

Program for the Improvement of Teaching- and Knowledge-Acquisition

What is the objective of the Program?

The goal of the program (E.U.LE.) is to improve teaching strategies in central aspects of student learning, concentrating on processes of knowledge acquisition based on the concept of understanding. In other words: Our program is centrally concerned with the individual approaches to understanding that students develop. In order to achieve this type of ‘understanding-orientation’, we have to strengthen and expand the corresponding skills and competencies of teachers in the respective areas. Our solution to realizing this goal depends on the systematic conjunction of training and theoretical reflection in praxis-oriented forms of knowledge acquisition and working concepts. The program is a long-term project and it is based on the experiences of teachers at public schools.

Cooperation with the Robert-Bosch-Foundation, Stuttgart

The program ‘Improvement of Teaching and Knowledge Acquisition’ relies on the collaboration of several partners: The ministry of education in Thuringia, the Friedrich-Schiller-University in Jena (Prof. Dr. Peter Fauser), the Imaginata, the ThILLM, and above all, the Robert-Bosch-Foundation in Stuttgart contributing with their program ‘Teaching how to comprehend – Development of Teaching by Means of Understanding-Oriented Knowledge Acquisition’. The program of the Robert-Bosch-Foundation mainly supports the tutoring of trainers working with the concept of ‘Understanding Intensive Knowledge Acquisition’ and also the corresponding scientific assistance and further development of the program by the ‘conceptualization group’ at the University of Jena.

This brochure provides basic information about the program, and it comprises the following questions:

1. What is ‘Understanding Intensive Knowledge Acquisition’?
2. Why should we make use of ‘Understanding Intensive Knowledge-Acquisition’?
3. What are the consequences for teachers?
4. What are the new elements in the ‘Program for the Improvement of Teaching- and Knowledge Acquisition’?

Apart from this systematic introduction, our brochure contains concrete examples for understanding-intensive knowledge acquisition regarding students, teachers and teaching, thereby defining its relation to methodological and didactical approaches that already exist.

What is ‘Understanding Intensive Knowledge-Acquisition’?

Key-Concept

‘Understanding Intensive Knowledge-Acquisition’ integrates essential pedagogical and psychological insights and experiences in a model of knowledge acquisition. Thus, ‘Understanding Intensive Knowledge Acquisition’ does not represent a specific methodology or form of classroom instruction, but an overarching key-concept. As a key-concept, it provides the broader framework for the methodological and didactical

planning and analysis of teaching sessions and at the same time it supports processes of knowledge acquisition on the level of the individual student.

Comprehending and Modeling

Principally, 'knowledge acquisition' refers to the development of competencies, e.g. knowledge, skills, and beliefs that are both experience-based and actively constructive. 'Understanding Intensive Knowledge Acquisition' has a more specific meaning, as it underlines the significance of understanding: Understanding plays a crucial role for the quality of knowledge acquisition and also for teaching. The most important aspect is that understanding entails a process of cognitive modeling that is underpinned by a collective of interdependent faculties, namely experience, imagination, apprehension and meta-cognition.

Experience, Imagination, Apprehension, Meta-Cognition

Experience connotes our relatedness to the phenomenal world: it refers to the concrete context of our perceptions and actions as they are related to problems, tasks and situations that are part of our life-worlds. Imaginations make up our internal reality. That means imaginations have to be viewed as cognitive, thought-like structures, e.g. mental models, pre-arranged prototypes of situations, blueprints, schemata, analogies, by which we process or experience and predetermine our actions. In other words: Using imaginations is a form of modeling. In the context of this type of cognitive modeling, imaginations are intimately linked with instances of apprehension. Apprehension is a category that defines how individuals cope with tasks, problems or perceptions by way of abstract categories and symbolic tools offered by the variety of disciplines and domains in schools, academia and cultural institutions. Meta-cognition, eventually, refers to an independent level of reflexivity that is essentially required in processes of knowledge acquisition. As a concept, meta-cognition helps to emphasize that we can supervise our very own processes of knowledge acquisition; it focuses attention to the fact we can indeed control and thus also improve processes of knowledge acquisition, as long as we self-reflexively analyze the formation and the results of these processes.

Summary

To sum it up, 'Understanding Intensive Knowledge Acquisition' defines a specific way of learning, wherein 'understanding' figures as a process of cognitive modeling. This process is structured by the interrelatedness of experience, imagination, apprehension and meta-cognition and it is this 'joint venture of faculties' that maintains the dynamics of this process. Whether knowledge acquisition leads to in-depth understanding depends on how active, reliable and ambitious the processes of cognitive modeling are.

Why should we make use of 'Understanding Intensive Knowledge Acquisition'?

Many aspects indicate that teaching strategies based on understanding help students to work more successfully. Understanding-oriented teaching sessions emphasize the idea of individual assistance, which implies that teachers try to attune their lessons as adequately as possible to the particular preconditions, abilities and needs of the children and teenagers they work with. In that way, students are more motivated to invest energy, they

are more self-confident, and they are decidedly more content with their schools. That, in turn, reduces the risk that teachers feel worn-out and exhausted and consequently maximizes the level of 'job-satisfaction'. For these reasons, 'Understanding Intensive Knowledge Acquisition' can be expected to create a better learning atmosphere in schools.

What are the consequences for teachers?

By way of our program teachers learn how to improve their abilities to support students in their very specific approaches to cognitive modeling and the construction of knowledge. This requires that teachers inspire, understand, and support these approaches. The ability to entertain this type of co-constructive assistance and supervision of knowledge acquisition includes the following aspects:

1. Teachers should be able to take on diverse disciplinary viewpoints with regard to the underlying subject, i.e. different alternatives of modeling.
2. Teachers should be capable of communicating with students about their individual accesses and forms of modeling
3. Teachers should be capable of realizing methodological strategies and didactical approaches that help individual students and groups of students to develop a level of in-depth understanding.

In order to improve the quality of teaching and knowledge acquisition it is necessary that teachers analyze their behavior and their role in light of the level of understanding their students already have and according to a variety of important categories, such as pedagogical attitude, methodology, support-diagnostics, task- and feedback-culture. Only if teachers acquire and develop competences in support-diagnostics, will their ability be strengthened to support processes of knowledge acquisition and understanding individually. These competences have to be essential elements of their lessons and their professional behavior in general.

What are the new elements in the 'Program for the Improvement of Teaching and Knowledge-Acquisition'?

Whether teaching strategies incorporate the concept of understanding successfully depends on both the work of teachers and the schools they teach at. Thus, teachers play the most important roles. This is where our program for the improvement of teaching and knowledge acquisition comes into play. The program aims at stimulating processes of disciplinary improvement and transformation within the immediate contexts of the school itself. It furthermore assists and supports these processes in schools. Schools and teachers are required to mobilize their experiences and competences in order to develop good teaching strategies that are based on the principle of understanding. Key to realizing this project is that all of the teachers at one school as well as the administration share the collective ambition to bring on these developments and transformations. Internal working-groups that are formed in the schools themselves will be supported and counseled by school partners and by external development-groups. There will be a contract in which schools and school authorities define the key-concepts and the

particular forms of work that are going to be integrated in the respective schools. This contract is also supposed to regulate the type of support and consulting according to the concrete developments at schools. The topics and models of work will be fixed in a working schedule that is continuously revised and renewed on a yearly basis.

The development-groups that are set up in local school authorities consist of a variety of 'specialists', among them 'school-practitioners', job-trainers for teachers, school-supervisors, and scientists. The task of these groups can be defined as a long-term assistance of schools, as they are supposed to collaborate with schools in analyzing those individual areas that need to be supported and thus also improved. Moreover, the development-groups guarantee a successful exchange of experiences that exceeds the level of local schools as they transfer and coordinate the collection of data material on the level of the state.

What is characteristic for Understanding Intensive Learning and what is its significance

...for students?

Whenever students acquire knowledge, it is important that they approach their subjects actively and on basis of modeling-processes. Examples are:

- developing own hypotheses
- planning and realizing experiments
- proposing explanations
- investigating into preconditions and reasons of specific phenomena
- searching for alternative solutions
- developing possibilities of application
- uncovering contradictions
- establishing models and structures
- collecting evidences to support arguments
- detecting analogies
- using examples purposefully
- linking old concepts with new concepts
- dealing critically with experiences
- recognizing tropes and stylistic devices
- reconsidering viewpoints
- understanding new and unfamiliar viewpoints
- passing on own knowledge and insights
- repeating other's opinions adequately
- developing own strategies of knowledge acquisition
- detecting and analyzing errors
- setting tasks independently
- evaluating performances

... for teachers

Teachers are essentially required to assist students in constructing and modeling their approaches to knowledge-acquisition. Understanding-intensive learning implies understanding-intensive teaching strategies and a mode of support-diagnostics that

equally centers on the notion of understanding. The most important aspect is that students can rely on disciplinary and personal support by teachers and it is also necessary that they always know what the next steps are in terms of work-assignments and knowledge-acquisition. Hence, what is at stake is that cognitive and motivational approaches are conjoined in a way that allows teachers to determine whenever they want where they have to 'pick up' their students. This type of 'second-order understanding' figures as the most significant precondition for the planning of and the successful communication in class. The following points are crucial for understanding intensive knowledge acquisition:

- The approach is based on recognition and encouragement rather than on humiliation and degradation.
- Teachers take unexpected and unusual statements and suggestions seriously and do not just brush them aside.
- Teachers raise open questions and introduce real-life problems.
- Teachers are interested in sharing their pedagogical knowledge with the parents, in order to deepen their influences on the development of the children and to reflect upon their strengths and weaknesses with regard to the pedagogical concepts they employ.

...for teaching strategies

Good teaching in terms of 'Understanding Intensive Knowledge Acquisition' requires active class participation as well as the controlling supervision of teachers. This implies that the former – class participation – functions as the organizing point of reference for the latter – supervision. When students work more independently, they should be allowed to control their very own approaches to knowledge acquisition. Supervising and describing teaching sessions as a way of organizing and processing every-day structures is only helpful to a very limited extent, because understanding and teaching how to comprehend are internal procedures (and therefore only partially verifiable on an empirical level).

Important aspects are:

- The relation between 'open' and 'closed' forms of teaching as well as between action-oriented and knowledge-oriented forms should be sensible and comprehensible.
- Teachers should deal economically with time frames, so as to avoid losing time through a noisy classroom climate or ambiguous instructions.
- Teachers should select and order contents of teaching according to the processes of knowledge acquisition of students.
- Specific methodologies and the use of media-devices should be purposeful, because they are not necessarily helpful.
- There should be a diverse variety of major didactical formats (course, lesson, project) instead of a didactical and methodological monoculture.
- Teachers should be able to regulate individual preconditions and paces of knowledge acquisition by structuring measures and working-methods that come into play on the level of internal differentiation.

- Understanding-based diagnostics and individualizing support should be used as concepts that are integrated flexibly into teaching sessions. There should be very few exceptions, i.e. when these concepts are realized additively and externally.
- Teachers should deal creatively with mistakes and they should support the rather arbitrary processes of knowledge acquisition children intuitively follow.
- There should be good reasons for implementing instruments of diagnostics and evaluations.
- Performance and knowledge-acquisition have to be treated independently.
- Teaching sessions should be professionally assisted on a regular basis, in order to achieve an additional level of disciplinary reflexivity.

...for didactical and methodological approaches and concepts?

‘Understanding Intensive Knowledge-Acquisition’ combines practical and scientific insights in order to improve processes of knowledge acquisition. Unlike separated methods, such as ‘loud thinking’, or didactical formats, such as ‘project’, ‘Comprehensive Intensive Knowledge-Acquisition’ is a general pedagogical concept that underlines the significance of understanding for teaching and knowledge acquisition. Therefore, this pedagogical concept provides a set of criteria in order to evaluate and realize methodological and didactical approaches.

‘Understanding Intensive Knowledge-Acquisition’ interlinks the various dimensions of successful knowledge acquisition within one single model. It includes insights and experiences offered by ‘reform-pedagogics’ (Reformpädagogik) as well as current teaching- and teachers-research, especially internationally comparative studies focusing on levels of competence. As a concept of reform ‘Understanding Intensive Knowledge Acquisition’ focuses attention to teaching sessions as the central element of schools. The most important aspect is that teachers support knowledge acquisition. The experience and pedagogical behavior of teachers make up the most significant foundation of innovation.

Are you interested?

Further information and contact details are available under www.eule-thuringen.de
Contact us. We are looking forward to discussing your as well as our questions and ideas in order to realize a potential path of development in your working environment.

‘Improvement of Teaching and Knowledge-Acquisition’ (E.U.LE.), a program of the Thuringian Ministry of Education

[Logo TKM]

www.thuringen.de/tkm

“Teaching Understanding – Development in Teaching on the basis of Understanding Intensive Knowledge-Acquisition“, a program of the Robert-Bosch-Foundation, Stuttgart

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