DIGITAL LEARNING MATERIAL AND ITS USE IN STUDYING AND TEACHING

The creator of any learning material always starts planning with a pedagogical point. This also applies to creators of digital learning material. There are many different pedagogical starting points. They can be related to the depiction, visualization, illustration, introduction or treatment of a subject or its information content. They might be activities aiming at the goals of learning. They might be content, or they might be assignments for speculation, learning assignments, or the entire learning process of a subject. They may also be small learning situations produced using the microlearning principle, and thus connected to form a larger whole, or even parts of other studies.

Often the material is in the form of ebooks, services, learning environments, games and interactive learning content. Digital learning material may also take the form of digital material that the teacher has selected for the students: articles, videos, podcasts, web pages and other information sources. When these and the planned learning activities are linked to the learning goals, they form the complete learning material.

Whatever the pedagogical idea of the learning material, it is always important to think about what it is! As the creator, you can approach this idea through questions. Who is the material aimed at? What are the users supposed to learn using the material? How are the students supposed to use the material? How do you learn using the material? How is the material used in teaching? The main thing is to think of the usefulness of the learning material for the students. You also need to describe this usefulness for the users. Digital learning material is a digital service used by the students. That is why it is important to think about the user experience.

One can plan learning in many ways. It might relate to learning skills and knowledge, to working with information, solving problems, constructing new information, or participating in a collateral learning process together with other students. In some cases the learning material has been created in a way that the content and assignments guide the student to find the right answers, and he or she doesn't need to process and understand the issue. The degree to which makers of learning material are aware of their pedagogical starting points varies.

At their best, learning materials and the assignments related to them can activate the student's thinking, help to build a deeper understanding, and help students evaluate their own learning. They also enhance a long-term relationship with the subject, as well as helping to develop learning skills.

Ready-made digital learning materials are already used widely in schools, in classroom teaching and as part of web-based teaching. The aim of digital material and assignments is to motivate students, widen the learning content, increase self-guiding, and provide learning material suitable for individual student needs.

Digital learning material should be selected based on the goals set for learning and skills. The students should also be able to set their own goals. Goal-based learning and skills will thus become concrete, and learning will become visible for both the student and the teacher.

Many digital learning materials are still quite static, and are used in quite traditional ways. The students may search for quick answers to a question. At their best, digital materials allow not only for browsing and searching, but also for selecting, taking notes, cutting, placing, remodifying and adding supplementary texts, images, videos, charts and animations.

Learning often requires interaction between individual and collaborative studying. These aspects can be enhanced in the assignments. The learning material should be sufficiently challenging and diverse.

Digital learning materials enable the use of new learning methods such as the flipped classroom. The students can immerse themselves beforehand at home in the materials, and then apply them together in the classroom. They will receive support both from the teacher and peer-group students. With digital materials, the role of the teacher becomes more of that of a guide or supporter than a traditional 'instructor'.

Digital learning material in new web-based learning environments
Adaptivity, i.e. the possibility to respond to the student's individual needs, is realized by using digital learning materials in a web-based learning environment. In some digital learning materials or learning environments the students get incentives and even suggestions of alternative content directly from the program. The programs allow students to get more feedback, which is based directly on their skill levels. Direct continuous feedback maintains the motivation for learning.

Digitalization and the metainformation built into the assignments make it possible for personal guidance within some of the assignments. However, it is more common that the teacher follows the student's progress through reports given by the program; the teacher then gives additional support and feedback to the students. A web-based learning environment enables the teacher to collect information on every student's assignment and progress. The teacher can see how much time the student has used for the different materials, and where the difficulties seem to be. Following the progress makes it possible to give feedback and support, and recommend additional material and assignments, that will help to deepen or broaden learning.

Adaptivity requires only that there are enough different levels of tasks and materials to suit as many kinds of learners as possible. The feedback and evaluation system built into digital learning material makes it possible to give students additional assignments and material whenever he or she has finished with the previous ones.

It is also possible to follow up on the suitability of the learning materials for the students. The learning materials should be multimedial, because some students learn better by reading, some by listening, some by watching and some by doing. Reading on a screen might pose problems for some students, and therefore printed versions should be made available. Some studies show that reading on tablets, laptops and phones makes us superficial browsers. To prevent this, you need to challenge the students in the learning assignments to concentrate on the subject at hand and also study "deep reading". The material must support the learners' individual needs in the best possible way. The student requires guiding to be able to work in multimedial digital environments.

One should produce a lot of different learning material; students should also be able to bring their own material to the environment. Technological environments also enable the students to be creators of information, not just users of it.