all, recognition, praise and encouragement, but also helpful rebuke when the child has not tried hard enough, can have a motivating effect on the willingness to learn. Experiences of success and sometimes even failure are also able to increase motivation,[17] as children can draw the beneficial conclusion from failure that they could improve their performance by trying harder.[18]
 - At the same time, **the meaning** and **the significance** of what the child is learning must be made clear to the child.[19] That which is important to the child, that which has personal significance for the child, can be more easily absorbed and retained.[20]
 - The need to increase self-worth also promotes a willingness to learn. Being able to do something **leads to a sense of accomplishment** and increases the importance of oneself.
 - Furthermore, teens are willing to learn even if it does not give them great pleasure but helps them achieve a desired goal in life.[21]
 - Because the emotional domain plays a significant role in the learning process, the **atmosphere** in which learning takes place (furnishings of the room, spirit in the group) is important.

These things just elaborated promote in the life of the child the readiness to learn. It is ready with perseverance and concentration to do certain tasks. Without major overcoming, it adopts a positive attitude to work.[22]

Group influences on readiness to learn

A group can have a promoting or inhibiting effect on a child's readiness to learn. Every child has a need to be accepted and acknowledged by the other children in the group. Therefore, there is a certain peer pressure. Thus, in a performance-oriented group, every child is motivated to perform well because he knows that the group expects this of him. However, it becomes problematic when the group is anti-performance.

A child **who is popular with the other children** thinks positively of himself and has more confidence in himself. It makes quite high demands on itself, which it also fulfils.[23] However, it is particularly unfavourable for a child if it has become an outsider in the group. Usually, any willingness to learn falls away in such a child. The teacher has to help such a child to reintegrate into the group.

The teacher, focused on the Biblical values of loving one's neighbor, being helpful, forgiving, etc., strives to see that the group unfolds into a motivated learning community. Prayer for one another can be helpful in achieving this goal. Fears associated with everyday school life (social fears, fears of exams and performance) can be overcome in this way.

>

In the learning process, it is important to consider the children/teens in their wholeness

Finally, we have to take into account that the child is involved in the lesson in his **whole humanity** (physical condition, family situation, media consumption). Certain everyday experiences, e.g. a serious illness of the mother or quarrels with the parents, can block the child's ability to learn.[24] Unprocessed impressions from television shows or from the Internet can also greatly impede learning.

This holistic view of the child shows us that our most important task is to help the child to deal in a right way with his God-given **dispositions** and the **environmental influences**, to which he is exposed. This right handling is especially possible when it accepts Jesus in faith as its personal Saviour.

>

2 What are the consequences for learning?

After we have taken a closer look at the learning process, it is important to draw the consequences for the teaching process, because teaching is to be understood as a learning aid, since learning is understood as an active process.

Relationship and instruction shape the teaching process

Because the child is fundamentally involved in the learning process in his whole **humanity** and in his **developmental state**, teaching or instructing must first of all **be** a life aid. The child must be helped to deal properly with his predispositions. He is to be given help in processing the environmental influences. Then teaching becomes a help in life when it is understood as **education**. All education consists of, among other things, the two components of relationship and instruction, with **relationship being prior to instruction**. The relationship with the teacher is of critical importance, both for the individual child and for the group as a whole.[25]

- The **relationship** is about the teacher making the child feel that she loves him, takes him seriously and wants to help him as much as possible. In order for the child to feel this, the teacher must behave in a friendly manner towards the child and seek dialogue with him or her. A good, sustainable relationship with the child is often expressed in a relaxed, joyful and sometimes even humorous way. She is also careful not to embarrass or humiliate the child in front of the group. This has a positive effect on the classroom atmosphere.[26] In particular, the teacher takes care of neglected children who have difficulty establishing a relationship of

trust.[27] A good relationship with the teacher inspires respect, goodwill and confidence[28] in the child towards her and a willingness to cooperate.

- When **teaching**, it is important to note that what is being taught should be consistent with the life of the teacher so that **the same thing is being taught at the instructional and relational levels**. Teaching and life have to form a unity in the life of the person teaching. This is especially possible in the life of a teacher who is a believer in Christ.

When the teacher conveys the same at the relational and instructional level, a positive emotional relationship with her develops in the child. She even becomes a person of identification for the child, whom he imitates voluntarily and spontaneously.[29] This sets the stage for her to lead the child to the Savior Jesus Christ, the source of love. If the child has already accepted Jesus in faith as Saviour, the teacher is in a position to support and promote the process of transformation into the image of God

When teaching, besides the thinking, the feeling and willing of the child must be taken into consideration

We have seen that in learning not only the **thinking**, but also **the feeling and will** are involved.

- Because this is so, the **atmosphere**, in which teaching is done, is of great importance. This atmosphere depends first of all on the design of the room. Beautiful pictures, student drawings, plants, flowers, etc. give the room a personal atmosphere. Further, the way the teacher and the children interact with each other and how the children relate to each other shape the atmosphere.
- The teacher must also strive to awaken **interest** in the child for what she is teaching. This is possible when she is enthusiastic about what she is teaching. As an enthusiast, she conveys the material not only on a cognitive, **but also on an emotional level**. In addition, she lets experiences and experiences with what she teaches flow into her lessons.[30] Aroused interest motivates the children to also acquire what they have learned. This is **intrinsic motivation**. The children enjoy what they are doing.
- The teacher also strives to show the **meaning and significance** of what she is teaching by repeatedly building a bridge into the children's everyday lives.[31] She further shows how what is learned can be applied in a very practical way in everyday life.
- By **encouragement and praise**, now and then also by **helping rebuke**, she awakens in the child again and again the willingness to learn.
- All learning also leads to **fatigue**. The teacher has to be aware that the child gets tired during the lesson. The learning forces and memory capacity are used up. Fatigue is usually progressive. She can take this into account in such a way as to lessen the learning demands towards the end of the lesson (repetition of what has been done, drawing, craft work, etc.).

Important Focal Points of Teaching

There are some important focal points to keep in mind with regard to teaching:

- A **vivid and descriptive language in teaching** and the unfolding of clear concepts enhance the learning process. The importance of clear and understandable language in the didactic process has been pointed out by Karl Binneberg in his essay "The Didactic Principle in Science." [32] In addition, well-used **body language** (gestures, facial expressions) and **eye contact** should support teaching.
- **Entertaining elements** can break up lessons and make them fun, but lessons must not be exhausted in entertainment. [33]
- The **illustration** of what is being taught through pictures, sketches, models, audio-visual media is very helpful. [34]
- The teacher pays attention to **logical or hierarchical structuring of the teaching material** because this has been shown to promote learning.
- To her, **the practical use of what is taught** is also very important. For her, knowledge and doing go together. [35]
- To consolidate what he has learned, **he repeats it orally or in writing**. Certain things he practices over and over again with the children. The goal of teaching is for the children to internalize what they have learned so that they can apply it to everyday life and have experiences with it.

Teaching is also leading

Teaching is always also leading. In order for the children to absorb what the teacher is teaching, she must perceive leadership. She has the task to organize the course of the gathering and to teach in an appealing way. In addition, she has to ensure discipline. [36] She does not allow children to disrupt the teaching part. It is precisely this concern for external order that takes up an increasing amount of the teacher's time and energy. [37] Gifted teachers can quickly judge what needs to be done in a situation where a child is disruptive. They do not put up with impertinence from children. Under no circumstances should they yell at a disruptive child in front of the others. Every teacher has to find the right measure of necessary guidance. She should not direct too tightly but also not too laxly. Hans Jürgen Apel writes:

"Being able to lead is to be regarded as a pedagogical art." [3]

During teaching, it is certainly proper to lead **authoritatively**. At the stage of consolidation or application, when the aim is to apply what has been learned in greater depth, the **socially integrative way** of leading is possible. [38]

The goal of leadership is to motivate children to actively think and learn.

In terms of leading the children, **the teacher sees herself as an authority**. She actually leads the students on behalf of God. It is God who commissions her to guide the growing children according to His purposes - given in His revelation. The teacher who believes in Jesus consciously submits herself to God's authority and has authority insofar as she shares in that divine authority. This God-given authority is manifested primarily in **person authority**. The teacher has a certain assertiveness, but this is not perceived as oppression or confinement. Rather, this enables a pleasant, motivating classroom climate. It takes the individual needs of the children seriously. Moreover, it seeks to encourage them according to their potential. This divine authority is supported by **the subject authority**. She has a great deal of knowledge in the area in which she

teaches the children.

>

Authority grounded in God does not seek to distance itself from the children, but is concerned to make them feel that they are loved. It also allows children the necessary space for other opinions.[39] **Clear leadership is ultimately an expression of love.** This clear leadership promotes children's cognitive, social, moral, and emotional development, and in this way develops their judgment. In addition, children are **encouraged**

to act independently

Source Notes

Caption: Alexandra H. / pixelio.de

Article: Courtesy of Prof. Dr. Armin Mauerhofer

- [1] Mussen, P., Einführung in die Entwicklungspsychologie, Weinheim; Munich 19919, pp. 44-45
- [2] Reinhardt, E., Fundamentals of Teaching and Learning, pp. 107-113
- [3] Oerter, R.; Schuster-Oeltzschner, M., Memory and Knowledge, in: Developmental Psychology, ed. by R. Oerter; L. Montada, Munich-Weinheim 1987, p. 540
- [4] Gudjons, H., Handlungsorientiert lehren und lernen, p. 50
- [5] Kratochwil, L., Being able to teach, p. 146
- [6] Oerter, R.; Schuster-Oeltzschner, M., Memory and Knowledge, pp. 548-551
- [7] Schenk-Danzinger, L., Development, Socialization, Education, vol. 2, pp. 318-319
- [8] Knoblauch, J., Lernstress ade! 33 Strategies for Mental Work, Neukirchen-Vluyn 19853, p. 60
- [9] Skowronek, H., Lernen und Lerntheorien, in: Pädagogik. Handbuch für Studium und Praxis, ed. by L. Roth, Munich 1991, pp. 188-191
- [10] Wimmer, M, Bildungsruinen in der Wissensgesellschaft - Anmerkung zum Diskurs über die Zukunft der Bildung, in: Die verkaufte Bildung. Criticism and Controversies on the Commercialization of Schools, Continuing Education, Education and Science, ed. by I. Lohmann; R. Rilling, Opladen 2002, p. 56
- [11] Reinhardt, E., Fundamentals of Teaching and Learning, p. 124
- [12] ibid, pp. 124-125
- [13] Pöggeler, F., Homework! Helfen oder nicht?, Freiburg; Basel; Wien 1978, p. 37

- [14] Aebli, H, Twelve Basic Forms of Teaching. A general didactics on a psychological basis. Media and contents of didactic communication, the learning cycle, Stuttgart 1998/10
- [15] Hänze, M., Thinking and Feeling. Interaction between emotion and cognition in teaching, Neuwied; Krieffel; Berlin 1998, p. 9
- [16] Gudjons, H., Pädagogisches Grundwissen, p. 210
- [17] Reinhardt, E., Fundamentals of Teaching and Learning, pp. 144-145
- [18] Hänze, M., Thinking and Feeling, p. 93
- [19] Benner, D., Studies in Didactics and School Theory, p. 99
- [20] Hänze, M., Thinking and Feeling, p. 51
- [21] Fend, H., Developmental Psychology of Adolescence, p. 338
- [22] Schenk-Danzinger, L., Development, Socialization, Education, vol. 2, pp. 309-310
- [23] Hänze, M., Thinking and Feeling, p. 31
- [24] Knoblauch, J., Lernstress ade!, p. 38
- [25] Groothoff, H.-H., The crisis of general education schools. Über den Widerstreit von Bildung und Ausbildung im deutschen Schulwesen, Frankfurt a. M. 1989, p. 72
- [26] Kratochwil, L., Unterrichten können, pp. 30-31
- [27] Schenk-Danzinger, L., Development, Socialization, Education, vol. 2, pp. 301-302
- [28] Glöckel, H., Pädagogik des Zutrauens, in: Pädagogische Rundschau, Frankfurt a. M. No. 4/2004, p.474
- [29] Siegenthaler, H., The Educational Dimension of Teaching. An introduction for all teachers at all levels, Zurich; Hitzkirch 1999, p. 43
- [30] Lankes, E.-M.; Prenzel, M., How teachers can arouse and encourage interest, in: The Good Teacher, p. 76
- [31] Hartinger, A.; Fölling-Albers, M., Motivating and interesting students. Results from research. Suggestions for practice, Bad Heilbrunn 2002, p.100
- [32] Binneberg, K., The didactic principle in science. Wolfgang Klafki on the occasion of his 70th birthday on 1 September 1997, in: Pädagogische Rundschau, Frankfurt a. M. No. 4/1997, pp. 422,425
- [33] Rauschenberger, H., Erzieherisches Denken und Handeln, p. 175
- [34] Kratochwil, L., Being able to teach, p. 53

[35] Wollenweber, H., Modernisierungsprozesse in Gesellschaft und Wirtschaft als Herausforderung für schulische Bildungs- und Erziehungsarbeit, in: Pädagogische Rundschau, Frankfurt a. M.; Berlin; Bern; New York; Paris; Wien No. 1/1994, pp. 18-19

[36] Apel, H.J., Herausforderung Schulklasse, p.85

[37] Wellenhofer, W., Unterricht heute, p. 51

[38] Apel, H. J., Schulpädagogik und pädagogische Bildung (1994), in: Texte zur Schulpädagogik. Selbstverständnis, Entstehung und Schwerpunkte schulpädagogischen Denkens, ed. by H.-J., Apel; H.-U., Grunder, Weinheim; Munich 1995, p. 251

[39] Reinhardt, E., Fundamentals of Teaching and Learning, pp. 180-185

[40] *ibid*, pp. 334-335

Author

Prof. Dr. Armin Mauerhofer, since 2004 Professor of Homiletics and Catechetics at the [STH Basel](#)