

INTRODUCTION

This is the master's thesis guide of Aalto University School of Chemical Engineering. The guide gives general information on the master's thesis as a study attainment, describing the whole thesis project, from starting the work to the thesis approval. This master's thesis guide is intended as a tool for students writing a master's thesis, as well as for the thesis supervisors and advisors.

WHAT IS A MASTER'S THESIS?

A master's thesis is a study attainment, which the student carries out at the final stages of their studies. For clarity, in this document terms *master's thesis project* and *master's thesis report* are used, the former referring to all the work the student does during this study attainment, and the latter referring to the written report on the project. During the master's thesis project, the student typically aims to solve a problem relevant to the field of study. The work is based on existing scientific knowledge and is conducted according to the principles of scientific research, following good engineering and scientific practices and ethical guidelines. This work is documented in a scientific thesis report, which on one hand summarizes the relevant existing knowledge on the thesis project's topic area, and on the other hand describes the research the student performed during the thesis project.

The master's thesis shall be written on a topic related to the advanced studies of the degree programme, agreed upon between the student and a professor who is either in charge of the research field linked to the topic or sufficiently specialised in the topic of the thesis. The extent of the master's thesis as a study attainment is 30 credits (ECTS), equaling to 800 working hours. The period of time spent working on the master's thesis may in reality be longer than approximately 5 months if the student is carrying out other studies or duties at the same time.

The master's thesis includes not only the thesis itself, but also a maturity test and seminar presentation or a corresponding presentation of the thesis and its findings.

LEARNING OUTCOMES OF THE MASTER'S THESIS

These learning outcomes describe the skills and competences that the student should develop during the span of the master's thesis project. The evaluation of the thesis measures this development. The learning outcomes are divided into four groups, describing the student's development in the areas of problem solving, knowledge in applying theories and methods in science and engineering, project management skills, as well as communication skills.

Problem solving skills

After completing the master's thesis project, the student can
define a clear scope for a research project and is able to formulate relevant and clear research questions, as well as describe the objectives of a project logically.
can choose appropriate engineering and/or research methods and is able to apply the chosen methods in a logical way that fits the problem and the research questions.
can work independently but is also able to seek guidance and take advantage of the received advice.

Skills in applying scientific and engineering theories and methods in the area of the chosen topic

After completing the master's thesis project, the student

- demonstrates understanding of the relevant technological and scientific concepts and theoretical frameworks in the area of the topic.
- displays ability of conducting work according to good engineering and scientific practices,

following ethical guidelines.

- shows ability of discussing the results in the context of the topic and the research questions and can draw justified conclusions from the results.
- shows command of data acquisition, and can correctly refer to appropriate, up to date scientific literature and other relevant sources of information.

Project management skills

After completing the master's thesis project, the student

- displays ability of making a feasible and logical plan for an engineering or scientific project, and can implement the plan in an efficient manner, which does not significantly exceed the set deadlines.
- can manage the acquired information in an organized manner and is able to follow the given guidelines for documenting and presenting the work.

Skills in scientific and professional communication

After completing the master's thesis project, the student

- can present results of an engineering and/or research process clearly and critically discuss their significance to the cooperation partners, and possibly to the scientific and engineering community.
- shows skill in formal writing and can write a report, which is easy to read and forms a well organised, coherent whole.
- has practiced oral communication in varying work-life situation: from day-to-day discussion with colleagues to presentation of the results in personal discussions, as well as in project meetings with the cooperation partners.

ROLES AND STAGES OF THE MASTER'S THESIS PROCESS

During the master's thesis project, the student cooperates with a supervisor and one or two advisors. The student works independently during the thesis project, with the supervisor and advisor(s) offering support; ultimately, the student themselves is responsible for the successful completion of the master's thesis project.

Thesis supervisor

The master's thesis supervisor shall be one of the professors at Aalto University as defined in Section 16 of the Aalto University Bylaws. For special reasons and by decision of the dean, the thesis supervisor may also be another professor, university lecturer or senior university lecturer of the school (not a docent). At the School of Chemical Engineering, master's theses may be supervised by adjunct professors, professors of practice and FiDiPro professors, as well as senior university lecturers. The supervisor ensures that the thesis meets all aims and requirements set by the School of Chemical Engineering. In their statement the supervisor evaluates the thesis and suggests a grade.

Thesis advisor

The thesis work may have either one or two advisors. Thesis advisor is an expert in the field of the thesis topic and shall hold at least a master's degree. If the thesis project involves cooperation with a partner, such as private company or other organisation, the advisor normally represents the cooperating partner. The thesis advisor may also be an Aalto University researcher or doctoral student specialising in the field of the thesis.

The advisor's tasks include giving advice on practical work during the thesis project, as well as instructing writing the thesis report; however, the advisor is not responsible for grading the master's thesis. As the advisor typically instructs the student's work practically daily, they have a good idea on the student's performance at the workplace. Therefore, the supervisor may ask the advisor's opinion on the student's performance during the master's thesis project.

As thesis projects are all different, the roles are not defined in more detail in this document. Nevertheless, it is necessary to discuss and clearly define the division of the duties between the student, the advisor(s), and the supervisor when the thesis project is started. Also, it should be agreed how the student will communicate the progress of the work to the advisor(s) and the supervisor.

Neither the supervisor nor the advisors may be a relative of the student or biased in any other way. Designation of the thesis supervisor and advisor must be done in compliance with the Aalto University policy on disqualification.

Choice and approval of the topic

It is the student's responsibility to find themselves a master's thesis topic. The master's thesis topic shall be related to the student's advanced studies (major). Finding a suitable topic may take time, and therefore it is highly recommended to start looking for it several months before the planned starting time of the thesis work.

Topics are typically available in research being conducted at the school. It is also possible to find a master's thesis topic from companies, e.g. from an industrial facility where the student is working during summer. The thesis topic is decided in discussions between the student and the supervisor; the student always makes the final choice. If the thesis supervisor is not from the school of the student, the professor in charge of the major has to confirm that the topic of the thesis relates adequately to the student's advanced studies.

The Degree Programme Committee (DPC) of the school approves the topic and the language of the master's thesis and appoints a thesis supervisor and one or two thesis advisors. Before submitting the application, the student needs to

- be enrolled as an attending student.
- have their B.Sc. degree approved.
- have their study plan (HOPS) for master's degree studies approved.
- have completed the possible complementary studies they were assigned when admitted to the study programme.

To obtain approval for the master's thesis topic from the DPC of the school, students submit the application to the eAge-system. The form includes the details of the thesis supervisor and those of thesis advisor(s), and the language of the master's thesis. The thesis is written in either Finnish, Swedish or English. The language of the master's thesis determines the language of the student's

degree, and therefore also the language of the degree certificate. Students who have written their master's thesis in Finnish or Swedish will have the language of the degree determined accordingly and will receive the degree certificate in either Finnish or Swedish; a translation (in English) of the certificate is included. Students who have written their master's thesis in English will have English as their language of degree and will receive the degree certificate in two languages: English and either Finnish or Swedish.

The thesis supervisor must recommend approval of the topic on the topic application form. For additional information, see [the electronic application form in eAge](#). The topic of the master's thesis remains valid for one year from the date of approval. It is good practice to not mention company or brand names or use any abbreviations in the topic (except for well-known abbreviations accepted in standard language). Since minor specifications to the topic are allowed after its approval but major changes require submitting a new application, all specifications and changes to the topic must be agreed upon with the thesis supervisor. The title of the master's thesis may be formulated to suit the topic - it does not have to be formulated exactly as it was in the application. The title of the thesis should be clear and as concise as possible.

It should be noted that the topic for the master's thesis project and the completed master's thesis report cannot be approved at the same DPC meeting, unless the topic is renewed (due to expiration or changes).

Preparing a research proposal

When the topic is suitable for a master's thesis project in the view of the supervisor, the student makes a research proposal in cooperation with the supervisor and the advisor(s).

The research proposal defines, for instance, the following:

- background, the theoretical framework and research problems
- objective of the thesis (main objective, interim objectives)
- research methods
- timetable and possible budget
- analysis, synthesis and conclusions

Often the main objective of the thesis is best put in the form of a question. The research problem and questions specify what the work aims to answer. The research proposal should also present some interim goals, for instance, finishing the literature review section, finishing the analysis section, and so forth. The research proposal is reviewed, for example, at the kick-off meeting with the thesis supervisor and thesis advisor(s).

The date of completion for the master's thesis shall be agreed upon between the thesis supervisor and the student and set at a date that is no more than one year from the approval date of the topic. The school may also organise master's thesis seminars, which are often associated with the initial stages of the master's thesis process, for instance with the presentation of research proposals. This allows students to get feedback and guidance from the other participants at the start of the process.

Master's thesis process

When the thesis supervisor and the thesis advisor(s) have approved the research proposal for the master's thesis, the actual execution of the thesis work starts. The total number of hours to be spent

on the master's thesis is about 800. As a default, the duration of the execution phase should be ca. five months. Due to special circumstances, such as student's personal reasons – e.g. other concurrent studies – or the character of the experimental methods, the execution phase may be extended. However, this needs to be agreed upon between the student, supervisor, and advisor(s) preferably already in the kick-off meeting. Moreover, even if the duration of the master's thesis project is extended, the student's total workload shall not exceed 800 hours. At the start of the master's thesis project, students are recommended to focus on the written material so that the earlier research on the topic may best be put to use to support the research. The original research proposal may be modified slightly and specified as the study progresses and usually this is recommended.

Contacts between student and the professor supervising the thesis are usually frequent at the start and end of the research, while contacts to the thesis advisor(s) should be frequent throughout the thesis project. The key duty of the thesis supervisor is ensuring that the topic of the thesis is suitable and that the research proposal provides a framework for a successful execution of the thesis. The student may, however, always contact the thesis supervisor if questions arise regarding the progress of the work.

The thesis advisor(s) normally comment the student's work periodically throughout the thesis project. The student and the advisor can agree on commenting the thesis manuscript, or parts of it, whenever convenient. The thesis advisor should read the manuscript and comment on it in the light of the goals set by the target organisation, which they represent. Based on the advisor comments and suggestions, the student works on the manuscript. Once the quality of the manuscript is at the level the student and advisor feel to be suitable, the supervisor will examine the thesis manuscript thoroughly and give the student feedback on the corrections and changes needed. It is a good practice to also discuss the learning outcomes and the evaluation criteria of the thesis at this stage of the process. The student must reserve enough time for the examination: the supervisor should have 2–3 weeks for reading, correcting, and commenting the manuscript.

When the student has made the corrections and changes suggested by the thesis supervisor, the thesis is resubmitted to the supervisor for approval. The student should work carefully with the manuscript, reacting diligently to all the supervisor's comments and aiming at producing a final version of the thesis for this review to avoid multiple correction rounds. When the supervisor has approved the corrections, they will give the student permission to submit the thesis for evaluation and publication.

Because all thesis projects – as well as students, advisors, and supervisors – are different, it is worth noting that the process with the thesis manuscript can be different from the process described above. However, it is good practice to agree upon the practicalities and deadlines with the thesis manuscript when starting the master's thesis project.

Evaluation and approval of the master's thesis

When evaluating the thesis, these general principles apply:

1. The Degree Programme Committee gives the thesis grade, based on an evaluation and proposed grade given by the thesis supervisor.
2. The evaluation covers the entire student's work during the whole thesis project; hence, it is not sufficient to evaluate the thesis report only.
3. The student's development during the master's thesis project is evaluated in the light of the learning outcomes, which are reflected in the evaluation criteria.

4. Only aspects which are dependent on the student, can influence the evaluation and grading. This means, for example, that if the thesis is delayed due to unexpected reasons, which the student cannot control (e.g. production stoppage at a factory, delayed service for broken laboratory equipment), the delay must not affect the thesis grade.
5. The thesis report is a document produced by the student; hence, the advisors' and the supervisor's role are to instruct the student on how to improve the quality of the text, not to rewrite the report. The legibility and quality of the student's written communication is one of the evaluation criteria for the thesis. Based on this, it is neither justified to require that an external professional proofread the thesis manuscript before its evaluation.

The learning outcomes of the thesis, as well as the evaluation criteria and the minimum criteria for each grade, shall be presented at the kick-off meeting of the master's thesis project. The thesis supervisor is responsible of ensuring that the thesis advisor is aware of the evaluation criteria of the Aalto master's theses, particularly in cases where the student performs their work outside Aalto University.

The evaluation and approval of a completed master's thesis is applied for through an electronic form through [eAge](#). After submission of the thesis, the supervisor sends their evaluation to the Secretary of the DPC. The meeting dates are listed [here](#).

The guidelines for master's thesis evaluation defined by the School of Chemical Engineering can be found in the evaluation form. The supervisor's evaluation shall follow these guidelines, including a written statement on the thesis with a proposal for a grade. The supervisor submits this evaluation to the DPC. When preparing the evaluation, the supervisor requests statement(s) from the thesis advisors. It is also highly recommended that the supervisor, advisors, and the student have a meeting regarding the evaluation, to go over the criteria, feedback, and proposed grade. In cases where the supervisor has proposed the grade of *excellent* (5), *satisfactory* (1), or fail, the DPC shall consult a university professor, adjunct professor, professor of practice, FiDiPro professor or senior university lecturer with expertise in the research field when deciding on the grade. Usually, a concurring statement is provided to the DPC.

Having familiarized itself with the supervisor's evaluation and any additional statements, the DPC shall decide on the approval of the thesis and on its grading. If the DPC does not approve the thesis and grade, the application is returned to the student.

Students who fail to submit the master's thesis for examination by the deadline shall submit a new thesis topic application to the school. Since delay in the writing process may lower the grade, students are advised against delaying the thesis writing by taking up other commitments before the thesis is ready.

Presenting the master's thesis

The master's thesis process also includes presentation of the finished thesis at a time agreed upon with the thesis supervisor. The presentation (or similar event to showcase the thesis) must be held before the master's thesis is approved and evaluated.

Maturity test

The master's thesis author must write a maturity test to demonstrate conversance with the field of

the thesis, and the test must be written before the approval of the master's thesis. At the School of Chemical Engineering the abstract of the thesis is approved as the maturity test for master's degree.

Students, who have been educated in Finnish or Swedish and have not demonstrated their language proficiency previously in a maturity test for a bachelor's degree, shall write the maturity test in the language in which they have been educated at the primary and secondary levels (Finnish or Swedish). The contents of the maturity test are reviewed by the thesis supervisor, while its language (if needed) is evaluated by the Language Centre.

The language of the maturity test may be failed if it does not meet the degree requirements. Students are to reserve around 14 days for the language check from the date of receipt of the text by the Language Centre. The maturity test is graded on a pass/fail basis, and its grade does not affect the grade of the master's thesis. A failed maturity test may be retaken.

If the student is not required to demonstrate language proficiency in Finnish or Swedish, the maturity test may be written in the preferred language, most often the language of the thesis is preferred. In this case, the maturity test is subject only to approval of contents, not language.

Grade appeals

Students dissatisfied with the grade of their thesis may appeal against the decision in writing to the Aalto University Academic Appeals Board within 14 days of receiving notification of the decision. The appeal shall arrive at the university before the closing time of the Registry (at 15.00) on the deadline date.

If the student is notified of the decision by an electronic message (by e-mail), the notification is deemed to have been received by the student on the third (3) day after mailing, unless proven otherwise. If the student is notified of the decision by mail, the notification is deemed to have been received by the student on the seventh (7) day after mailing unless proven otherwise.

The appeal is addressed to the Aalto University Academic Appeals Board to:
The Aalto University Academic Appeals Board, Registry, P.O. Box 11000, FI-00076 AALTO
kirjaamo@aalto.fi

The appeal must specify the following:

1. Student name and contact information
2. Information of when the student was notified of the decision
3. Decision (incl. name of thesis and name of person responsible for grading)
4. The change sought with the appeal
5. Grounds for the appeal (copies of documents on which the student bases their appeal if not already submitted to Aalto University)

Electronic version of the master's thesis and online publishing

The electronic publication of the master's thesis allows distributing the research results on a global scale, which is useful, for instance, if applying for a job or study place abroad. An electronic master's thesis is easy to find with search engines like Google.

The metadata includes the author, title and translated title, thesis supervisor and thesis advisor, and key words. All approved theses are archived as full-text versions in the Aaltodoc publication archive. The abstract and/or the full text are also published if the student has given their consent to it. The permission to publish is given via the e-transaction system when requesting approval for the thesis.

GENERAL INSTRUCTIONS ON WRITING THE THESIS REPORT

The actual guidelines for formatting the master's thesis report, including tips on the presentation style (font, line spacing, margins, referencing) are available on the [Into website](#).

The master's thesis report is a concise, clearly written and finalised written presentation of a topic, with the maximum length of 70–80 pages with appendices. The appearance of the thesis must be neat, organised and elegant. Right alignment and use of headers and footers are optional, and the page number format may be chosen by the student. Students are recommended to illustrate the thesis with appropriate figures and tables. Tables are good for presenting exact values. Instructions on using figures and tables are given various writing manuals.

Collecting source literature and seeking information

Before starting to write the master's thesis report, the student collects and lists source literature. In the beginning, it is worth going through a sufficient amount of reference material. The literature review may be performed manually by seeking information in the sources of the library or by searching related references in Finnish and international databases.

Finding suitable and reliable information for the master's thesis may prove challenging. There are many ways to seek information - reference and full text databases, international sources, articles in scientific journals, reviews, congress papers, theses, and international societies of the discipline. Internet directories and link lists should be used with caution - Wikipedia is not an appropriate source.

The information specialists of the library will help you in seeking information and in using the information systems and material provided by [the library](#). For instance, you can turn to an information specialist in questions related to information search for theses.

List of references and compiling it

The starting point is that a reference must always be given in the thesis text if you are not stating your own interpretation or conclusion or 'general knowledge'. This means that references must be given, for instance, when presenting the results or claims made by another researcher or using a table or figure taken from someone else's work. A direct quote is put in quotation marks. References should be made to original sources or as close to an original source as possible and not to a later publication that refers to the original source. Compiling a list of references is a central part of scientific publishing. The use of references has been stipulated in the Copyright Act (Tekijänoikeuslaki 404/1961), and the appearance of references to printed material has been defined in the SFS standard 5342 and that of references to electronic material in the SFS standard 5831. The list may be compiled in several ways depending on the system used. The two most common systems are the Harvard system, which is recommended also for the thesis, and numeric referencing. Since

the referencing systems used at Aalto University may vary by degree programme/major it is best to ask for detailed instruction from the thesis supervisor.

Academic integrity in writing the master's thesis

Under the Aalto University General Regulations on Teaching and Studying, all teaching and studying must take into consideration responsible conduct of research. Students shall familiarise themselves with the available instructions and ask for assistance if instructions are unclear. (Aalto University General Regulations on Teaching and Studying) [Code of conduct](#) defines responsible conduct at Aalto University.

Misconduct, plagiarism and consequences thereof

In a studying context, misconduct is first and foremost defined as a deliberate act or means of misrepresenting one's own or someone else's level of competence. Forms of misconduct include fabrication, misrepresentation and unacknowledged borrowing or plagiarism.

Plagiarism, or unacknowledged borrowing, refers to representing another person's material as one's own without appropriate references. This includes research plans, manuscripts, articles, other texts or parts of them, visual materials, or translations. Plagiarism includes direct copying as well as adapted copying. (Aalto University Code of Academic Integrity, Item 3.3).

In accordance with the Aalto University General Regulations on Teaching and Studying, a study attainment may be left ungraded if the student is deemed to have violated against the Code of Academic Integrity while completing it. For details on the Code of Academic Integrity and the consequences of violating it and related processes, see [the Into portal](#) (Academic regulations).

Electronic originality check

Aalto University has a university-level electronic system which recognises similarities between written texts and thus helps in the detection of plagiarism.

PUBLICITY AND COPYRIGHT OF THE MASTER'S THESIS REPORT

The master's thesis report is a public document which shall be available at the school (Degree Regulations of the Aalto University School of Chemical Engineering). Issues related to the copyright of the master's thesis report are resolved in accordance with the general copyright legislation, and inventions made during the master's thesis process are solved in accordance with valid patent legislation.

The master's thesis report is a public document usually not covered by confidentiality provisions; hence, information which is not seen as covered by the principle of openness and cannot be regarded public, must not be included in the master's thesis report. The thesis may, however, include information about trade or business secrets, patentable inventions etc. In such cases, the author of the thesis and the thesis advisor(s) must agree upon the details included in the master's thesis. Aalto University has made a contract template to be used when students agree upon making a master's thesis with an external collaboration organisation. It should particularly be noted that the contract is always made between the student and the external organisation and it should be communicated to the thesis supervisor. The contract includes, for instance, provisions on the copyrights of the thesis. [Contract template](#)

SUPPORTING THE THESIS PROCESS

The Aalto University Library and Information Services, the Language Centre and various departments offer courses to help students in writing the thesis report. Contact the planning officer of your degree programme for details. Students writing their master's thesis report in English may attend the Writing Clinic tutoring service of the Aalto University Language Centre. For additional information, visit the [Language Centre website](#).

LITERATURE AND LINKS

Kauranen I., Mustakallio M. ja Palmgren V. 2006. Tutkimusraportin kirjoittamisen opas oppinnäytetyön tekijöille. Otaniemi TKK. 109 s. ISBN 951-22-8359-x.

Nykänen, O. 2002. Toimivaa tekstiä. Opas tekniikasta kirjoittaville. Helsinki TEK. 212 s. ISBN 952-5005-64-X

Heikkinen, R. 2005. Tiedonhakijan teho-opas. Jyväskylä: Docendo, 2005. 154 s. ISBN 951- 846-258-5

Novak, J. 2002. Tiedon oppiminen, luominen ja käyttö : käsittekartat työvälineinä oppilaitoksissa ja yrityksissä. Jyväskylä: PS-kustannus. ISBN 952-451-057-X

Coghill, Anne M., Garson, Lorrin M. 2006: The ACS Style Guide: Effective Communication of Scientific Information. New York: Oxford University Press, Inc. ISBN13: 9780841239999. <https://pubs.acs.org/isbn/9780841239999> (accessed 2.7.2018)

[Aalto University resource guides](#)

[Aaltodoc \(https://aaltodoc.aalto.fi/?locale-attribute=en\)](https://aaltodoc.aalto.fi/?locale-attribute=en) – Full-text publications of the Aalto University schools: theses, reports, conference and other publications.

Academic phrase bank: <http://www.phrasebank.manchester.ac.uk/>

Monash University guides: <https://www.monash.edu/rlo/quick-study-guides>

American Chemical Society style guide: <https://pubs.acs.org/isbn/9780841239999>

Statutory insurance for students: Accidents and damages during study
<https://into.aalto.fi/display/enopisk/Statutory+insurance+for+students>

ATTACHMENTS

Attachment 1: Feedback form and instructions to the thesis advisor

Attachment 1

Feed back form for Master’s Thesis (thesis advisor fills in)

Evaluate the student’s work life skills and competences using this form. (1 = passable, 2 = satisfactory, 3 = good, 4 = very good, 5 = excellent).					
Areas	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Communication					
The student’s literary message is clear and uncompromising.					
The student communicated clearly during the work.					
The student followed instructions and asked for clarification when necessary.					
Skills in project work and teamwork					
The student planned their tasks with precision.					
The student completed the work on schedule					
The student demonstrated that they can work independently					
The student was committed and completed the tasks given to them					
The student had a positive attitude at work					
Experimental work and results					
The student demonstrated ability to complete experimental work					
The student presented justifiable conclusions from the results					

Write a short feedback on the student’s performance and understanding of the subject from academic and engineering point of view. Please also give feedback on work life skills.
You can e.g. describe how the student demonstrated that they understood the assignments and the scope of the thesis, how they planned and completed experiments and delivered conclusions based on the results.

Aalto University

School of Chemical Engineering

Instructions to the Master's Thesis advisor

The thesis advisor's role and responsibilities

- Get to know the Master's Thesis in question
- Support the student in the practical work so that the agreed goals are reached
- Give feedback on the thesis during the process:
 - Goals and objectives
 - Table of contents
 - Literature
 - Experiments
 - Final version
- It is important to note that the thesis advisor does not grade the Master's Thesis. The supervisor evaluates the work academically and presents the grade suggestion to the Degree Programme Committee. As thesis advisor you give your feedback to the supervisor during the work.

Tips for the thesis advisor

- Make a commitment to guiding the student and book enough time (30-50 hours) for it (including one-to-one meetings)
- Stress the student's active role during the meetings
- Clarify the goals and objectives of the thesis to yourself
- Frame the subject carefully so that there is enough material to work with
- Set clear goals to each milestone and deadline
- Make sure at the start that the student has understood the schedule and stick to it!
- Remember positive feedback and praise the student even for trying
- Encourage the student to look for information in different sources and to write differently than before.
- You can add being thesis advisor to your CV
- It's recommended to meet often at the start so that the student gets a good start.