

Guide for formulating individual intended learning outcomes to meet degree outcomes

What are individual intended learning outcomes?

When graduating, the doctoral student must have acquired the knowledge and expertise listed as degree outcomes for doctoral degrees in the Higher Education Ordinance (see annex 1). The doctoral student acquires this knowledge and expertise by writing their thesis, taking courses and publicly defending of their doctoral thesis. The degree outcomes are general, abstract and comprehensive. On the contrary, individual intended learning outcomes are distinct, concrete as well as specific, and therefore can be followed up. An individual intended learning outcome describes the necessary level and quality of activities which the doctoral student must carry out to meet the degree outcomes. Using the individual intended learning outcomes, a doctoral student's educational process is adjusted to the prerequisites of the individual and thesis in question. In other words, the intended learning outcomes are a method of supervision. Despite the fact that doctoral education is individual, some of the intended learning outcomes are generic and may suit several different doctoral students working within the same subject field. As the doctoral student develops their knowledge and expertise, the individual intended learning outcomes formulated at the beginning of their studies may need to be revised.

How to do it:

Each research subject has its own research and knowledge traditions that include what one should know, how to learn the subject in question, how to conduct research and what constitutes good quality. Often, these traditions are mainly conveyed by role models. In order for the supervisor and doctoral student to formulate individual intended learning outcomes together, these behaviors and values must be explicitly expressed. One way to achieve this is to list all the activities normally included in research within the field in question as well as to list the criteria for satisfactory quality. See table 1 for examples.

Supervisors and doctoral students should do the following: When carrying out different daily research activities (laboratory session planning, sampling, peer reviews of manuscripts, writing applications, seminars, group meetings, etc.), make a habit of discussing which general expertise and knowledge are required and

which are applied. Then relate them to the general degree outcomes. Supervisors should state the criteria that they apply when assessing activity quality. Discuss which of the doctoral student's individual intended learning outcomes are relevant to the activity in question.

Directors of studies/heads of department can for example do the following:

- Discuss recurring supervisor activities with colleagues, possible individual intended learning outcomes, how they relate to the degree outcomes and how they are assessed.
- Organise doctoral education workshops for supervisors and doctoral students, focusing on individual intended learning outcomes within the department or faculty. The Educational Development Unit (EPU) at the Division of Educational Affairs (epu@slu.se) can help plan and implement these activities.

Table 1. Examples of activities and pass grade criteria

Activity	Possible quality and level criteria for a pass grade
<ul style="list-style-type: none"> -Introductory paper/ Research overview (humanities-social science) -Field and laboratory work, source material research (both personal and others' projects) -Journal club -Scientific articles/case studies -Summarising chapter of the thesis/monograph, background -Mid-way review -Final review (humanities-social science) -Writing research applications -Research discussions in various contexts (from research teams to international conferences) -Project meetings -Presentations for the supervisor group -Teaching at undergraduate and Master's level -Formulating Bachelor's and Master's assignments, incl. supervision and review -Supervising students -Subject courses -Basic courses in general skills 	<ul style="list-style-type: none"> -Good understanding and communication of the research domain's scope as well as deep understanding of one's personal, limited research domain in order to identify and critically review current issues - Clear presentation of the methods used in their specific context. Methods should be chosen based on well-argued and supported criteria -Independent analysis and critique when assessing both personal and others' scientific works -General and specific knowledge on research methods within the field -Conscious choice of method -Description of personal contributions in relation to current research and knowledge -Clear theme in texts and presentations -Awareness of target group and ability to adjust to it.

The quality and level criteria for a satisfactory performance, i.e. that the intended learning outcomes have been met, must qualitatively describe what is required. In the examples above, the concepts satisfactory, relevant and good are used. What these concepts de facto mean can only be assessed by those with the required expertise, i.e. subject colleagues. Suitable quality and level criteria in doctoral education are described on page 10 in [Linking levels, learning outcomes and assessment criteria](#) by Jenny Moon used in SLU's courses on grading and assessment.

Follow-up and assessment

The [annual follow-ups](#) of the [individual study plan \(ISP\)](#) and the more regulated mid-way review are the formal occasions when the educational process for a single doctoral student are assessed.

Before the [public defence of a doctoral thesis](#), the principal supervisor is responsible for assessing whether the doctoral student has acquired the necessary scientific maturity and independence in accordance with the degree outcomes. The examining committee assesses the thesis and the author's oral defence and awards it a pass or fail grade.

The principal supervisor suggests courses that may be included in the degree. The faculty board approves the degree, including its constituent courses.

Annex 1. Degree outcomes for the degree of doctor according to [the Higher Education Ordinance](#).

		Degree outcomes	Type of knowledge
Knowledge and understanding	1	Demonstrate broad knowledge and systematic understanding of the research field as well as advanced and up-to-date specialised knowledge in a limited area of this field.	Theoretical knowledge acquired through reading, reflecting and understanding.
	2	Demonstrate familiarity with research methodology in general and the methods of the specific field of research in particular.	
Competence and skills	3	Demonstrate the capacity for scholarly analysis and synthesis as well to review and assess new and complex phenomena, issues and situations autonomously and critically.	Theoretical understanding is not enough to learn. Practical exercises and role models are required. Compare it to learning how to play a musical instrument.
	4	Demonstrate the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively, and to plan and use appropriate methods to undertake research and other qualified tasks within predetermined time frames and to review and evaluate such work.	
	5	Demonstrate, through a dissertation, the ability to make a significant contribution to the formation of knowledge through his or her own research.	
	6	Demonstrate the ability in both national and international contexts to present and discuss research and research findings authoritatively in speech and writing and in dialogue with the academic community and society in general.	
	7	Demonstrate the ability to identify the need for further knowledge.	
	8	Demonstrate the capacity to contribute to social development and support the learning of others both through research and education and in some other qualified professional capacity.	
Judgement and approach	9	Demonstrate intellectual autonomy and disciplinary rectitude as well as the ability to make assessments of research ethics.	Can be compared to code of conduct. Understanding and applying values is a third type of knowledge. They also need application and role models.
	10	Demonstrate specialised insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used.	

Annex 1. Degree outcomes for the degree of licentiate according to [the Higher Education Ordinance.](#)

		Degree outcomes	Type of knowledge
Knowledge and understanding	1	Demonstrate knowledge and understanding in the field of research including current specialist knowledge in a limited area of this field as well as specialised knowledge of research methodology in general and the methods of the specific field of research in particular.	Theoretical knowledge acquired through reading, reflecting and understanding.
Competence and skills	2	Demonstrate the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively, and to plan and use appropriate methods to undertake a limited piece of research and other qualified tasks within predetermined time frames in order to contribute to the formation of knowledge as well as to evaluate this work.	Theoretical understanding is not enough to learn. Practical exercises and role models are required. Compare it to learning how to play a musical instrument.
	4	Demonstrate the ability in both national and international contexts to present and discuss research and research findings in speech and writing and in dialogue with the academic community and society in general.	
	5	Demonstrate the skills required to participate autonomously in research and development work and to work autonomously in some other qualified capacity.	
Judgement and approach	6	Demonstrate the ability to make assessments of ethical aspects of his or her own research.	Can be compared to code of conduct. Understanding and applying values is a third type of knowledge. They also need application and role models.
	7	Demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used.	
	8	Demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.	