LEARNING HOW TO TEACH IN HIGHER EDUCATION

TON KALLENBERG, LINDA VAN DER GRIJSPAARDE
& GERARD BAARS

Boom

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Ton Kallenberg
Linda van der Grijspaarde
Gerard Baars

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Foreword

This is the first edition of the book *Learning How to Teach in Higher Education*. It is the translated version of the Dutch book *Leren (en) doceren in het hoger onderwijs* that has been successfully used by Dutch teachers in higher education for more than twenty years. A teacher in higher education is also called a lecturer, but in this book we have chosen the term teacher. So where you read teacher, you can also read lecturer. The book is mainly targeted towards starting teachers in higher education, but it is also useful for teachers who already have experience with teaching in higher education.

The uniqueness of this book are the many practical skill sheets that you as a teacher can put to immediate use when designing, developing and implementing your teaching. This distinguishes this book from others in the field of didactics in higher education.

Learning How to Teach in Higher Education incorporates the didactic insights of recent years. The starting point is campus-based education, i.e. the interaction between you (in your role as a teacher) and your students in a physical environment. Naturally, this book also makes suggestions about online and/or blended forms of education. Especially in recent years, due to COVID-19, institutes for higher education have made a shift to online and blended forms of education.

In this book, we have taken into account as much as possible the contents of courses and curricula aimed at developing teachers, examiners, and student advisers in higher education. In our view, this book is therefore eminently suitable for use within – among others – courses such as the Basic and Senior Teaching Qualification (BKO, BDB, SKO in Dutch), the Basic and Senior Qualification for Examiners (the BKE and SKE in Dutch), and the Basic and Senior Qualification for Study Advisers (the BKS and SKS in Dutch). This book is intended for teachers in the aforementioned courses, but is also intended as a reference work for more experienced teachers who need practical tips or a theoretical basis for their teaching.

Students must learn for themselves. That is their responsibility. It is your responsibility as a teacher to offer them a stimulating learning environment. This means that you must be able to make a suitable design for your course/subject, that you must be able to design the didactic approach and the learning and working climate in such a way that students are motivated and can learn effectively. Good teaching is a prerequisite for this. The essence of good teaching is that students acquire knowledge and skills they would never seek on their own,

for the simple reason that they do not know of their existence. You must inspire the students. You must open doors and windows that would otherwise remain closed for students. In short, the appeal to your professionalism as a teacher is great and will continue to leave its mark on the quality of education and the facilitation of students' learning in the years to come.

We realise that it is not possible to give a complete description of every didactic subject in one book. We have therefore chosen to include the most important didactic topics of higher education. We wish you plenty of inspiration and hope that this book will give you the tools to develop a stimulating learning environment for students!

Amsterdam, spring 2022

Ton Kallenberg
Linda van der Grijspaarde
Gerard Baars

Table of contents

Skill sheets

Theme 3 How do students reach the desired final level?

Theme 4 Evaluation and further development

Introduction

Classification of themes and chapters

This book is divided into four related themes:

- Theme 1: Student learning and study success (Chapters 1 to 4)
- Theme 2: What should students learn and how do they show what they have learned? (Chapters 5 and 6)
- Theme 3: How do students reach the desired final level? (Chapters 7 to 9)
- Theme 4: Evaluation and development of education (Chapters 10 and 11)

Each theme is divided into a number of chapters in which relevant didactic topics are discussed. In addition to informative text, you will find so-called skill sheets that offer concrete tips on the topics dealt with in the theme. These skill sheets are included at the end of each topic. The text refers to these sheets with the following icon: S. You can use these skill sheets separately from the text. It is, for example, possible to work only with the skill sheets and, if you want further information on that topic, to still refer to the relevant passage(s) from the book. Of course, you can also do it the other way round: first read the text from the chapter and then study the tips on the skill sheets. The book makes as much use as possible of examples. Examples are shown as frame texts.

Contents and structure

The student is central. That is why the first theme deals with (promoting) student learning. The first chapter discusses how students learn: stages in the learning process and how memory works are explained. Because every student is unique, the second chapter discusses the differences between students in their learning behaviour. The third chapter pays attention to the way in which you can connect with the learning process of students, after which Theme 1 is concluded in Chapter 4 with the question of how you can promote students' study success. You can use the contents of the first theme to formulate for yourself what your vision on education is and what you want to take into account when designing your education.

Theme 2 discusses two components of constructive alignment: the relationship between the learning objectives of your educational unit, and testing and assessing whether students have achieved the learning objectives. Chapter 5 deals with formulating learning objectives, while Chapter 6 describes designing and assessing tests. After studying this topic, you will be able to formulate good objectives for your own education and to develop tests that will actually provide

insight into the extent to which your students have achieved the learning objectives.

Theme 3 deals with the third component of constructive alignment: the learning activities. In this theme, we discuss the design and implementation of learning activities. The following question is central: how do you guide your students to achieve the learning objectives and reach the desired final level? Chapter 7 discusses the (activating) learning activities of the students, as well as your interaction with the student(s) and the influence of that interaction on the course of the learning process. No matter which teaching method you use, you have a great influence on the learning process of the student. It is your task to challenge the student optimally to achieve the learning objectives. Chapter 7 also provides tips for the practical implementation of enduring teaching methods in higher education, such as the lecture and the tutorial. Although the teacher's influence on a student's learning process during a lecture is limited, the (interactive) lecture does offer possibilities to shape certain forms of knowledge transfer in an effective and efficient way. Naturally, the role of the instructor in forms of education that focus on the individual student is also discussed. Chapter 8 looks at how you can select the subject matter for your teaching. Finally, Chapter 9 discusses how to give feedback and guidance to students.

After studying this topic, you will be able to design an appropriate learning environment that stimulates and challenges students to achieve the learning objectives within your teaching unit.

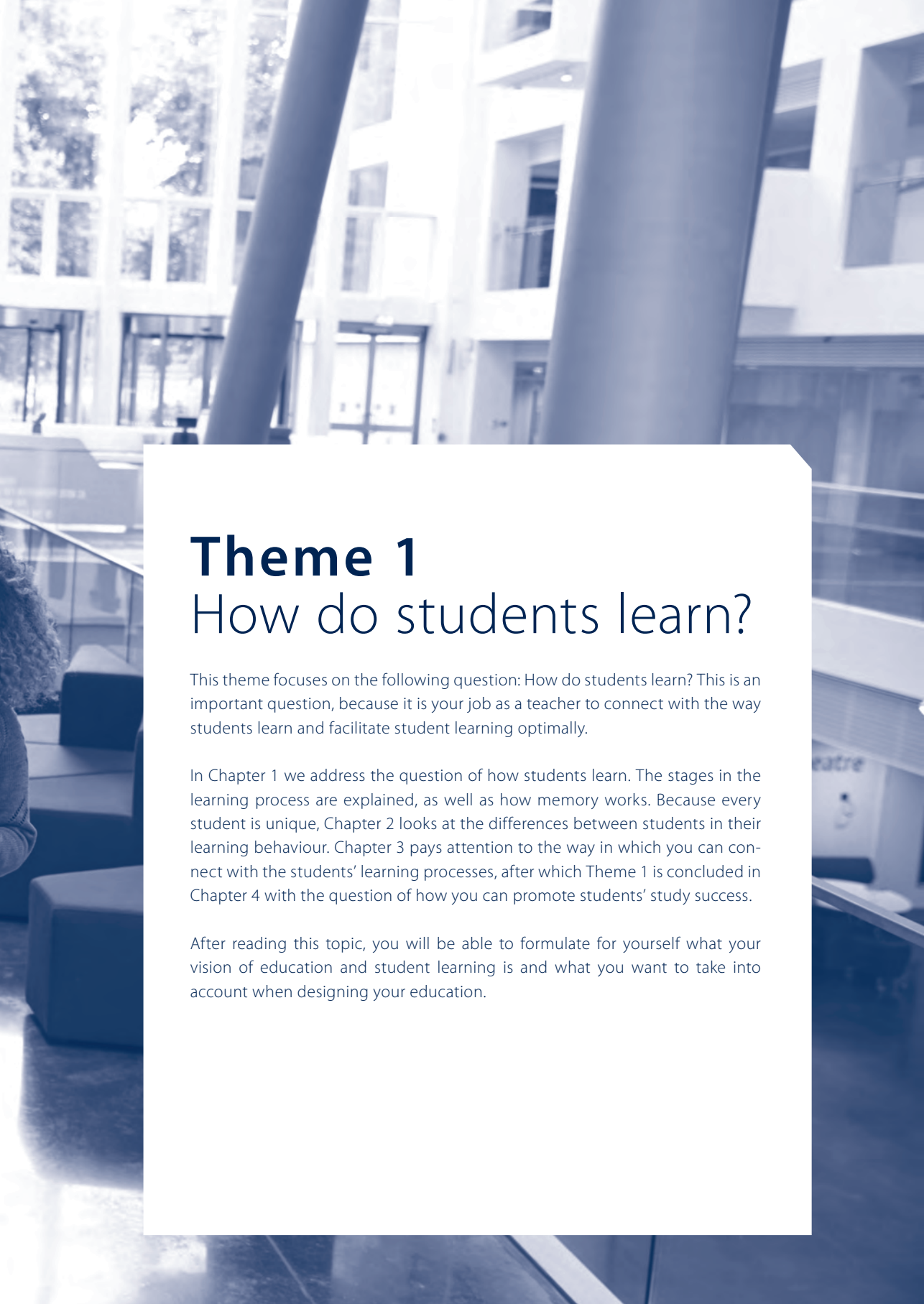
The fourth theme of this book deals with the most common questions that arise in educational evaluation and the continuous improvement and renewal of your education. Chapter 10 deals with those aspects of educational quality assurance in which you, as an instructor, are directly involved. In addition, some organisational aspects such as timetabling, annual planning, and curriculum design are also briefly discussed. In the area of educational evaluation, a distinction is made between course and curriculum evaluation. Although as an instructor you are mainly confronted with course evaluation in your daily practice, we believe that curriculum evaluation is also important for you as an instructor, because there are more and more programmes in education that work together and across curricula. Chapter 11 discusses how you can innovate within your own teaching (whether or not in collaboration with your colleagues), at both course and curriculum level.

After studying this topic, you will be able to continuously improve and renew your educational units with the tools available in your programme.

Use of the term educational unit in this book

A programme is the set of educational units that the student is expected to follow in order to obtain the diploma. At universities of applied sciences, the units of study are referred to in various ways: subject, module, course, and so on. To avoid confusion, this book uses the term *educational unit*.

Every unit of study is mentioned on the list of grades and the diploma as part of the programme. An educational unit consists of one or more educational formats, such as lectures, seminars, practicals, tests, exams, internships, or theses.



Theme 1
How do students learn?

This theme focuses on the following question: How do students learn? This is an important question, because it is your job as a teacher to connect with the way students learn and facilitate student learning optimally.

In Chapter 1 we address the question of how students learn. The stages in the learning process are explained, as well as how memory works. Because every student is unique, Chapter 2 looks at the differences between students in their learning behaviour. Chapter 3 pays attention to the way in which you can connect with the students' learning processes, after which Theme 1 is concluded in Chapter 4 with the question of how you can promote students' study success.

After reading this topic, you will be able to formulate for yourself what your vision of education and student learning is and what you want to take into account when designing your education.

Learning, remembering, and learning activities

1

Learning targets

After this chapter you can:
- explain the stages in students' learning processes;
- explain how memory works;
- explain the distinction between the cognitive, affective, and regulatory learning activities.

1.1 Why student learning?

Learning does not happen automatically. For learning to take place, activities have to be performed. These activities are called learning activities when they are performed by students (Vermunt & Verloop, 1999). Learning activities can be all kinds of activities, such as summarising an explanation, explaining learning material to each other, making a word web, demonstrating a skill to fellow students, or writing a reflection. In this chapter, we will discuss these different types of learning activities. To do this, we will first explain how students' memories work.

1.2 Learning and remembering

We mentioned above that learning does not happen automatically and that students need to engage in learning activities in order to learn. This may bring you to ask yourself: what is learning? And how do we absorb knowledge? To design good education, it is important to understand how students learn. This section explains the basics of learning.

1.2.1 What is learning?

When answering the question of what learning is, two components are usually drawn together, namely the process and the result (of learning). The outcome of

learning is that which results from the learning process. This learning outcome is the increase or change in what we already know, believe, feel, or are able to do. Learning is thus the processing of information that leads to a change or increase in our knowledge or abilities. The process of learning can be described as active, constructive, and self-regulated:

- Learning is an active process: the student does 'something' to learn. This 'something' is the performance of learning activities. The better students perform learning activities, the better the learning process.
- Learning is a constructive process: the student builds up knowledge or skill little by little, merging what they have learned with the knowledge or skill already present.
- Learning is a self-regulating process: the student does it themselves. This does not mean that learning does not require external guidance (e.g. from you as a teacher), on the contrary. It is important that students are guided in the active and constructive acquisition of subject matter knowledge, cognitive strategies, metacognitive knowledge and skills, and affective skills. It is the teacher who can provide this appropriate help and support to the students. This guidance is especially important for students with less experience and/or a passive learning attitude.

1.2.2 From unconscious incompetence to conscious competence

The model from unconsciously incompetent to unconsciously competent (see Figure 1.1) originated in the 1970s. The model describes the various phases that are gone through in a learning process. This applies to every learning process. Learning to drive a car or learning to play the piano are appealing examples to keep in mind when explaining the four phases.

- Phase 1: Unconscious incompetence – If a student has never done something before, the execution may seem simple, or the student is unaware that they do not know something. At that moment the student is unconsciously incompetent. This is a neutral phase. Especially when the student doesn't know that they don't know something, this can be a very comfortable phase.
- Phase 2: Conscious incapacity – In this phase, the student becomes aware that they cannot do something. The student can choose to remain unconsciously incompetent or choose to learn something. In this phase, learning and practising begin. The student finds out what is involved and how much practice is needed. Sometimes, the student has the idea that they will never succeed. This is often an unpleasant feeling.
- Phase 3: Conscious competence – Gradually, the student gets the hang of the task and it becomes easier for them. They become consciously competent. This is a pleasant phase, because they notice that things are now working, even though they are still very conscious of the execution of the task or activity and have to think hard about it.
- Phase 4: Unconscious competence – Finally, after much practice, things seem to happen naturally. The student is unconsciously competent.

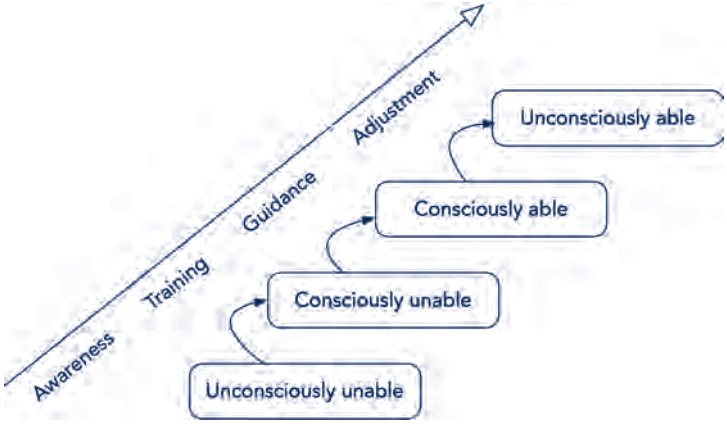


Figure 1.1 Four stages of the learning process

1.2.3 Bales learning pyramid and Ebbinghaus forgetting curve

In order to design education, it is relevant to understand what learning is, especially effective learning. It is interesting for you to know that, in general, the more one 'does' with what one has to learn, the better one learns. In that context, the Bales learning pyramid is often quoted (see Figure 1.2).

Figure 1.2 Learning pyramid of Bales

Although the empirical basis and even the origin of this learning pyramid is not entirely undisputed, it is still interesting enough to show here. The Bales learning pyramid is a figure that graphically shows that the retention of knowledge and skills through a 'classical lesson or lecture' (the top of the pyramid, 10 percent) is much lower than the retention of knowledge and skills through 'explaining something to others' (the base of the pyramid, 95 percent). It seems that Bales once used this figure in a lecture (Audio-visual Training in Learning, 1969, National Training Laboratories, Bethel, Maine). The figure is inspired by the 'cone of experience', and from 1946 to 1969 was developed by Edgar Dale in various stages through to the current model.

Another theoretical concept is staggered learning and Ebbinghaus' forgetting curve. Spaced learning refers to the observation that students remember content better when it is learned over a longer period of time (spaced presentation) than when it is drilled into them over a short amount of time (concentrated presentation): it is better to have four 15-minute intervals than one hour at a time. The forgetting curve (see Figure 1.3) shows how quickly a person forgets memorised information. The forgetting process is at first fairly rapid, then rather flat. In the case of meaningless information, the forgetting curve descends much deeper and faster, whereas in the case of meaningful or emotionally important information, the curve remains higher. Since then, the phenomenon has been studied by many researchers. For example, there is evidence that when the period of time over which information must be remembered is longer, greater dispersion is more beneficial (Pavlik & Anderson, 2008). When the time span is short, students perform better on immediate tests, but worse when tested on the same content at a later time.

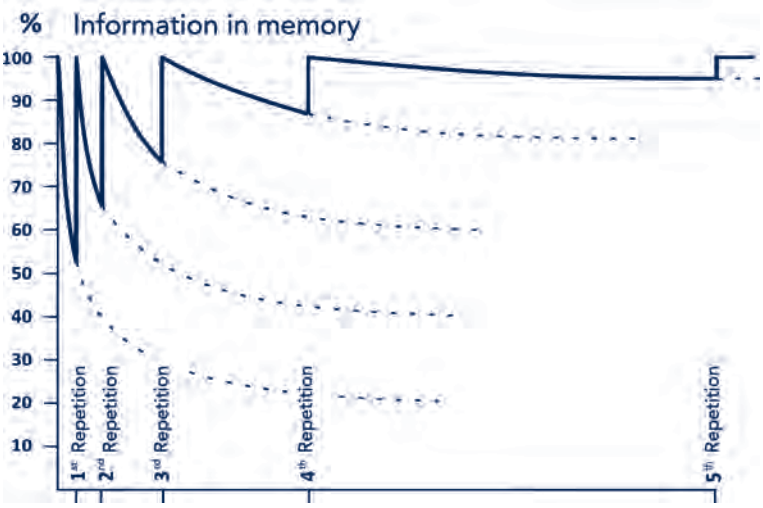


Figure 1.3 Ebbinghaus' forgetting curve

The results from Ebbinghaus' research are still being applied in tips for efficient memorisation:

- Make learning material as meaningful as possible (first understand, then make connections, if necessary using mnemonics) and only then imprint;
- Use 'auditory' (reading aloud) and/or 'visual' (diagram/text) aids.
- Plan repetition of the learning material, in a way that the first session is shortly after the first imprinting, then further sessions are at lengthening intervals over time (so-called staggered repetition).
- It is better to take in information over four 15 minute sessions staggered over time than to do so for one hour at a time.

Effective study methods
Effective study methods for better study results are: (1) self-reflection, (2) staggered studying, (3) elaborative questioning.
What does NOT work: (1) underlining and highlighting text, and (2) rereading the material over and over again. (Dunlovsky et al., 2013)

1.2.4 Time on Task

An important principle for student learning is 'time on task'. Time on task is the time the student spends actually studying (also called engaged time). A related concept is academic learning time (ALT), or the effective learning time when a student is performing activities that are closely related to their specific level.

Time on task can be promoted by giving study instructions (what exactly should students learn, how can they go about it?), giving assignments (combined with guidance and progress monitoring – this promotes active participation by students), guiding students through quick corrections of oral and written feedback, or regular progress monitoring. An interesting teaching-learning paradox is that 'the worse a lecture gets, the more students do their own study. The more active a lecture is, the less self-study there will be.'

1.3 Remembering and memory

Memory can be compared to a computer: information is entered, then stored, and can be retrieved again later. The condition is that the information is stored in a correct and traceable way. The clearer the structure of directories and files, the easier it is to find certain information. The same applies to memories. When your memories are linked in a logical way, you can retrieve them more easily. Often memories are linked to certain sensory experiences. For example, when you smell a certain odour, memories of the past suddenly come to mind and you can remember, for example, being with your grandparents. Such a memory

suddenly comes to mind, even though there may be no reason for it other than the smell.

Memory is divided into sensory memory, short-term memory (working memory), and long-term memory (hard disk).

Experiences around you (both visual and auditory) are noted in sensory memory. This sensory memory can only hold the information for a very short time and selects the information for inclusion in the working memory. The latter depends on the moment or event at which some experiences are noticed or not (think for example of an itch on your arm: at one moment you do not notice it, while at another moment it can be very irritating). Attention to that moment or event causes it to move to the next part of your memory, working memory.

Information that you consciously perceive is briefly retained in short-term memory. Short-term memory is the place where thinking and consciousness take place. You can see it as a workshop. This memory is also limited in size and further selection takes place here as well. If you do not process the information further within 30 seconds, you lose the information. In the working memory we can process between about three and six-eight elements. Information sticks if you can store it in the long-term memory in an organised way. The more information there is available in long-term memory to link to the new information in working memory, the easier it is to process.

The long-term memory is a kind of large database of all your knowledge. It has an unlimited capacity and duration. It consists of a collection of so-called knowledge schemas (say, the directories and files) to which new information can be linked. For example, a student stores knowledge from the French lesson in the 'unit for French'. In this way, the knowledge in long-term memory is not criss-crossed. The better new knowledge is organised and integrated with previously acquired knowledge, the easier it is for a student to retrieve the information.

Figure 1.4 explains the above schematically.

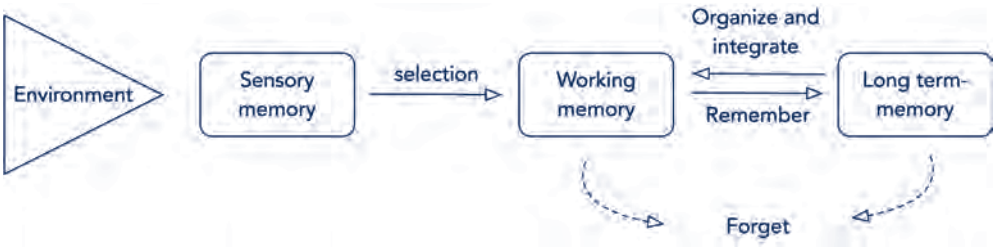


Figure 1.4 Diagram of the memory

Research has shown that the absorption of knowledge into long-term memory is easier when the information is more in line with existing knowledge. New information has to end up in the right subdirectory if it is to be retrievable and not lost. You can imagine that it is difficult to search for a file in 'French' when it is stored in a 'Management' directory, because you will not search there. To be able to store knowledge properly, it is necessary to open the right directory first to activate the knowledge present.

If new information has multiple links, knowledge is more accessible because a student can make knowledge active in multiple ways. This can be done, for example, by using adjacent or subordinate concepts, associations, analogies, or metaphors. These relationships function, as it were, as a link with which related knowledge elements are held together within a directory. Working memory plays an important role in linking and organising information. The student can more easily retrieve information in long-term memory if the situation in which the student must demonstrate their knowledge or competences is more similar to the situation in which they learned it. Therefore, when designing education, it is advisable to make as much use as possible of varied problem situations derived from reality.

However, it also happens that a student is unable to access their memory warehouse or seems to have forgotten certain information. Forgetting information is closely related to the circumstances under which the information is sought. Too much concentration or tension may cause the student to be temporarily unable to recall the information. The availability of the information in the memory also depends on the intensity of its use. Information that belongs to a frequently used memory network can be found more easily by the student than information that is rarely activated.

The absorption of information into long-term memory does not usually happen automatically, but requires cognitive effort on the part of the student. As a teacher, you have many possibilities to stimulate the student to make a cognitive effort. We will go into this in detail in other chapters. It is sufficient here to provide a few examples of activities:

- Questions and answers: the student asks themselves questions about the material and tries to answer them.
- Uncovering gaps: the student finds out for themselves what they do not know or would like to learn about the subject to be studied.
- Forming mental representations: The student tries to imagine something while learning abstract concepts.
- Thinking up analogies: the student asks themselves what the new information is comparable to.
- Ordering: grouping the material, dividing it into meaningful categories.
- Paraphrasing: the student uses their own words to express the information provided.

- Summarising: the student sums up the main points of the material.
- Repetition: The student internally repeats the information that is present in the short-term memory.
- Use of mnemonics.

Finally, forgetfulness is something that happens to everyone. Of course, it is often associated with old age, stress or work pressure, but even beginning students can suffer from it. Generally speaking, it is advisable to challenge the brain with mental exercises, learning new things, physical relaxation (e.g. walking in the open air) and mental health. Here too, you as a teacher have a role to play: keep an eye out for your students!

1.4 Learning activities

As we have indicated a few times in this chapter, learning takes place when students perform learning activities. This chapter distinguishes three types of learning activities, namely cognitive, affective, and regulatory activities.

1. Cognitive activities are thinking activities that students perform in order to process and remember new information. Examples include linking new information to existing prior knowledge, selecting and processing new information into new knowledge, or explaining concepts in their own words.
2. Affective activities are those that relate to students' motivational beliefs or emotional feelings towards the learning process. These states of mind can have a positive, neutral, or negative impact on the progress of a learning process. Examples are: concentration, self-motivation (self-efficacy), and dealing with feedback from others.
3. Regulatory activities (also known as metacognitive activities) are activities that students perform in order to steer their own learning process and activities with which they solve problems. Examples are: making a plan before starting a study task, pausing in between to consider for oneself whether the right steps are being carried out, or checking and evaluating one's learning process.

Vermunt (1992) distinguishes the following examples of learning activities per category (see Table 1.1).

Table 1.1 Cognitive, affective, and regulatory learning activities according to Vermunt

Cognitive	Affective	Regulatory
Relate	Attribute	Orientation
Structuring	Motivate	Plans
Analyse	Concentrate	Monitoring the process
Concretise	Assessing oneself	Keys
Apply	Valuation	Diagnostic
Memorisation	Stretching	Adjustment
Critical processing	Stirring up emotions	Evaluate
Select	Expect	Reflect

Below is an explanation of each type of learning activity.

1.4.1 Cognitive learning activities

Cognitive learning activities are thinking activities that students use to process information and thereby achieve their learning objectives. Types of information included in learning materials include facts, concepts, formulas, reasoning, arguments, definitions, theories, views, and conclusions. Cognitive processing activities lead directly to learning outcomes at the mental level, such as knowledge, understanding, insight, overview, and skill. They can also lead to learning outcomes at the material level, such as notes, underlining, a diagram, a paper, a summary and a solution to a problem.

We briefly explain the cognitive learning activities below:

1. Relating: finding connections between different parts of the subject matter, looking for analogies. As a teacher, you can ask about similarities and differences, and have students compare theories.
2. Structuring: structuring the study material and integrating newly acquired knowledge, which the student already possesses. Example: making a diagram of concepts or formulas from the study material and distinguishing between superordinate and subordinate concepts; making summaries. As a teacher, you can instruct students to make a summary or outline, for example.
3. Analysing: breaking down a larger whole or problem into parts and sub-problems; clarifying in detail, working out step by step. As a teacher, you ask detailed questions in this case, or you give a case with a study task.
4. Making concrete: thinking up examples and applying them to abstract information; explaining the relationship with practice. Example: trying to clarify the relationship between daily reality and an economic rule. As a

teacher, you stimulate this in students by having them make connections with their own experiences and by having them think of examples.
5. Application: practising the use of new knowledge, linking interpretations of current events to the subject matter. As a teacher, you ask the students what this means in practice and/or you give them a problem assignment.
6. Memorisation: recording individual information by repeating it several times to oneself. Examples: memorising theories, rules, rows, conclusions. In this context, the teacher asks questions that test knowledge of the facts (whether or not in test form).
7. Critical processing: presenting arguments for and against; discussing different possible conclusions; having one's own input and not just accepting everything. Example: forming a personal opinion about the correctness of presented information. As a teacher, you have students present a conflicting view or you hold a group discussion.
8. Selecting: distinguishing between major and minor points, reducing large amounts of information to the most important parts, highlighting key concepts. As a teacher, ask for the main points and give a study task to mark the key concepts.

Students often use combinations of learning activities to achieve a certain objective. These are called learning strategies. According to Vermunt (1992), three learning strategies can be distinguished in the field of cognitive processing:
1. In-depth processing: the student actively searches for coherence in the study material, tries to structure it and to gain an overview, and thinks critically about the material with the aim of gaining the best possible understanding of it.
2. Step-by-step processing: the student uses a combination of analytical and memorising processing activities. Students who use this strategy go through the material step by step, study in detail, have an eye for factual information and try to memorise what they consider to be important material as well as possible.
3. Concrete processing: the student pays particular attention to practical information in the subject matter, makes the subject matter concrete and applies it.

1.4.2 Affective learning activities

Students use affective learning activities to process feelings that occur during learning. These include motivation, concentration, appreciation, and expectations. These can lead to a state of mind that can have a positive, neutral, or negative effect on the progress of the learning process.

Affective learning activities are:

1. Attributing: attributing (intermediate) results of a learning process to causal factors, such as stable versus variable factors, controllable versus uncontrollable factors, global versus specific factors, and internal versus external factors. Example: a student may attribute successful learning experiences to the quality of the teacher, chance, or the use of the right learning activities.
2. Motivation: building and maintaining a willingness to commit to learning tasks and the effort made to guard that commitment against various distractions. Example: continuing to study when the student knows that there is a nice TV programme on that they like to watch.
3. Concentration: focusing attention on task-relevant aspects and dealing with action distracting, task-relevant thoughts and emotions.
4. Self-assessment: assessing or judging oneself as a learner in general, or with regard to certain educational units or subjects. This contributes to a certain self-concept or self-image.
5. Valuing: assigning subjective values, resulting in the willingness or unwillingness to invest energy. Example: the way students assess the task relevance, the time and mental effort it takes to do something, as well as the contribution of a learning task to achieving their personal learning objectives.
6. Effort: To perform thinking activities that require mental energy. Some thinking activities are routine in nature and can be performed automatically, such as memorising. Others require more constructive effort and conscious regulatory control.
7. Generating emotions: generating, maintaining, and restoring positive feelings such as wellbeing, self-confidence, commitment and dedication, and dealing with negative feelings such as fear, anger, stress, uncertainty, doubt, frustration, and helplessness. Sub-activities within this category include: talking to oneself in a reassuring way, avoiding certain situations and tasks, and various affective interpretations and perceptions of the progress and results of a learning process.
8. Expectations: building up expectations about the course and outcome of a learning process. Expectations of failure include, for example, students thinking that they do not have enough time, that the task is too difficult, or that the learning objectives are not achievable. Expectations of success are the opposite.

1.4.3 Regulatory learning activities

With regulatory learning activities, students can try to control both the cognitive and affective processing of learning content as much as possible. They are thinking activities that students use to formulate learning objectives, exercise control over their processing activities, and direct the course of their own learning processes (up to and including the results of their own learning).

Regulatory activities are:

1. Orientation: preparing the learning process by 1) examining the characteristics of a learning task, the learning situation and assessment, and 2) considering possible and desirable learning objectives, the learning materials and processing activities to achieve those objectives, the resources needed to do so, the characteristics of the student themselves (such as available prior knowledge), and the contextual factors (such as time needed).
2. Planning: making decisions about learning activities to be undertaken and establishing a plan of action based on the information provided by the orientation.
3. Monitoring the process: observing and recording whether the learning activities used lead to the achievement of the learning objectives.
4. Tests: to check whether the subject matter has been sufficiently mastered.
5. Diagnostics: identifying gaps in the mastery of the subject matter, examining the background to problems or successes that occur during learning.
6. Adjustment: making changes to the original planning based on the results of monitoring, reviewing, and diagnosing activities.
7. Evaluation: assessing the achieved learning outcomes in relation to the planned learning objectives.
8. Reflection: reflecting on what has taken place during learning.

According to Vermunt, the regulatory learning processes are characterised by three main strategies. These are distinguished by the degree to which students direct their own learning or whether the direction is provided by the teacher, the learning resource, or fellow students:

1. Self-management of learning processes: students themselves perform all kinds of regulatory activities to steer their learning, such as orienting, planning, monitoring, and adjusting.
2. External control of learning processes: students respond to instructions, assignments, tasks, and the like that are offered from the environment.
3. A strategy without direction: students have too little grip on the external direction, but are also unable to provide direction themselves.

Learning How to Teach in Higher Education focuses on the daily practice of teachers in higher education. Even though their role is changing, teachers are crucial for students. After all, it is up to the instructor to shape teaching in such a way that students achieve maximum learning outcomes.

Learning How to Teach in Higher Education is intended for beginning teachers in higher education, but it is also an excellent reference work for more experienced teachers who are looking for practical tips or a theoretical foundation. The book can be used in professionalization courses and learning paths for teachers, examiners, and student advisors in higher education, such as the Basic and Senior Teaching Qualification (BKO, BDB, SKO in Dutch), the Basic and Senior Qualification for Examiners (the BKE and SKE in Dutch), and the Basic and Senior Qualification for Study Advisers (the BKS and SKS in Dutch).

The book covers four themes:

1. How do students learn?
2. What should students learn and how do they demonstrate it?
3. How do students reach the desired final level?
4. The evaluation and development of education.

The focus is on campus-based education; the interaction between teachers and students in a physical environment. There is also ample attention to online and/or blended forms of education. Using examples, diagrams, models and skills sheets, the authors provide direct support for questions from everyday teaching practice.

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