

Towards a design for professional development of honors teachers at Saxion University of Applied Sciences

Final project for Master Educational Science and Technology

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Summary

In the recent decades honors education has experienced a big growth worldwide and also in the Netherlands. Honors programmes are selective study programmes in higher education for students who are motivated and gifted and want more challenge. According to the literature honors students need a different teaching approach than regular students and honors teachers need education in teaching to this specific type of students. Therefore, Saxion University of Applied Sciences wants to establish professional development for honors teaching. The main goal was to examine what is a good way to professionalize teachers in honors education at Saxion and secondly to make a first step in the design process for professional development in one aspect of honors teaching. For this a design research has been conducted, consisting of four phases: context analysis, needs analysis, design construction and test/evaluation. The focus was on the analysis phase.

In the context analysis was found that the aim of honors education at Saxion is that the students develop critical and reflective thinking, self-regulation in their learning, interdisciplinary working and innovative behaviour (the five goals). Another finding was that there is no selection procedure, no format of general performance criteria and no clear common appraisal cycle used for honors teachers at Saxion. For the needs analysis, a literature review and interviews with honors teachers by use of a self-scoring list were conducted. Based on the results of the needs analysis, five topics are found to be relevant for the professional development of honors teachers with regard to promoting the five goals: the design and application of methods and tasks; guidance methods and techniques; assessment methods (mostly for (thinking) skills and attitudes); the critical reflective attitude of the teacher towards his own development (regarding the high self-assessment of the honors teachers); and a shared vision of all honors programmes at Saxion.

For one aspect of honors teaching, promoting critical thinking of students, a first design was made. A global design, consisting of four sessions, was constructed based on the 4C/ID model. A concrete first design for the first session was constructed. In this session the teachers design methods to promote critical thinking of students in their education. The design was tested by conducting a pilot and evaluated afterwards by a focus group consisting of the participants of the pilot. The general impression of the participants was positive. However, the participants would have liked to start with a critical thinking (teaching) experience instead of reading information from literature. The participants liked the coaching style of the facilitator regarding the amount of guidance and found it useful to have a group with participants from different faculties.

There are three recommendations that can be derived from this research. First, a shared vision on honors education at Saxion is needed for: the honors teachers to adopt the same line at global level, the professional development of the honors teachers and having a common appraisal cycle for all honors teachers. Second, the critical reflective attitude of the honors teachers is found to be an important topic for professional development. Third, more measurements within honors education at Saxion and more use of literature could provide valuable information about the effectiveness of teaching methods. So, a good way to professionalize teachers in honors education at Saxion is to develop a shared vision on honors education and pay attention to the critical reflective attitude of honors teachers and to effect measurements of methods. The trajectory for professional development covers promoting the five goals (e.g. critical thinking) and is based on the 4C/ID model.

In future research, the complete design for critical thinking and the other four goals can be constructed. After a try-out, research can be done to measure if the professional development had a positive effect on the teaching skills of the honors teachers and the development of the students.

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Table of contents

Summary	1
Acknowledgement.....	2
1 Introduction	5
1.1 Description of the problem.....	5
1.2 Thesis structure.....	6
2 Initial orientation: honors students and honors programmes in general	7
2.1 Honors students	7
2.2 Honors programmes	8
3 The present study.....	9
3.1 Goal of the research.....	9
3.2 Scientific and practical relevance	9
4 Research design	9
4.1 Research design.....	9
4.2 Research methodology	10
5 Context analysis.....	11
5.1 Honors education at Saxion.....	11
5.1.1 Honors students	11
5.1.2 Honors programmes	12
5.1.3 Honors teachers	13
5.2 Different perspectives on teacher professional development	14
5.2.1 Methodology	14
5.2.2 Overview of the different perspectives.....	15
6 Needs analysis	17
6.1 Methodology	17
6.2 Honors teaching.....	17
6.3 Exploration of needs according to honors teachers	19
6.3.1 Methodology	19
6.3.2 Results	20
6.3.3 Conclusion.....	26
7 Design.....	27
7.1 General goals, principles and boundary conditions for the design.....	27
7.2 Stimulating critical thinking of students.....	28
7.2.1 Defining critical thinking	28

7.2.2	Promoting critical thinking.....	28
7.2.3	Learning goals for the honors teacher to promote critical thinking.....	30
7.3	Underlying model for the design.....	31
7.4	Global outline of the design for critical thinking	32
7.5	Justification of the global design.....	33
7.6	Design of the first session about critical thinking	34
7.7	Justification of the design of the first session.....	37
8	Test and evaluation.....	39
8.1	Pilot session.....	39
8.2	Evaluation.....	39
9	Discussion and recommendations.....	41
10	References	43
11	Appendices	47
	Appendix A Analysis of the basic didactical qualification at Saxion	47
	Appendix B Analysis of the perspective of honors teachers at Saxion	50
	Appendix C Analysis of the trajectory for honors teaching of the University of Utrecht.....	51
	Appendix D Competence profile of honors teachers at Saxion.....	53
	Appendix E Self-scoring list of the competences for honors teachers	55
	Appendix F Interview schedule honors teachers.....	57
	Appendix G Code tree interviews honors teachers	58
	Appendix H Agenda of the evaluation	59

1 Introduction

In this chapter a description of the problem is given and the structure of the thesis is explained.

1.1 Description of the problem

In the recent decades talent development has become a subject of high priority and therefore honors education has experienced a big growth worldwide (Wolfsenberger, 2015). In the United States honors education is already well-established in higher education with about half of the colleges and universities providing honors programmes (Wolfsenberger, 2012) and with the National Collegiate Honors Council (NCHC) as the nationwide organization of honors programmes (Van Eijl et al., 2005; Wolfsenberger, 2015). In the recent years, honors education became more important in Europe, with the Netherlands as forerunner (ITS, 2015; Wolfsenberger, 2015). The Netherlands wants to have more high qualified people to be successful as knowledge economy (ITS, 2015).

Comparing all the different views on honors education and the different types of honors programmes, it is not possible to give one universal definition of honors education. In the Netherlands the Sirius Programme, a cooperation between more than twenty higher education institutions, focuses on honors education. Even within this cooperation every institution has its own vision on honors education, based on the identity and mission of the institution (Sirius Programma, 2014). Based on the similarities between definitions worldwide, the following definition will be used in this research: honors programmes are ‘selective study programmes’ in higher education for ‘motivated and gifted students’ who want ‘more challenging programmes’ (Wolfsenberger, 2015, p.12).

From the literature (Scager, 2008; Wolfsenberger, 2012) appears that honors students need a different teaching approach than regular students, because the honors student is a different type of student (Kazemier, Offringa, Eggens & Wolfsenberger, 2014). Honors students are in general motivated, committed, active and ambitious (ITS, 2015). They have a preference for teachers who facilitate creative and integrative thinking, active learning and self-regulation (Kazemier et al., 2014) by providing less structured assignments (Scager, 2008) and using activating methods with peer-interaction (Van Eijl et al. 2005).

According to Lappia (2015) and Wolfsenberger (2015) honors teachers need training and guidance in teaching to honors students. Also Reis and Renzulli (2010) state that teacher training and support of good quality is of great importance for the success of honors education, because it helps the teacher to provide challenging and differentiated education. Also teachers often have only ‘implicit knowledge’ (based on experience and intuition) about their teaching approach (Lappia, 2015, p.15). However, professional development of teachers at honors education is still in its starting phase (Wolfsenberger, 2015) and research is still being done to formulate what courses for honors teaching should look like (Ten Berge & Van der Vaart, 2014).

In the Netherlands, several courses for honors teachers already exist at different higher education institutions. Saxion University of Applied Sciences already has a course for basic didactical qualification for all teachers, but also wants to establish professional development specifically for honors teaching. At the moment, Saxion offers seven honors programmes to 259 honors students. The institution wants to find out what is a good way to professionalize teachers for honors teaching at Saxion.

Therefore, the main research question is: What is a good way to professionalize teachers in honors education at Saxion for honors teaching?

In order to answer this question, it is examined what the characteristics of honors education at Saxion are and what honors teachers at Saxion need education in. Based on the results of these analyses, a first design for professional development of honors teachers at Saxion in teaching critical thinking is constructed, tested and evaluated.

1.2 Thesis structure

First an initial orientation on honors students and honors programmes in general will be given (chapter 2). The aim is to get a global image of what honors education is and for what kind of student it is established. In the next chapter (chapter 3), the goal and scientific and practical relevance of this research will be described. In chapter 4, the design of the research will be described and an overview of the methods that are used will be given. This is aimed at giving a clear picture of the outline of the research with the different phases, purposes and methods of each phase. Then the first phase of the research, the context analysis, will be described in chapter 5. This chapter provides information about the specific context of this research, namely honors education at Saxion University of Applied Sciences. The next chapter (chapter 6) will describe the needs for honors teaching at Saxion. After the context and needs analysis, there can be focused on the design. In chapter 7, a first design for professional development of honors teachers in promoting critical thinking of students at Saxion will be described. The design of the first session is tested and evaluated (chapter 8). This is aimed at formulating positive aspects and aspects for improvement of the first design. In the last chapter (chapter 9) a summary of the research and its conclusions will be given and the limitations, (recommendations) and areas for future research will be discussed.

This theses includes also a number of appendices. These appendices contain additional information from literature, the self-scoring list for honors teachers, the interview schedule and the code tree of the interview results, document analyses and the focus group agenda for the evaluation of the design.

2 Initial orientation: honors students and honors programmes in general

In this chapter an initial orientation on the characteristics of honors students and honors programmes in general is described.

2.1 Honors students

Honors students are in general motivated and gifted students who want more challenge than the regular programmes offer (Wolfsenberger, 2015). The term ‘‘gifted’’, however, is interpreted in a lot of different ways. Scager (2008) developed a model for the characteristics of gifted students in the context of honors education (see Figure 1). The model is mainly based on the model of Renzulli, Sternberg and the Munich Model for Giftedness and consists of four groups of characteristics: intelligence (IQ and domain-specific abilities), learning ability (learning pace, making connections, seeing total pictures and self-regulation), creativity (divergent thinking, receptivity, flexibility and sensitivity) and commitment and motivation (ambition, motivation, perseverance and commitment).

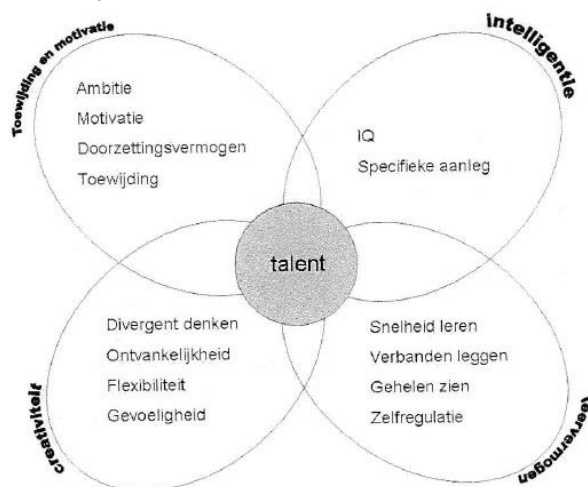


Figure 1. Characteristics of gifted students. Reprinted from Scager (2008, p.67)

Since this model is not based on empirical evidence, it cannot directly be taken as a definition of a typical honors student. Moreover, Scager (2008) states that no clear distinction can be made between honors and non-honors students based on this model and that there are differences in the presence of these characteristics among honors students.

However, some empirical evidence on the creativity characteristics was found in a survey of Kaczvinsky (2007), conducted among students at the Louisiana Tech University. The study indicated that honors students ‘‘have greater intellectual interests and are more willing to challenge their accepted values, beliefs and ideas’’ (Kaczvinsky, 2007, p.93). Kool and Wolfsenberger (2014) also found an open attitude to be a significant positive predictor of excellent study performances in their study among 88 nursing students at Hanzehogeschool Groningen.

A valuable contribution to the empirical research on honors students came from Scager (2012), when she conducted a questionnaire with over a 1000 students at Utrecht University. The students assessed themselves on six characteristics: persistence, intelligence, the desire to learn, openness to experience, creative thinking and the drive to excel. Honors students scored significantly higher than non-honors students on all characteristics, except persistence (Scager, 2012). The characteristics desire to learn, the drive to excel and creativity were found to be the best predictors for allocation to the group of honors or non-honors (Scager, 2012). There were differences in the results between the study programmes.

From focus group meetings with students and employees at eight higher education institutions in the Netherlands appeared that honors students are in general motivated, committed, active and ambitious (ITS, 2015). These results are in line with the characteristics of the model of Scager (2008). Furthermore, the honors students scored themselves higher than non-honors students on taking initiative, collecting and processing information, analytic skills and working independently (ITS, 2015). Also, from a survey among 194 honors and regular students at Hanzehogeschool Groningen was found that honors students score themselves higher on their ability to think critically and to regulate their own learning (Kazemier et al., 2014).

Because of the use of self-reports in the studies from Scager (2012), Kazemier et al. (2014) and ITS (2015), it cannot be concluded from these studies whether the honors students really have more knowledge and better skills and attitudes than non-honors students. However, it can be concluded that the honors students have a higher self-efficacy than non-honors students (ITS, 2015). This is in line with the results from Kaczvinsky (2007), who found that honors students are academically more confident than non-honors students. So, honors students are in general motivated, committed, active and ambitious and have a higher self-efficacy on intelligence, desire to learn, openness to experience, creative thinking, critical thinking, self-regulation and the drive to excel.

2.2 Honors programmes

‘‘Honors programmes are selective study programmes linked to higher education institutions (..) that are more challenging and demanding than regular programmes’’ (Wolfsenberger, 2015, p.12). This responds to the need of students with a high ability to learn to have a faster pace, less repetition and more challenge (Scager, 2008). The programmes are focused on deepening and/or on broadening and there is often attention for research and personal development (Van Eijl et al. 2005). In programmes with a focus on broadening, students are stimulated to make connections between other disciplines to facilitate integrative thinking (Kazemier et al. 2014; Scager, 2008). This responds to the open attitude and creative thinking of honors students. Most honors programmes have a selection and admission criteria with regard to study results, motivation and mentor advice (Van Eijl et al., 2005).

In terms of teaching approaches and the classroom settings, honors programmes differ from regular programmes by small group settings (Van Eijl et al., 2005; ; ITS, 2015; Kascvinsky, 2007) and activating methods for students with a lot of peer-interaction (Van Eijl et al. 2005; ITS, 2015). In general, students (and teachers) also have more autonomy in deciding on the form and content of the lessons (ITS, 2015). Because of the high level of self-regulation and creativity of honors students, in honors programmes more open and less structured assignments are provided to give the students the opportunity to develop own ideas and initiatives (Scager, 2008).

The differences between the honors programmes of several higher education institutions mainly concern organizational aspects, content and details, position with regard to regular programmes and disciplinary orientation (ITS, 2015). For example, some programmes are focused on deepening and some on broadening.

So, some empirical research on differences between honors and non-honors students in higher education has been found. However, these results are not suitable for generalization because the results were mainly self-reports and differences were found between study programmes. Also generalization is not possible, because of the differences of honors students and honors programmes between higher education institutions. For this reason, an analysis of the specific characteristics of honors students and honors programmes at Saxion University of Applied Sciences is needed.

3 The present study

In this chapter the goal of the research and the main research question are described. Also, the scientific and practical relevance of the research is explained.

3.1 Goal of the research

Saxion University of Applied Sciences wants to establish professional development for honors teaching. In this research the main goal is to examine what is a good way to professionalize teachers in honors education at Saxion and secondly to make a first step in the design process for professional development in one aspect of honors teaching. Therefore, the main research question is: What is a good way to professionalize teachers in honors education at Saxion for honors teaching?

3.2 Scientific and practical relevance

With regard to quality improvement and sustainability of honors education, professional development of honors teachers is of great importance. This research is a valuable contribution to science and practice, since professional development of honors teachers is still in its starting phase (Wolfsenberger, 2015). The analysis of this research can be used as a foundation for the design process for professional development of honors teachers at Saxion. The first draft of the design for promoting critical thinking can be used as a first step in the construction of a complete design for professional development in honors teaching at Saxion. After construction and implementation of the design at Saxion, empirical research can be done to evaluate the effectiveness of the design. Also other higher education institutions can use this research for construction of their system for professional development or for reviewing their already existing system. It is advisable for the institutions to take their specific contexts into account.

4 Research design

This chapter describes the design of the research and the methodology to achieve the goals of the different phases of the research.

4.1 Research design

This research can be characterized as a design research. According to McKenney & Reeves (2012) design research consists of the phases analysis/exploration, design/construction and evaluation/reflection (see Figure 2). In this research the focus was on the first phase and for one aspect of honors teaching a first design was constructed, tested and evaluated. This model fits this research well because of the iterative processes and the dual focus on theory and practice at each phase. Research and design processes are integrated to find a solution for practice which is justified by theories and research findings (McKenney & Reeves, 2012).

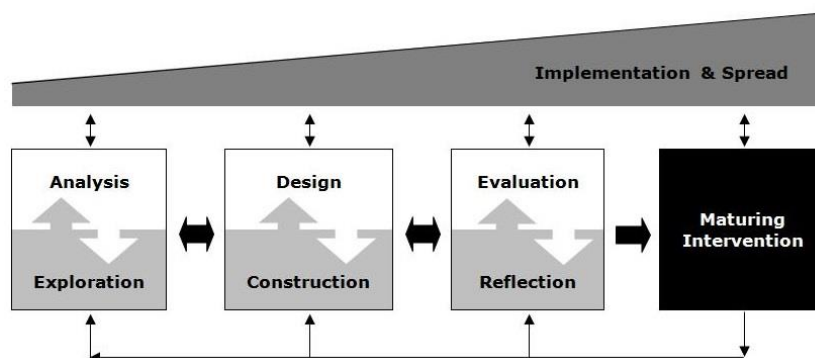


Figure 2. Generic model for educational design research. Reprinted from McKenney & Reeves (2012, p.77)

This research consists of four phases (see Table 1). The goals of the analysis and exploration is to get understanding of the problem, context and needs (McKenney & Reeves, 2012). The context analysis is focused on getting a clear understanding of characteristics of honors education at Saxion. The needs analysis is conducted to get a clear picture of the needs for honors teachers. Then, a design for teaching critical thinking(one aspect of professional development for honors teachers at Saxion) was constructed based on the results from the analysis and exploration. Subsequently, the design was tested and evaluated.

Table 1. Design of the research

Analysis and exploration		Design and construction	Test and evaluation
Phase 1: context analysis	Phase 2: needs analysis	Phase 3: Construction of a first design	Phase 4: Test and evaluation of the first design

4.2 Research methodology

In Table 2 the methods used to achieve the goals of the different phases in this research are described.

Table 2. Methodology of the research

Phase	Purposes	Methods
Context analysis	Analyzing the context of honors education at Saxion	Literature review/ document analysis Informal conversations with teachers and researchers at Saxion
	Exploring different perspectives on the form of professional development	Document analysis about the course for basic qualification at Saxion and an interview with the coordinator
		Literature review on an example of trajectory for honors teaching from the University of Utrecht Interviews with honors teachers
Needs analysis (with regard to the content of professional development)	Analyzing the needs for honors teaching at a global level	Literature review
	Exploring the needs according to honors teachers themselves	Interviews with honors teachers by use of a self-scoring list
Design	Analyzing one aspect of honors teaching: promoting critical thinking	Literature review
	Constructing the design	-
Test and evaluation	Testing the design	Pilot session with honors teachers at Saxion
	Evaluating the design	Focus group at the end of the pilot session

5 Context analysis

In this chapter the context of this research, honors education and teacher professional development at Saxion, are discussed. The main question of this chapter is: What are the specific characteristics of honors students, honors programmes and honors teachers at Saxion? The second question is: What are different perspectives on professional development of (honors) teachers at higher education?

5.1 Honors education at Saxion

In this subchapter the characteristics of honors students, honors programmes and honors teachers at Saxion are discussed. For this literature review and document analysis are conducted. Also informal conversations are used as source.

5.1.1 Honors students

To analyse the characteristics of honors students at Saxion, the following documents are used: Saxion Programma Excelleren deel 1 (2010), Saxion Programma Excelleren deel 2 (2011), Saxion Programma Excelleren deel 3 (2012) and Saxion Programma Excelleren deel 4 (2013).

The goal of honors education at Saxion is to develop students with above average talents into excellent professionals (Saxion Programma Excelleren, 2012, p.6). There is described that students should be selected on motivation, creativity and learning ability (Saxion Programma Excelleren, 2012). Looking at the applied selection criteria, there is variation between the honors programmes. Students are selected on (intrinsic) motivation, domain-specific talents, creativity, their eagerness to learn, curiosity, being coachable, a proactive and open attitude (taking initiative and thinking in a broad way) (Saxion Programma Excelleren, 2010). Methods for selection area motivation letter, on the recommendation of the student counselor, an interview and for some programmes study results are taken into account (Saxion Programma Excelleren, 2012).

So regarding the selection criteria at Saxion, motivation, creativity, learning ability and in some cases domain-specific abilities are seen as characteristics of students with above average talents and the potential to become excellent professionals. These are similar to the characteristics in the model of Scager (2008). Only IQ is at Saxion not seen as characteristic of honors students, because no general IQ tests are conducted.

With regard to the end criteria for honors students at Saxion, a profile has been developed by van Dijk: the profile of the Reflective Professional (Saxion Programma Excelleren, 2011, p.9-10). This profile describes the characteristics in which an honors student who successfully completes the honors programme distinguishes himself from a regular student (Saxion Programma Excelleren, 2011). However, there are (and should be) differences among the graduated honors students to which extent each competence is present according to Saxion Programma Excelleren (2011). Innovative behaviour is seen as an important distinction between excellent professionals and regular professionals.

The profile of the Reflective professional consists of six competences:

1. exceeding bounds with respect to subject matter (in Dutch: vakinhoudelijk grensoverstijgend);
2. professionally inspiring (in Dutch: professioneel inspirerend);
3. the professional learning journey and social awareness (in Dutch: de professionele leerreis en maatschappelijk bewustzijn);
4. methodological quality and academic attitude (in Dutch: methodologische kwaliteit en wetenschappelijke attitude);
5. excellent reflective ability (in Dutch: excellent reflectief vermogen);
6. differentiated profile development (in Dutch: gedifferentieerde profielontwikkeling)

From this profile it does not immediately become clear what concrete competences honors students need to develop and how this aligns to goals for honors students in general as described in the literature.

Comparing the information from the documents of Saxion to the literature about honors education in general (as described in chapter 3), five main underlying goals for honors students at Saxion can be determined. These goals are that the students develop critical and reflective thinking, self-regulation in their own learning, interdisciplinary working and innovative behaviour. All of these competences can also be found in the framework for twenty-first century skills. In this framework skills as being creatively (with others), implementing innovations, working in diverse teams, critical thinking, being a self-directed learner are mentioned (Partnership for 21st century learning, 2015).

In January 2016, there were 259 honors students at Saxion. The student population consisted of 110 male students and 149 female students. From this population 37 students started in 2013, 89 in 2014 and 133 in 2015 with their honors programmes. Remarkable is that a lot more students started with an honors programme in the past three years, namely 448 students, but that a lot dropped out of the programme. This could imply that the current selection procedure or quality of the honors education might need improvement in order to achieve these goals.

5.1.2 Honors programmes

For the analysis of the honors programmes, the following sources are used: the webpage of Saxion Top Talent Programma, Saxion Programma Excelleren deel 1(2010) and informal conversations with researchers and teachers at Saxion.

At Saxion, there is a distinction between honors programmes and excellence trajectories (Saxion Top Talent Programma, n.d.). Honors programmes are focused on broadening and the development of students into creative, entrepreneurial people and bridge-builders, so that they can connect different disciplines and can apply this broad knowledge in an innovative way. Excellence trajectories are focused on deepening with regard to their specific field and the development of the students' analytic and research skills.

However, honors students also need analytic and research skills to be able to work evidence based when they use and connect knowledge from different disciplines for innovation. Therefore, methodological quality and academic attitude is also one of the six competences in the Reflective Professional profile. So, within honors programmes the focus is on broadening, but there is also deepening in order to be able to make (interdisciplinary) connections and reflect critically on it.

Saxion offers seven honors programmes: Changing Cities, Health Care & Social Work, Marketing and International Management, Natural Leadership, Innovation and Business Creation, Liberal Arts and Sciences, Creativity in Finance and Management. The honors programmes are three-year programmes and start at the beginning of the second year of the regular bachelor programme. The honors programmes are extracurricular, which means that they are separated from the regular bachelor programmes. An honors programme consists of 30 ECTS-credits, which is similar to 800 hours of study work. (Saxion Programma Excelleren, 2010). The last year contains a more demanding graduation programme integrated with the bachelor graduation programme, the so-called Final Course. There is an selection procedure before start on the honors programme and a second admission procedure before start on the Final Course. (Saxion Programma Excelleren, 2010).

In terms of the classroom settings, the honors programmes differ from regular programmes at Saxion by small group settings and usually more activating methods for students with a lot of peer-interaction. The meetings are often at the end of the day (late afternoon or evening). Teachers have more autonomy in deciding on the content and form of their modules. For example, the teachers have more freedom to decide about the content and methods for examination.

5.1.3 Honors teachers

For the analysis of the honors teachers, the following sources are used: Saxion Dienst HRM (n.d) and informal conversations with teachers and researchers at Saxion.

Approximately 60 honors teachers were involved in honors programmes at Saxion, from which about 60% are men and 40% are women. Most honors teachers have an academic background and work experience in a specific field, such as health care or entrepreneurship. A lot of them are also teachers in regular programmes and besides teaching to students, most honors teachers also do research or have another job in their fields. Each honors programme has a coordinator who is often also an honors teacher himself. There is no selection procedure for honors teachers. Teachers can decide on voluntary basis to teach to honors students and there are no criteria formulated that have to be met.

There is differentiation between the honors programmes who is responsible for the performance of honors teachers. It can be the responsibility of the faculty director or the team leader. According to the project leader of Saxion Top Talent Programma in the past is determined that the functioning of the teacher in the honors programme will be taken into account in the regular performance appraisals. It can be questioned if this also takes places to a sufficient extent.

In the regular appraisal cycle goals are set for the school year during the first appointment. These goals are often set bottom-up, so the teacher comes up with his own goals. In the mid-year review the teacher elaborates on his progress and at the end of the year the supervisor gives his opinion about the functioning of the teacher. When setting goals and making a plan, the teacher can make use of the courses offered by Saxion. There are already basic qualification courses for didactical skills, examination, e-learning, English language, research skills and guidance to students (Saxion Dienst HRM, n.d). Furthermore, a senior qualification course for examination is offered (Saxion Dienst HRM, n.d).

So, for honors teachers, no specific courses are offered at Saxion and no selection procedure is used. Furthermore, there are no general performance criteria set and there is no clear, common appraisal cycle used for honors teachers at Saxion. A finding of the study of Truijen (Saxion Programma Excelleren, 2013) among 112 honors students at Saxion was that many students see little difference between honors teachers and regular teachers. Explicit professional development of honors teachers could result into a more clear distinction between the competences of honors teachers and regular teachers. Professional development will probably lead to improved quality of honors education which might will result in a lower drop-out rate of honors students.

5.2 Different perspectives on teacher professional development

In this subchapter different perspectives on professional development of (honors) teachers at higher education are described, namely the perspective from the basic qualification course at Saxion, from honors teachers at Saxion and from an existing trajectory for honors teaching of the University of Utrecht. All this information can be used as input for the form of the design for professional development for honors teaching at Saxion.

5.2.1 Methodology

The analysis of the three perspectives is structured by use of the curricular spider web of van den Akker (2003). The curricular spider web is a tool for educational design and facilitates the construction of a complete and coherent design. The aspects of the spider web are vision (the core), goals, content, learning activities, resources and materials, role of teacher, group size/formation, location, time, assessment (Van den Akker, 2003). The analysis is structured according to these aspects to create a clear and complete overview of the course.

Some aspects of the curricular spider web are focused on, namely the vision, learning activities, role of the teacher, assessment, group formation and time. Location and resources are very specific aspects that are not relevant in this stage of the design yet. The content and goals of professional development of honors teachers are discussed broadly in the next chapter (needs analysis).

First, insight in the basic qualification course at Saxion has been gained by document analysis and an interview with the coordinator. This information gives insight in to which form of professional development the honors teachers at Saxion are used to. The interview also asks for positive reactions and critics of the teachers on the course and the view of the coordinator is on further professional development of the teachers. All this information can be used for the design of the course for honors teaching.

With regard to the validity, triangulation is used. With triangulation different methods are used to examine the same phenomenon (Denzin, 1978). Here method triangulation is used, because an interview with the coordinator of the course BDB at Saxion was conducted in order to complement the document analysis with additional information.

Second, the perspectives of honors teachers at Saxion are described. For this, interviews with an honors teacher from each honors programme (n=7) were conducted. A more elaborate description of the methodology for these interviews can be found in subchapter 6.3.1, because the main part of the interview was about their learning needs. Last, an example of a professional development trajectory for honors teaching at the University of Utrecht is described. For this a document analysis has been conducted .

5.2.2 Overview of the different perspectives

In this paragraph only an overview of the perspectives is given (see Table 3). See Appendix A for the analysis of the basic qualification course at Saxion, Appendix B for the detailed results of the perspective of the honors teachers and Appendix C for the document analysis of the trajectory for honors teaching of the University of Utrecht.

Table 3. Overview of different perspectives on professional development

	Basic qualification Saxion	Honors teachers Saxion	Trajectory of UU
Vision	Completion of the course is a starting point for further development	Continuous development	Professional development for a certain period
Learning activities	Start session, workshops, lectures and question sessions, individual appointments and intervision sessions. Read literature, conduct interventions.	Lectures, workshops or trainings with a certain theme, intervision sessions, classroom visitations among colleagues.	Lectures about certain themes (what is honors education, learning needs), intervision sessions, discussions, informal conversations, conduct an intervention
Role of teacher	More active role during sessions with technical content, restrained role during intervision sessions. Participants active role in each session (the extent depends on type of session). Trainers/ experts invited.	A teacher who has a coordinative role or no teacher needed. (Experts/trainers for certain themes/workshops.)	Two course leaders with a coordinative role. Experts invited.
Assessment	Knowledge test and portfolio (conduct intervention, classroom observation, examination file, PDP)	Unclear. Feedback from students and other teachers.	No assessment
Group size/ formation	8-16 participants	Groups with participants from different honors programmes	11-14 participants from different faculties
Time	Thirteen sessions in five months	Four sessions a year.	Three sessions in four months.

The basic qualification course is aimed at learning teachers to act consciously and how they can keep developing themselves. The completion of the course is therefore also seen as a starting point for further development. According to the coordinator of the basic qualification course at Saxion, there is recently more demand for “working examples”. A working example could be a teacher who has completed the course and tells about success factors and threat factors. With regard to his personal view on professional development of teachers at Saxion, he would like to see that a connection is made between the goals of Saxion and the personal goals of the teacher.

Most honors teachers think the professional development should be continuous and not for a certain period. Also, some teachers think a distinction should be made between professional development of new honors teachers and honors teachers who are already practitioners. Forms of professional development that were most often mentioned by the teachers are lectures or workshops with a certain theme, theater, intervision sessions and classroom observations among colleagues.

The honors teachers had different opinions about the presence of a teacher or supervisor at the sessions. Most teachers did not have a concrete idea of what the assessment should look like, but they mainly think it is good to let other teachers and/or students give feedback or assess a teacher. All teachers would like to see that teachers from different honors programmes are together in a group. Some teachers had the opinion that regular teachers or students should be involved as well. The teachers in general agreed on the frequency of the sessions, namely four times a year.

In contrast to the perspective of honors teaches at Saxion, the trajectory for honors teaching of the University of Utrecht ends after a certain period.

So, there are a lot of differences between the three perspectives, like the vision, assessment and time. Similarities can be found at the learning activities (lectures, workshops and intervision sessions) and the role of a coordinative teacher and trainers/experts.

6 Needs analysis

In this chapter the needs for honors teachers at Saxion are discussed to determine the content of professional development for honors teachers. The main question of this chapter is: In what knowledge and which skills and attitudes do honors teachers at Saxion need training?

6.1 Methodology

To answer this question, a literature review about honors teaching in general and at Saxion is conducted. At this way is examined what competences for honors teaching are needed according to the literature. In addition, an exploration of the learning needs according to the honors teachers themselves will be conducted. By use of a self-scoring list, exploratory interviews with honors teachers are conducted to build an image of their personal learning needs according to themselves. The in-depth information from the interviews is useful in the construction the details of the design, because it is used to sharpen and prioritize the aspects of the literature review. Also an impression of their attitudes towards and opinion on professional development is attained this way.

6.2 Honors teaching

For honors education at Saxion the goals are that the students develop critical and reflective thinking, self-regulation in their learning, interdisciplinary working and innovative behaviour. In this subchapter a global overview of the needs for honors teaching in order to achieve these goals is given. For this, a literature review has been conducted. The analysis is structured according the five elements for teachers as stated by the Dutch nationwide protocol (Vereniging Hogescholen, n.d.).

Teaching

With regard to teaching methods, activating methods for students with a lot of peer-interaction should be used (Van Eijl et al. 2005; ITS, 2015; Van der Rijst & Wolfsenberger, 2014). This way of teaching is already facilitated by the small group settings and the teacher should make optimally use of this setting. Interdisciplinary thinking, critical thinking, innovative behaviour can be promoted by use of activating and cooperative methods. At group work activities teachers can create groups with students from different backgrounds. Together they can come to innovative ideas or products. By discussions students can take a critical look at social issues and at their own and each other's perspectives (Edman, 2002). Honors students score themselves higher on their ability to think critically (Kazemier et al., 2014), so teachers should stimulate this in his teaching. Furthermore, the teacher can inspire the students by showing his own passion for the subject (Sirius Programma, 2014).

Guidance to students

Honors students score themselves higher on their ability to regulate their own learning (Kazemier et al., 2014). Maybe they also actually have already a higher level of self-regulation, but this does not mean that they are immediately capable of regulating their learning process entirely on their own. With regard to guidance to students, the teacher should give the student autonomy in his own process by letting the student make his own choices to a certain extent (Sirius Programma, 2014). At the same time, the teacher should be clear about his expectations, monitor the process and give regularly feedback (Sirius Programma, 2014). The teacher should express to have high expectations of the students to respond to the ambitious attitude of honors student (Van der Rijst & Wolfsenberger, 2014). When giving feedback, the teacher especially has to let the student reflect on his own work and process. So, the teacher has the role of a coach. At this way the honors teacher will promote the self-regulation and reflection of the student (Saxion Programma Excelleren, 2012).

The relationship between the teacher and student should be equal in relationship (Sirius Programma, 2014). They learn together and from each other. For this the teacher has to become detached from the traditional setting in which the teacher is dominant to the student. The teacher needs courage to act according to this new setting (Sirius Programma, 2014).

Educational design

Students in honors education should be stimulated to make connections between other disciplines (Kazemier et al. 2014; Scager, 2008), which responds to the open attitude and creative thinking of honors students. According to Clark (2002) honors students also have the ability and preference to think at a more abstract and integrative level than regular students. Also Van der Rijst and Wolfsenberger (2014) and Saxion mention interdisciplinary working as a characteristic of honors education.

Another goal of honors education at Saxion is innovative behaviour of students. Because of the high level of self-regulation and creativity of honors students, they have a need for more open and less structured assignments (Scager, 2008). At this way they get the opportunity to develop own ideas and initiatives.

Assessment

Also in the assessment the self-regulatory skills of the student and the extent to which he took his own responsibility should be taken into account. So, in the assessment more focus should be on the process (Sirius Programma, 2014) to measure the performance on the process-oriented goals in a more valid way.

Professional attitude as a teacher

At Saxion, Truijten (Saxion Programma Excelleren, 2013) conducted a study to develop a competence profile for honors teachers (see Appendix D). This profile is based on literature review, interviews and questionnaires among honors students and honors teachers at Saxion, a Delphi study with experts and the Reflective Professional Profile for honors students at Saxion. The profile ended up being very similar to the profile for students, with the six competences and in addition the aspect of the relationship between teacher and student. When compared to the five core elements of the BDB course, almost all aspects would apply to the element professional attitude as a teacher. If it is needed for an honors teacher to possess the competences of an honors student himself is still a topic of discussion. Even though if this would be needed, then modelling only would not be enough for development of the student into a reflective professional. Nevertheless, for example for teaching critical thinking the teacher must already be a critical thinker himself at the beginning of the course, but should always stay trying to grow in his critical thinking (Edman, 2002).

6.3 Exploration of needs according to honors teachers

6.3.1 Methodology

Interviews by use of a self-scoring list with an honors teacher of each honors programme (n=7) are conducted. The male/female distribution is 4/3 and their age ranges from approximately 30 to 60 years old. The purposeful sampling method for maximum variation is used to get as clear as possible understanding of the situation and to get information from several perspectives (Onwuegbuzie & Leech, 2007). Therefore, this sampling method fits the exploratory purpose of the interviews well. There is variation in programme, age, gender, years of experience as teacher and years of experience as honors teacher among the respondents. Persons who are not working as honors teacher this school year are excluded from the sampling.

First, the honors teachers were asked to score themselves on their knowledge, skills and attitudes with respect to honors teaching by filling in the self-scoring list (see Appendix E). The items of the list are based on the literature review about honors teaching and on the items from the competence profile for honors teachers at Saxion as determined by Truijten (Saxion Programma Excelleren, 2013). The items are rated on a Likert scale ranging from 1 (very little knowledge/skills) to 5 (very good knowledge/skills). This scale is adapted from the self-diagnosis for the University Teaching Qualification of the Centre of Expertise in Learning and Teaching (n.d). Subsequently, interview questions were asked to the teachers by use of the results of their self-scoring. In Appendix F, the interview schedule can be found. In the interview has been focused on the items 1.1-1.3, 2.1/2.2, 3.5/3.6, 4.1, 5.8 and on items with noticeable high or low scores. A pilot for the interviews with honors teachers was conducted with a teacher and researcher from the research group Saxion Top Talent programma.

The honors teachers were invited by e-mail for the interview. All respondents participated on voluntary basis in this research. The results of the interviews are reported anonymously and this is also mentioned to the respondents on beforehand. The respondents were also asked for permission to record the sound of the interview and the purpose of the interview was explained. Furthermore, the possibility to withdraw from the research during the interview and to refuse to allow that the data is used till 24 hours afterwards the interview was explained. The participants were asked to sign the informed consent form. The interviews would only be conducted if the respondents agree on these conditions. The researcher (and also interviewer) and the respondents did not know each other and there is no dependency between them. The interview was one session of approximately 45 minutes.

The questions were asked in an open, objective and non-suggestive way. The interviews were conducted individually, so the respondents could not influence each other during the interviews. The data of the interviews was summarized, coded (see Appendix G for the code tree) and analysed.

6.3.2 Results

To guarantee the anonymity of the respondents, no specific description of the gender, age, honors programme and years of work experience as teacher of the respondents is given. In Table 4, only the years of work experience as honors teacher from the respondents are shown, because this is relevant for the analysis of the answers.

Table 4. Years of experience as honors teacher of the respondents

Respondent	Years as honors teacher
1,2,3	> 5
4,5	3-5
6,7	<1

In Table 5, the results of the self-scoring list with regard to means and items with low scores can be found. The average of the scores of the respondents is 4.12 on a scale ranging from 1 (very little knowledge/skills) to 5 (very good knowledge/skills). On the items 2.4 and 2.5 four respondents had a relatively low score. On the items 1.1, 1.3, 1.6, 2.2, 3.1, 3.7, 4.1, 4.2, 5.5 and 5.6 two respondents scored relatively low. No link was found between the years of experience as honors teacher and the average scores of the respondents.

Table 5. Means of the results of the self-scoring list and items with low scores per respondent

Respondent	M	Items with 1, 2 or 3 score
1	3.79	1.1, 1.3, 1.6, 2.4, 3.1, 3.7, 5.5*, 5.6
2	4.46	4.1
3	3.93	1.1, 2.2, 2.4, 2.5*, 3.2, 3.5
4	3.89	1.3, 2.2*, 3.1*, 3.7**, 4.1*, 4.2, 5.6*
5	4.41	2.4, 2.5, 3.1, 5.5
6	4.81	2.5
7	3.54	1.4, 1.6*, 2.4, 2.5, 3.3, 3.4*, 4.2*, 5.1, 5.3, 5.4, 5.8
Total	4.12 (SD .45)	2 times: 1.1, 1.3, 1.6, 2.2, 3.1, 3.7, 4.1, 4.2, 5.5, 5.6 4 times: 2.4, 2.5

* = 2 score **=1 score

In the Tables 6 till 10, the main findings with regard to skills and learning needs of the honors teachers for each of the five core elements are shown.

Table 6. Results of the skills and needs of honors teachers for Teaching

Teaching	
Respondent	Skills/learning needs
1	Skills: <ul style="list-style-type: none"> • Gives cooperative tasks, invites guest lecturers. Needs: <ul style="list-style-type: none"> • Wants to learn structured models and obtain more ideas and examples from colleagues for activating/cooperative methods. • Has no idea what he needs to develop critical thinking of students, not needed for his modules
2	Skills: <ul style="list-style-type: none"> • Has a method from his lectureship and becomes more skilful in making choices within that method by experience, trial and error and discussion with colleagues. • Critical thinking: always asks the question ‘why is that?’. Needs: <ul style="list-style-type: none"> -
3	Skills: <ul style="list-style-type: none"> • Excursions, cooperative tasks, involves external people. Needs: <ul style="list-style-type: none"> • Thinks that he is very conservative in his methods and that there are a lot more activating methods. Sometimes stuck in the traditional pattern. • Wants to learn how to stimulate the depth and critical awareness of students. Tools for letting the student take a critical look at themselves.
4	Skills: <ul style="list-style-type: none"> • Provides students with experiences and there is collaboration between students, professionals and people from the society. Needs: <ul style="list-style-type: none"> • Critical thinking: learns students to agree and disagree on a point of view, to questions things and look from different perspectives to a challenge.
5	Skills: <ul style="list-style-type: none"> • Students, teachers and professionals work together. • Critical thinking: students are stimulated to think critically about their own and others contribution and motivation (also that of teachers). Needs: <ul style="list-style-type: none"> -
6	Skills: <ul style="list-style-type: none"> • Has never learned to teach at the traditional way (knowledge transfer), so does not teach this way. • Critical thinking: asks questions, almost never gives answers. Needs: <ul style="list-style-type: none"> • Would find it interesting to have more knowledge of innovations in education and take a look how other teachers give education, to learn more kinds of methods.
7	Skills: <ul style="list-style-type: none"> • Discussions, cooperative tasks, ask questions for stimulating CT. Needs: <ul style="list-style-type: none"> • Is looking for best practices, good examples, new activating methods. • Wants to learn how to stimulate the higher order thinking skills, critical thinking of students. Wants to learn questioning techniques for that. • Wants to make more use of his network.

Summary

Most mentioned learning needs here are the need for more knowledge of activating methods and tools and techniques for stimulating critical thinking of students. These needs are supported by the following quotes: R1: *‘I am doing things because I’ve seen that it can be done that way, because I’ve experienced that I like it, but what other things are that are possible, what other people do or what are structured frameworks are for that, I’ve no idea. It is useful to know more of that’*.

R6: *‘I would find it interesting to have more knowledge of all kinds of innovations in education in order to increase my arsenal of methods’*.

Table 7. Results of the skills and needs of honors teachers for Guidance to students

Guidance to students	
Respondent	Skills/ learning needs
1	<p>Skills:</p> <ul style="list-style-type: none"> • Students can come up with subjects and discuss about rubrics. • Gives a lot detailed feedback by use of the rubrics. <p>Needs:</p> <p>-</p>
2	<p>Skills:</p> <ul style="list-style-type: none"> • Engages in dialogue with students. • You can also become better in the equal relationship with the students by practice and reflection. <p>Needs:</p> <p>-</p>
3	<p>Skills:</p> <ul style="list-style-type: none"> • Engages in dialogue with students. <p>Needs:</p> <ul style="list-style-type: none"> • Often tells students what he wants to see, but thinks that should be questions. • Feels responsible for making sure that students accomplish the goals. Wants to know when you have to intervene as teacher and how to accomplish that students become director of their own process. Wants to learn how to deal with reactions of student after failure and to let them look in the mirror, now he finds that difficult sometimes.
4	<p>Skills:</p> <ul style="list-style-type: none"> • Tells students that he also wants to learn and does not tell them what to do, but challenges them in personal conversations. • Gives students very critical feedback and indirectly hints. <p>Needs:</p> <ul style="list-style-type: none"> • Pays to little attention and time to reflection on the work process. Wants to have two teachers together, one for the content and one for coaching.
5	<p>Skills:</p> <ul style="list-style-type: none"> • Attitude that you as teacher can also learn from students. <p>Needs:</p> <ul style="list-style-type: none"> • Looking for the balance between giving strong and very little guidance. Would like to exchange ideas with teachers from other honors programmes about that.
6	<p>Skills:</p> <ul style="list-style-type: none"> • Has always worked with adults and therefore treats students as his equals and also learns as teacher. • When giving feedback, he tells students what other options are, the students makes the decisions in his process. • When giving assignments, he sets a framework on beforehand and tells what the goal is. <p>Needs:</p> <p>-</p>
7	<p>Skills:</p> <ul style="list-style-type: none"> • Being equal in relationship with students, gives feedback by asking questions. <p>Needs:</p> <ul style="list-style-type: none"> • Feedback: Wants to learn more coaching techniques for how to coach student in a way that they come up with answers themselves. • Is afraid that the lecture goes wrong when he does not intervene. • Wants to learn to do not intervene and to let it happen/let it go more.

Summary

Important learning needs for this element are finding a balance in the amount of the guidance and learning not to intervene too soon or too often. This is supported by the following quotes: R3: *‘that field of tension of when to intervene, should it first go completely wrong? That is hard.(..) I am looking for when to intervene and how do we make sure that the students become directors of their own process.’* R7: *‘I still have to learn to not intervene and just let it happen.’*

There is also need for tools or techniques for letting the student take a critical look at themselves and letting them come up with the answers themselves.

Table 8. Results of the skills and needs of honors teachers for Designing education

Designing education	
Respondent	Skills/ learning needs
1	Skills: • Makes changes to his education continuously, looks at colleagues in Europe. Dare to give the students some freedom, but not too much. Needs: • -
2	Skills: • You need to have a vision and dare to experiment. Needs: • -
3	Skills: • Lets students from different disciplines work together and lets them look at a problem from their own perspective. Needs: • Innovative: Finds that he is more conservative in this than others, who are creative and do not see any limitations. Is curious to elements of that which he can use in his education.
4	Skills: • Gives students the opportunity to be creative in tasks by giving open tasks and providing them inspiration by involving extraordinary people. Needs: • Wants to reflect more with colleagues on their education/teaching, give each other feedback and learn from it. Wants to discuss how to improve their education by help of experts, e.g. educational scientists. • Innovative: wants to have one fixed place for professional development. Now I get my inspiration in an loose way. • Ethical: wants to learn the students more to have attention for the ethical considerations of issues.
5	Skills: • People who look at existing methods and people who think innovatively and develop new ideas are both needed. Needs: -
6	Skills: • Innovative: Students can come up with subjects/ideas. • For interdisciplinary working, as a teacher you need to be open to other disciplines and have to come up with a method. Needs: -
7	Skills: • Students really are stimulated to come up with own, new ideas. • Pays attention to diversity of students in group work (e.g. in backgrounds). Needs: -

Summary

A learning need here is a place for exchange of ideas for education in which students are stimulated in innovative behaviour. This is supported by the quote: R3: *'I notice that I am more conservative in that than others, who are already more creative in that. Another teacher does not see any limitations and I could not make that happen.(..) But I think that elements of that are very useful and I am curious about that'*. Another need is reflection and discussion among colleagues in order to improve their education (by help of experts).

Table 9. Results of the skills and needs of honors teachers for Examination

Examination		
Respondent	Skills/ learning needs	
1	Skills:	<ul style="list-style-type: none"> • Uses several assessment methods (e.g. presentations), learned by a formal course.
	Needs:	-
2	Skills:	<ul style="list-style-type: none"> • Engages in dialogue with the students about their portfolios.
	Needs:	<ul style="list-style-type: none"> • Wants to try to improve this always by having dialogues with students and teachers.
3	Skills:	<ul style="list-style-type: none"> • Focuses on the learning pathway and on the growth of the students.
	Needs:	-
4	Skills:	<ul style="list-style-type: none"> • Has portfolio interviews with the students at the end of the programme.
	Needs:	<ul style="list-style-type: none"> • Has not succeeded yet in designing challenging assessments. Is looking for different assessment methods that fit better to education with more freedom.
5	Skills:	<ul style="list-style-type: none"> • In-your-element profile. Assesses by observations and conversations.
	Needs:	<ul style="list-style-type: none"> • Already made the assessment more measureable by the in-your-element profile, but is has to be transparent how you came to that verdict.
6	Skills:	<ul style="list-style-type: none"> • Assesses by observations and asks for the opinion of quests in the lecture.
	Needs:	<ul style="list-style-type: none"> • Does this now very subjectively. Wants to learn how to make the assessment more objective or transferable. Wants to know how to assess behaviour.
7	Skills:	<ul style="list-style-type: none"> • Now students reflect by making a portfolio.
	Needs:	<ul style="list-style-type: none"> • The portfolio is being assessed, not the process. Wants to learn what other possibilities and best practices by learning from colleagues from Saxion and outside Saxion.

Summary

Many respondents were looking for assessment methods that are process-oriented and objectively. This need is supported by the following quotes: R4: *‘I am still looking for other kind of assessments that fit education with more freedom better. And then not writing a paper, but something that is really challenging’*. R6: *‘I would want to examine to what extent the enormous amount of knowledge about examination in regular education can be used, how I can make it more objective or transferable.(..) How can behaviour be assessed?’*

Table 10. Results of the skills and needs of honors teachers for Professional attitude

Professional attitude	
Respondent	Skills/ learning needs
1	<p>Skills: • Asks students sometimes for feedback on his teaching.</p> <p>Needs: • Metacognitive skills: Does not meet deadlines etcetera and also permits this from students. Does not know how to work on this, leaves this task to other people.</p> <p>• Does not critically reflect on his own in structured way and does not know what he needs to improve this.</p>
2	<p>Skills: • With regard to teaching methods, assessment methods and engage in dialogues, he is always looking for improvement.</p> <p>Needs: -</p>
3	<p>Skills: • Uses feedback of students and colleagues for own reflection.</p> <p>Needs: • For his own critical reflection he needs exchange of ideas and discussion with colleagues (also from other honors programmes) about their way of teaching.</p>
4	<p>Skills: • Asks other people for feedback.</p> <p>Needs: • Now he does not share his critical reflection with other people, but he wants to do that more.</p>
5	<p>Skills: • Strong in reflecting, adjusting and improving based on evaluation.</p> <p>Needs: • Less strong in measuring and reporting that clearly.</p>
6	<p>Skills: • Always asks students what they think of it and takes a critical look at himself. He misses reflection of teachers on their work and critical questioning to each other.</p> <p>Needs: -</p>
7	<p>Skills: • Is looking for new insights (e.g. by teaching at a summer school in Prague) and uses these experiences for teaching to honors students.</p> <p>Needs: • Wants to stay more up to date in his domain, about new developments, didactical insights, innovative forms of education by lectures, conferences and exchange with other schools.</p>

Summary

There is considerable variation in needs here. Some respondents need discussion with colleagues, other respondents need organised lectures or more structure in their reflection.

Furthermore, multiple respondents mentioned that they do not know very well how teachers from other honors programmes design their education and teach to students. Two respondents mentioned that there should be talked about a common vision. One of them marked that he would like to have a shared vision for all honors programmes at Saxion. This becomes clear by the following quote:
 R6: *‘I am moderately informed of how others teach. (..) In order to create a shared vision together, because I do not know that one either. What do we want to do with Honors Programmes at Saxion level, in the full width? I do not know if there is a shared vision, but at the moment I experience it like something of our own faculty’*.

The most distinguishing items for honors teaching according to the teachers were stimulating critical thinking of students and being equal in relationship to the students (engaging in a dialogue with the student). One teacher also had the opinion that honors teachers should have domain specific knowledge which is more up to date and internationally oriented compared to regular teachers.

6.3.3 Conclusion

From the results of the self-scoring list can be concluded that the teachers scored themselves in general very high on the items. From the literature and the competence profile of Truijen (Saxion Programma Excelleren, 2013) can be concluded that the professional attitude of the honors teacher is a very important aspect. The teacher should be critically reflect on his own work, process and attitude and focus on further development continuously. The teachers stated that they have good knowledge and skills on this aspect, but the very high scores overall could imply that some improvement can be made with regard to their professional attitude. The items on which most respondents had a low score are ‘‘indicates having high expectations of the students’’ (2.4) and ‘‘provides little guidance to students during tasks’’ (2.5). No link was found between the years of experience as honors teacher and the average scores of the respondents on the self-scoring list.

From the qualitative data was found that teachers need examples of the general outline of the programme, project or module, examples of didactical methods (activating and cooperative) and assessment methods (more objective and focused on the process). There is also a strong need for tools and techniques for stimulating critical thinking of students. Moreover, some teachers want to learn how to let the students regulate their own learning more instead of trying to control the process as teacher and giving strong guidance. (‘‘let go’’). They want to learn to not intervene anymore to prevent the students from failure and they want to learn to deal with the reactions from the student afterwards failure. So, they want to learn how to deal with the shift from traditional teaching (teacher guided, knowledge transfer) to education more determined by the student. Furthermore, there is a need for a shared vision of all honors programmes at Saxion.

The most distinguishing items for honors teaching according to these teachers were stimulating critical thinking of students and being equal in relationship with the students (engaging in a dialogue with the student).

7 Design

As concluded from the results of the context analysis, for honors education at Saxion the goals are that the students develop critical and reflective thinking, self-regulation in their learning, interdisciplinary working and innovative behaviour. In this research, one aspect of honors teaching is focused on in the design, namely stimulating critical thinking of students. In the following subchapters, the needs for teaching critical thinking and the first design for professional development in this aspect are described. However, from the analyses also a number of general goals, principles and boundary conditions for the design of professional development for honors teaching can be derived. These are described first.

7.1 General goals, principles and boundary conditions for the design

Based on the results of the needs analysis, the following topics are found to be relevant for the professional development of honors teachers:

- The design and application of methods and tasks in which the five goals are promoted
- Guidance methods and techniques for the development of reflective and critical thinking and self-regulation of the student (e.g. coaching/ modelling or questioning techniques)
- Assessment methods for measuring the development of the students with regard to the five goals which are mostly (thinking) skills and attitudes
- The critical reflective attitude of teacher towards his own development
- A shared vision of all honors programmes at Saxion

The principles for professional development of honors teachers are:

- Professional attitude of the teacher as important topic
- There is a start session in which the definition and goals of honors education are discussed to create a shared vision among the teachers
- Examples of methods and tools are presented or discussed
- Learning mainly takes place by social activity (e.g. among colleagues)
- The group consists of teachers from different honors programmes
- For certain topics experts/trainers could be invited
- A course leader with a coordinative and coaching role is present
- Formative assessment is included
- The professional development is continuous
- Attending the trajectory is obligatory for all honors teachers

The boundary conditions are:

- The frequency of the sessions is about four times a year because of time limitations of the honors teachers.
- The costs of the professional development cannot be extremely high because of the challenge of sustainability.

7.2 Stimulating critical thinking of students

The aspect of stimulating critical thinking of students has been chosen as focus of the design because in the literature review was found that critical thinking (CT) is a basis for in-depth reflection of the student and self-regulation of the student in his own learning process. This focus area is also based on the learning needs of the honors teachers from the interviews. In this subchapter a literature review analysis of the concept critical thinking and the methods for stimulating it is described. This has been done to determine the content for professional development of this aspect of honors teaching.

7.2.1 Defining critical thinking

There are multiple definitions of the concept critical thinking. For this analysis, the definition of the American Psychological Association (APA) is used. This definition is as follows: ‘‘We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based (Facione, 1990, p.3)’’. There are six skills determined by the APA, which reflect the core of critical thinking (Facione, 1990, p.12): 1. interpretation; 2. analysis; 3. evaluation; 4. inference; 5. explanation; 6. self-regulation. These six main skills consists of sub-skills, such as categorization, decoding significance and clarifying meaning for interpretation. Besides these skills, APA also determined dispositions for critical thinking, like open-mindedness regarding divergent world views. However, in the definition these dispositions are not mentioned explicitly. Therefore, the emphasis in this analysis is on promoting the skills for critical thinking.

7.2.2 Promoting critical thinking

Many college and university faculties find critical thinking an important objective in their courses, but find it hard to prove that they understand the concept critical thinking and that the students developed critical thinking (Bissell & Lemons, 2006). This is caused by problems with defining the concept and measuring critical thinking (Bissell & Lemons, 2006). For this research the definition of APA is chosen. According to Bissell and Lemons (2006), a higher education institution should choose a definition and apply it consistently.

For assessing general critical thinking, several tests already exist (Bissell and Lemons, 2006). For example, the level of critical thinking in students’ writing can be assessed by use of a taxonomy as rubric (Rickles et al., 2013). Moreover, Bissell and Lemons (2006) developed a methodology for subject-specific assessments that include critical thinking. A scoring rubric for each question was made in which the subject matter and critical thinking skills can be assessed independently (Bissell & Lemons, 2006). So, teachers need knowledge of existing methods for assessing critical thinking and skills to adapt those methods to their education.

For teaching critical thinking, four methods are mentioned at curriculum level: direct instruction, infusion, immersion and the mixed approach (Ennis, 1989 in Abrami et al., 2015).

In direct instruction, the student work in an independent course on the skills and dispositions of critical thinking without connection to subject matter content. In infusion, the students work explicitly on critical thinking goals, but in here subject matter content is used. In immersion, on the other hand, the critical thinking goals are not explicitly formulated. In the mixed approach, the direct instruction is combined with either the infusion approach or the immersion approach. Here, both general critical thinking in an independent course and subject-specific critical thinking are taught. Abrami et al.

(2015) found by meta-analysis that all approaches had a positive influence on the skills and dispositions of critical thinking. However, the mixed approach had the largest effect. Methods at classroom level for teaching critical thinking mentioned in the study of Abrami et al. (2015) are dialogue, authentic instruction and individual coaching. In this study was found that as well by use of dialogue as by providing authentic instruction critical thinking of students is promoted (effect of respectively 0.25 and 0.23). The combination of dialogue, authentic instruction and individual coaching had the largest effect (0.57).

Dialogue can take place by discussion in pairs, small groups or in the whole group, with or without involvement of the teacher (Walker, 2003; Abrami et al., 2015). Other ways are the socratic dialogue, debate or presentations by students with a follow-up discussion. Gokhale (1995) found that collaborative learning activities in which students engage in discussion, evaluate other's ideas and clarify ideas promote critical thinking. Moreover, by reasoning, evaluating and discussing in pairs or groups, students can observe each other's skills, which can also be promotive for critical thinking (Walker, 2003).

Authentic instruction is used to make a connection between critical thinking and the work environment, for example by simulations, games, role plays, problem solving and case studies (Abrami et al., 2015). Individual coaching is used, for example, for correcting errors one-on-one (Abrami et al., 2015). At all these methods, questioning (by the teacher or peers) is very important. By questioning the several skills of critical thinking can be promoted. (Walker, 2003). Besides this, reading assignments (Fopma-Loy & Ulrich, 1999) and written assignments (Walker, 2003) are mentioned as methods for promoting critical thinking. Fopma-Loy and Ulrich (1999) developed critical thinking prompts to use reading assignments for practicing critical thinking skills. An example of a prompt is describing one belief the author of the article holds and describing two alternative beliefs.

Last, for teaching critical thinking the teacher must already be a critical thinker himself at the beginning of the course, but should always stay trying to grow in his critical thinking (Edman, 2002). When the teacher possess these qualities, the method of modelling can be used to promote critical thinking of students. "Teaching CT is most effective if the instructor models CT dispositions and the proper use of CT skills in the very process of instruction (Facione 1990, p.33)".

7.2.3 Learning goals for the honors teacher to promote critical thinking

The literature review analysis leads to a number of learning goals (see Table 11). These learning goals are used as starting point for the design for professional development of honors teachers with regard to promoting critical thinking.

Table 11. Learning goals for the honors teacher to promote critical thinking

Teaching	1. Understand effective methods for promoting CT (discussions, authentic instruction, prompts). 2. Create concrete ideas for promoting CT in your education. 3. Apply the methods effectively in practice in the context of your own programme.
Guidance to students	4. Understand (a) and apply (b) coaching techniques for individual coaching of CT. 5. Understand (a) and apply (b) questioning techniques for promoting CT. 6. Understand (a) and apply (b) techniques for modelling CT skills and dispositions to students. 7. Apply the techniques effectively in practice in the context of your own programme.
Designing education	8. Understand the mixed approach. 9. Create a plan for structured promoting CT in your programme.
Examination	10. Understand assessment methods in which critical thinking is measured accurately, e.g. by rubrics. 11. Create an assessment (questions, criteria) in which critical thinking skills are measured accurately for your own programme.
Professional attitude	12. Understand the definition of CT that is used in the specific educational environment (in this case honors education at Saxion). 13. Evaluate your own CT skills and dispositions. 14. Evaluate your own teaching competences in promoting critical thinking. 15. Formulate points for improvement with regard to your own teaching competences in promoting critical thinking.

The learning goals are on the conceptual, procedural and metacognitive level with regard to the knowledge dimension (see Table 12). With regard to the cognitive process dimension, the goals are mostly on the levels of understanding, applying and creating. The goals at the level of understanding are here prerequisite knowledge in order to apply it or create something.

Table 12. Taxonomy table of the learning goals, adapted from Airasian & Miranda (2002, p.252)

KD \ CPD	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual knowledge						
Conceptual knowledge		Goals 1, 8, 10, 12				Goal 11
Procedural knowledge		Goals 4a, 5a, 6a	Goals 3, 4b, 5b, 6b, 7			Goals 2, 9
Metacognitive knowledge					Goals 13, 14	Goal 15

KD = knowledge dimension and CPD = cognitive process dimension

7.3 Underlying model for the design

Honors teaching, and as part of that promoting critical thinking of students, involves an integrated set of complex learning goals (see Figure 3). The overarching complex skill is honors teaching. The first complex skill is promoting critical thinking of students. This skill is divided in the five topics which contain a number of subskills as mentioned in Table 11. These subskills are at different (and also the more complex) levels of the cognitive process dimension and the knowledge dimension.

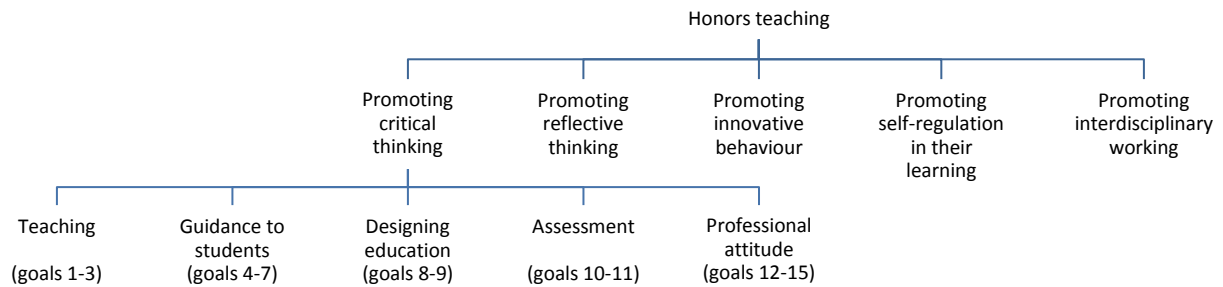


Figure 3. Hierarchy of the complex skills for honors teaching (with a focus on promoting critical thinking).

An instructional design model that is suitable for the learning and transfer of complex competences, is the 4C/ID model of Van Merriënboer (1992). The model is based on the cognitivism approach. Cognitive theories focus on the acquisition of knowledge in which the learner has an active role (Ertmer & Newby, 2013). The 4C/ID model also has characteristics of the constructivism approach. In this theory learning occurs by creating meaning from experiences in the real world (Ertmer & Newby, 2013). In the 4C/ID model, the following four components are essential (Van Merriënboer, Clark & De Croock, 2002):

1. Concrete, authentic learning tasks
2. Supportive information
3. Just-in-time information
4. Part-task practice

According to this model, knowledge is constructed by concrete experiences. The experiences should be authentic and whole task. The learning tasks are sequenced from simple to complex. During the practice of a certain learning task, the learner support decreases till the learner conducts the task independently. Information that supports the learner in the learning and performance of the tasks is important. This (theoretical) information fills the gap between the prior knowledge of the learner and the knowledge that is needed to do the task. Supportive information can be given inductive or deductive and expository or by inquiry (Van Merriënboer et al., 2002). For deep understanding, the inductive-inquiry is very effective, because the learners identify the information that is illustrated in concrete cases. The inductive-expository strategy also starts with concrete cases, but is more time effective, because the teacher/trainer presents the information explicitly after the example. In case of time limitations and if the learners already have some prior knowledge, the deductive-expository strategy (presenting information) can be used.

Furthermore, if the learner needs some specific information during the performance of a specific task, this should be given just in time. This is for example information in order to advise or correct. For subtasks that need explicit practice, part-task practice experiences are provided.

7.4 Global outline of the design for critical thinking

As mentioned before, in this research a first design is made for the aspect of promoting critical thinking of students. In this subchapter a global outline is described and in the next subchapter a concrete design for the first session is described.

Before start with the sessions about critical thinking, a session about honors education at Saxion in general should take place. The purpose of this session is to create a shared vision of all Honors Programmes at Saxion. Based on the analysis of this research, the five main goals of honors education at Saxion are developing critical and reflective thinking, self-regulation in their learning, interdisciplinary working and innovative behaviour of students. The vision can be based on these five goals. When the teachers adopt the same line on honors education, professional development will be more effective. Then, the teachers know why for example promoting critical thinking is a topic.

Global outline of the design for critical thinking			
Session	Content	Goals	Element
1	<u>What is critical thinking and how can critical thinking of students be promoted?(designing concrete ideas)</u> By use of a definition and theoretical information about methods for promoting CT, the teachers brainstorm about ideas and make a concrete design for one idea in pairs.	1,2 ,12	Teaching/ professional attitude
2	<u>Part 1: Evaluating your CT skills and dispositions and applying modelling techniques</u> Exploration of the teacher's own critical thinking skills and dispositions through experiencing it by an exercise. Example of the trainer, discussion of example, practicing modelling techniques by reducing support of the trainer. <u>Part 2: Applying coaching and questioning techniques</u> A trainer gives an example of a situation in which coaching and questioning techniques are used (models) and discussion of techniques afterwards. Discussion of example questions and practicing techniques in different exercises (e.g. role plays in different contexts).	4,5,6, 13	Guidance to students/ professional attitude
	<u>Conducting a lesson (classroom visitations among colleagues)</u> Make pairs, observe one lesson of each other in which a critical thinking element is included and give each other feedback.	3,7, 14,15	Teaching/ professional attitude
3	<u>Part 1: Designing a plan for promoting critical thinking</u> Example and explanation giving by an expert. Making an outline for structured application of critical thinking instruction/ activities in own programme. Exercises for different steps. <u>Part 2: Designing assessment methods</u> Example and explanation giving by an expert. Designing methods for assessing critical thinking in steps (questions, criteria, rubrics/grading).	8,9,10, 11	Designing education Examination
	<u>Conducting a lesson in practice</u> Conduct a lesson in practice in which critical thinking is promoted. Video record (a part of) the lesson. Evaluate your lesson after watching the video recording .	3,7, 14	Teaching
4	<u>Feedback on videotaped lessons and evaluation</u> Sharing experiences, watching video recordings in small groups and giving feedback to each other. Evaluation, setting personal goals for next study year.	14,15	Professional attitude

7.5 Justification of the global design

In the global design for critical thinking all learning goals are included and all general principles (as described in 7.1) can be applied. As described, there is a starting session in which the definition and goals of honors education are discussed to create a shared vision among the teachers. The professional attitude of the teacher with regard to critical thinking and in general is an important topic during all sessions of the design. The professional development is continuous (with critical thinking as first topic) and attending the trajectory is obligatory for all honors teachers. Examples of methods and tools are modelled and discussed. For the topics of session 2 and 3 experts/trainers are invited. For the whole trajectory, a course leader with a coordinative and coaching role is present. The group consists of teachers from different honors programmes and they learn from each other during the sessions. They also learn from each other by the classroom visitations, which are at the same time formative assessments. So, the strategies modeling and coaching, reflection, collaborative learning and discussion are applied in the design.

The four components of the 4C/ID model are applied as well. The complex skill promoting critical thinking is divided in the (whole) learning tasks creating teaching methods, applying guidance techniques in practice, designing education (a structured outline) and designing assessment methods. These are the real world ‘‘problems’’ they work on. There is a strong integration to the real world of the teachers, because they design methods for their own practice and also apply the methods and techniques in their own practice.

In each session, the teachers learn by concrete and authentic experiences, like exercises for practicing techniques (e.g. role plays) or for designing teaching or assessment methods. For example, the task of designing an assessment method can be divided in subtasks for part-task practice, such as designing questions and designing criteria or a rubric. Also, several questioning and modelling techniques are practiced explicitly during the sessions. The trainer has to reduce his support during the different exercises. After this part-task practice, the teacher can integrate and apply the different techniques in practice during the learning tasks of conducting two lessons in practice.

Supportive information is provided in order to support the teacher in the learning and performance of tasks, like designing methods. Theoretical information about existing effective teaching or assessment methods is used as supportive information. For the learning of techniques in session 2 the inductive-inquiry strategy is used, because of the behavioural learning tasks. For the designing tasks in session 3 the inductive-expository strategy is used to provide supportive information. Also just-in-time information can be given during the role plays and designing exercises. The trainer or expert can give advisory or corrective information if the learner needs it for a specific task.

In the 4C/ID model the sequence of the subtasks is emphasized. In the model, the subskills are sequenced by increasing complexity. In this design, it was not entirely possible to rank the different subskills in complexity. The skills are often connected to each other and the element of professional attitude is interwoven in the other elements. However, there is some increasing complexity in the tasks, because training in the teaching methods and guidance techniques takes place first and then the teachers design a structured plan and assessment methods. Also the first lesson in practice has to contain only an element of critical thinking, while in the second lesson in practice promoting critical thinking of student should be a lesson objective. During the conduction of lessons in practice several subskills have to be integrated and also applied effectively in the context. This is more complex than practicing a certain technique in an exercise.

7.6 Design of the first session about critical thinking

Goals of the session:

- The participants understand the definition of critical thinking of APA and know which skills and dispositions are part of it (goal 12).
- The participants understand methods that are found to be effective in promoting critical thinking of students (goal 1).
- The participants create several concrete ideas to promote critical thinking of students in their education (goal 2).

Group formation: 10-12 teachers of different honors programmes.

Role of the teacher: coordinates/facilitates the session, promotes the brainstorming and ask questions for deepening or clarification.

Duration of the session: 90 minutes.

Materials: computer, beamer, powerpoint slides about the definition of critical thinking of APA and the skills and dispositions, paper, pencils, post-its.

Preparation for the participants: the participants read 2 pages with information about the APA definition of critical thinking and the approaches that were found to be effective for promoting critical thinking of students. This information is sent to them by e-mail, as attachment of the invitation.

⌚	Activity	Description	Organisation	Goals
	Preparation of the participants	The participants read 2 pages with information about the APA definition of critical thinking and the approaches that were found to be effective for promoting critical thinking of students.	They received this information by e-mail, as attachment of the invitation.	The participants understand the definition of critical thinking of APA and know which skills and dispositions are part of it. The participants understand methods that are found to be effective in promoting critical thinking.
13.00	Welcome and get to know each other	The participants are welcomed. In the pilot, the context of the session is explained. The research and the choice for CT is explained. Getting to know each other can be done by a short activity, devised by the facilitator. (5 min)	The seats are in a semicircle (no tables in front of them). The participants walk in the room, take a cup of coffee/tea and take a seat in the semicircle. Materials: depends on the activity.	Get to know each other (step 0 and 1).
13.05	Explanation of the session	The global outline of the session is explained (5 min): The goal of the session is come up with several concrete methods to promote critical thinking of students in your education. First there will be a moment for discussion of the theory. Then we will do a brainstorm activity about situations in which CT is needed. From this point we will think of ideas for promoting critical thinking of students and make it concrete.	The participants sit on chairs in the semicircle. Materials:-	Explanation of the goal and the structure of the session (step 2).
13.10	Discuss theory	All participants received information about CT by e-mail. Does anyone want to say something about this theoretical information? (5 min)	The participants sit on chairs in the semicircle. Materials: computer, beamer, powerpoint slides if needed.	Activate prior knowledge (step 3).

13.15	Brainstorm: think of situations in which critical thinking is needed	<p>The participants think of situations in which critical thinking is needed. (25 min)</p> <ol style="list-style-type: none"> 1. Write situations on post-its individually. Then the ideas are being shared and being put on the table (10 min) 2. The participants write new situations again on post-its. The post-its are put on the table (5 min) 3. The participants cluster the ideas, together with the trainer. They shift the post-its and create about 4 categories (5 min) 4. The participants think of themes (titles) at the clusters, together with the trainer. They write the themes on a memo at the clusters (5 min) 	<p>The participants sit on chairs in the semicircle. Then they go standing around the tables for the moment of sharing, clustering and thinking of themes.</p> <p>Materials: pencils, post-its.</p>	<p>The participants brainstorm about situations in which critical thinking is needed as preparation for out of the box thinking of concrete methods in education (step 5,6,7).</p>
13.40	Break (5 min)	-		-
13.45	Design: think of ideas for promoting critical thinking of students and make it concrete	<ol style="list-style-type: none"> 1. They split up in pairs and each pair thinks of ideas for promoting critical thinking of students for one cluster. (10 min) 2. Each pair makes one idea concrete. (10 min) 3. Short moment of sharing and choose one idea you want to apply in your practice. (5 min) 	<p>The participants split up in pairs and take seats behind a table.</p> <p>Materials: pencils, paper.</p>	<p>The participants create several concrete ideas to promote critical thinking of students in their education (step 5,6,7). The participants tell what they want to do with the obtained knowledge/ ideas (step 9).</p>
14.10	Evaluation	<p>Evaluation of the session with the whole group (20 min). (the evaluation is this elaborative, because of the pilot testing. In the pilot the researcher will evaluate with the participants, normally the teacher/facilitator will do this.) The following aspects are evaluated: general impression, goals, activities, role of facilitator, group formation, time.</p>	<p>The participants sit on chairs in the semicircle.</p>	<p>Discuss how the participants experienced the session and what they think of it (step 8).</p>

7.7 Justification of the design of the first session

The learning goals 1, 2 and 12 are focused on in this session. For this session, the definition of APA is used, since no shared definition of CT was used yet at Saxion.

The design concerns a short session because of the pilot testing. Normally, a course would be planned long in advance and the lectures would be planned around this course. For the pilot in this research, the participants have to be available at short notice (about one month) and participate on voluntary basis. Therefore, it is not possible to test a session that takes longer than 90 minutes. For this context, a concrete design is constructed.

The whole learning task is to design teaching methods for promoting critical thinking, which is a meaningful task for the teachers. The first learning task is to brainstorm about situations in which critical thinking is needed. In the brainstorm activity, the technique of divergent thinking is used in order to come to new insights (Bytsebier, 2011). This brainstorm activity is a preparation for out of the box thinking of concrete methods for promoting critical thinking in education (the second task). The teachers create one concrete idea in pairs. The teachers learn by interacting and ‘‘doing’’, so concrete experiences are used. The first task is less complex than the second.

For the ‘‘real’’ session (which would take more time), the task of creating concrete ideas could be elaborated and be divided in steps. The trainer could give an example of an idea and discuss it with the group. Then an exercise with the whole group could be provided and subsequently an exercise in pairs. First designing by a worksheet or a given context could be done before designing an idea without learner support. Also a specific skill in the designing task, could be practiced explicitly. At this way the aspects of 4C/ID model of increasing complexity, reducing learner support and part-task practice could be better applied in the session.

The teachers receive theoretical information about the definition and methods on beforehand, so that the time of the session can be used to make ideas concrete. When they have some examples of very concrete ideas for promoting CT, the step of applying ideas in practice will probably be easier for the teachers. So, a deductive-expository strategy for providing supportive information is used in this design, because of time limitations. In the real session, this information can better be discussed (ideally by inquiry) after presenting some examples of methods in which dialogue or authentic situations etcetera are used. The just-in-time information will be given by the trainer during the session, if a teacher needs specific information during the brainstorm or design activity. During the design activity, the trainer walks around and listens to the discussion of the pairs and looks at their work in order to give advisory or corrective information. Moreover, the constructivistic instructional strategies collaborative learning and discussion are applied clearly in this session.

In order to create a structured session, the outline of the first session is based on the nine steps of Gagné (Gagné, 1974 in Coppoolse & Vroegindewij, 2010). The nine steps are as follows:

Begin of a course

Step 0: Introduction

Begin of a lesson

Step 1: Gain attention

Step 2: Explain the learning goal

Step 3: Activate prior knowledge

Core of the lesson

Step 4: Presentation of the content

Step 5: Practice/ Guide the learning process

Step 6: Elicit performance

Step 7: Give feedback

End of the lesson

Step 8: Evaluation of the product and process

Step 9: Enhance retention

In the design of the first session, the application of the steps can be found in the right column, the column of goals. In this design, step 4 is left out in the structure of the lesson, because the participants received the theoretical content on beforehand. Step 5, 6 and 7 can be taken together in the brainstorm and design activity. Step 8 is placed after step 9 because the pilot session is evaluated elaborately. In natural conditions, step 9 will be the final step of the session.

8 Test and evaluation

In this chapter is described how the design of the first session about critical thinking is tested and evaluated. The main question of this phase is: How do honors teachers evaluate the design after participating in the pilot session?

8.1 Pilot session

The design is mainly tested on local viability to explore the use of the design in the context (McKenney & Reeves, 2012). For this purpose, a pilot has been conducted with eight participants. The participants were invited by e-mail in which they also received information about the context of the pilot. Participation was on voluntary basis and teachers from different faculties participated on the session for variation in the sample. Non-natural conditions in this pilot are the small group size of participants and the presence of the researcher/designer for observation during the session. A trainer in creative thinking and innovation at Saxion was asked to be the facilitator of the session. By this natural condition a better sense of how the session would perform in the real context can be attained.

8.2 Evaluation

Evaluation of the pilot session was conducted by observation by the researcher during the session and a focus group evaluation at the end of the session. The focus group consisted of the participants from the pilot session. The experiences of the participants of the session and their perceived value of the session are examined. The evaluation was conducted by use of an agenda (see Appendix H). The observation concerned the same aspects as the focus group evaluation and in addition the participation of the participants. The results of the observation and focus group evaluation are used complementary.

The general impression of the participants was positive. They had the opinion that the activities lead to active participation. This is supported by quotes as ‘‘very active’’, ‘‘active participation’’, ‘‘good pace’’, ‘‘I learned from this session that movement, standing, walking, sitting, the variation in it, leads to an active attitude, that energy can you use then for critical thinking’’.

The goal of the session to come up with concrete ideas for promoting critical thinking of students was clear and a good goal according to the participants. One participant mentioned that he wanted to develop something that is applicable to all faculties and that he found that hard to do and thinks that the idea becomes weaker when it is generalized. For one participant it was not always clear during the session how a certain activity was related to the goal.

With regard to the activities, a second round for brainstorming individually was not needed according to the participants, so the facilitator decided during the session to continue with clustering the ideas. Categorizing the ideas on the post-its was not useful according to some participants. The facilitator thought the reason for this is that only a small part of the ideas the participants had written on the post-its were about concrete situations in which critical thinking is needed (in real life). The purpose was to develop from that point ideas for out of the box methods for promoting critical thinking in education. However, a lot of ideas contained skills for critical thinking, parts of definitions, ways to promote critical thinking as teacher or very broad subjects like ethical, social and political issues. This made it difficult to categorize the ideas. By observation of the activity was found that some participants had a more prominent role than others during the brainstorm activity. Therefore, the method in pairs for the design activity was a good variation. For the design activity, an improvement can be to give on beforehand a time indication, because some pairs started writing down their idea very late.

The participants thought the information about the APA definition and approaches was not needed for the activities of this session. Instead, the participants would have liked to start with an experience in which a teacher aims to promote critical thinking of others or in which the teacher experiences a critical thinking experience as a student. So, the teachers prefer the inductive strategy over the deductive strategy for receiving supportive information. Mentioned reasons for this are to start with experiencing what critical thinking is and with testing if they already have adequate critical thinking ability. Another reason is to map the problems they encounter to start from that point with developing ideas. For this also a good image of the target group (the honors students) is necessary. Also discussion of best practices of the teacher in the group would be useful according to some participants.

The participants all thought the facilitator had a coaching role, that his guidance was clear, that the guidance was of the right amount/strength and that he guided in a questioning way. They also thought it was useful to have a group with participants from different faculties.

Concerning the time schedule of the session, an entry time of about ten minutes should be taken into account, because the participants entered between one and ten past one. The duration of the brainstorm activity was a bit too long according to the participants, especially the part of categorizing the ideas. They would have wanted more time for the design activity in pairs. The total duration of the session can be longer in order to have time to make the ideas more concrete according to the participants. The participants had the opinion that there should not be determined when the teacher applies one of the designed ideas in practice. They do think that at the second session should be discussed what the teachers have done with the ideas/information of the first session.

In conclusion, the general impression of the participants was positive, because of the active participation during the session. The goal of the session to come up with concrete ideas for promoting critical thinking of students was clear and useful according to the participants. At the brainstorm activity, a lot of ideas contained skills, definitions, methods for promoting critical thinking or very broad subjects instead of concrete situations in which critical thinking is needed (in real life), which made it difficult to categorize the ideas. So the question for this activity can be formulated more clearly. The participants would have liked to start with a critical thinking (teaching) experience before developing ideas to promote critical thinking. The participants liked the coaching style of the facilitator regarding the amount of guidance and found it useful to have a group with participants from different faculties. Concerning the time schedule of the session, an entry time should be taken into account and the total duration can be longer in order to have time to make the ideas more concrete.

9 Discussion and recommendations

The aim of this research is to examine what is a good way to professionalize teachers in honors education at Saxion and secondly to make a first step in the design process for professional development in one aspect of honors teaching. For this a design research consisting of four phases (context analysis, needs analysis, design construction and test/evaluation) has been conducted.

There are three main findings of the context analysis. First, for honors education at Saxion the aim is that the students develop into excellent professionals, which means that they develop critical and reflective thinking, self-regulation in their learning, interdisciplinary working and innovative behaviour (the five goals). Second, the honors students at Saxion are selected on motivation, creativity, learning ability and in some cases domain-specific abilities. Regarding the high drop-out number, the current selection procedure or the honors education might need improvement. Third, for honors teachers at Saxion, no specific courses are offered at Saxion and no selection procedure is used. Furthermore, there are no general performance criteria set and there is no clear, common appraisal cycle used for honors teachers at Saxion.

Based on the results of the needs analysis, five topics are found to be relevant for the professional development of honors teachers. The first topic is the design and application of methods and tasks in which the five goals are promoted. The second topic includes guidance methods and techniques for the development of reflective and critical thinking and self-regulation of the student (e.g. coaching/modelling or questioning techniques). From the interview results can be concluded that there is a strong need of honors teachers for professional development with regard to this topic. For example, some teachers want to learn how to let the students regulate their own learning more, instead of trying to control the process as teacher and giving strong guidance. Also to the third topic was referred a lot by the interviewed honors teachers. This topic contains assessment methods for measuring the development of the students with regard to the five goals which are mostly (thinking) skills and attitudes. Furthermore, the critical reflective attitude of the teacher towards his own development was found to be a relevant topic. From the literature and the competence profile of Truijen (Saxion Programma Excelleren, 2013) can be concluded that the professional attitude of the honors teacher is a very important aspect. The remarkably high scores of the honors teachers on the self-scoring list could imply that some improvement can be made with regard to their professional attitude. Last, there is a need for a shared vision of all honors programmes at Saxion.

For one aspect of honors teaching, promoting critical thinking of students, a design was made. By literature review several learning goals for the teacher to promote critical thinking of students are found. These goals are structured by the elements teaching, guidance to students, designing education, examination and professional attitude as teacher. A global design for promoting critical thinking is constructed based on the 4C/ID model. This design consists of four sessions and covers all the elements mentioned above. A concrete first design for the first session is constructed. This session covers the learning goal to understand the definition of critical thinking that is used in the specific context and the goal to understand effective methods for promoting critical thinking of students. Moreover, the teachers worked on the goal to create detailed designs of methods for application in their education.

To explore the use of the design of the first session in the context of Saxion, a pilot was conducted. At the end of the pilot session, the session was evaluated by a focus group consisting of the participants of the pilot. The general impression of the participants was positive, because of the active participation during the session. The goal of the session, to come up with concrete ideas for promoting critical

thinking of students, was clear and useful according to the participants. The participants would have liked to start with a critical thinking (teaching) experience before developing ideas to promote critical thinking, instead of reading information about a definition and approaches. The participants liked the coaching style of the facilitator regarding the amount of guidance and found it useful to have a group with participants from different faculties. The total duration of the session should be longer in the real context in order to have time to make the ideas more concrete and for better application of the aspects of increasing complexity, reducing learner support and part-task practice of the 4C/ID model.

The research was exploratory because professional development of honors teachers at Saxion and in general is in its starting phase. No studies were found in which effects of trajectories were measured, only a study which describes the opinions and experiences of honors teachers with regard to the trajectory. Another limitation for constructing a design was the lack of clarity about honors education at Saxion. By an elaborate context analysis five general goals for honors education at Saxion were determined and this was used as starting point for the needs analysis and the design for professional development of the teachers.

There are three recommendations that can be derived from this research. First, a shared vision on honors education at Saxion is needed for: the honors teachers to adopt the same line at global level, for the professional development of the honors teachers and to have a common appraisal cycle for all honors teachers. The five goals can be used as starting point for the shared vision. Second, the critical reflective attitude of the honors teachers is found to be an important topic for professional development. The results of the needs analysis at Saxion imply that the honors teachers have a high self-efficacy with regard to the competences for honors teaching. For professional development in all aspects of honors teaching it is important that teachers develop a critical reflective attitude with willingness to learn. At Saxion there is a strong need among honors teachers for feedback of colleagues (e.g. exchange of ideas, classroom visitations). For this feedback to be effective, it should also contain constructive critical feedback on each other's teaching skills, methods and ideas. Third, more measurements within honors education at Saxion and more use of literature could provide valuable information about the effectiveness of teaching methods. By document analysis and interviews with teachers at Saxion in the analysis and exploration phase no information about effect measurements of certain teaching methods was found. Also literature was of no added value for the activities during the pilot session according to the participants. However, literature can be used as source for best practices and as a useful starting point for development of new methods. Experimentation with new ideas and methods can take place, but to be able to draw reliable and valid conclusions about the effectiveness of the methods effect measurement has to be conducted. Based on these conclusions adjustments can be made.

So, as an answer to the main question, a good way to professionalize teachers in honors education at Saxion is to develop a shared vision on honors education and pay attention to the critical reflective attitude of honors teachers and to effect measurements of methods. The trajectory for professional development covers promoting the five goals (e.g. critical thinking) and is based on the 4C/ID model.

In future research, the complete design for critical thinking can be constructed. After more thorough analysis of honors teaching with regard to the other four goals (reflective thinking, self-regulation in their learning, interdisciplinary working and innovative behaviour), also professional development for these aspects can be designed. After a try-out of the design, research can be done to measure if the professional development had a positive effect on the teaching skills of the honors teachers and the development of the students, which is the final goal after all.

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11 Appendices

Appendix A Analysis of the basic didactical qualification at Saxion

The documents that are used for this analysis are:

Saxion (2016). Basiskwalificatie Didactische Bekwaamheid: Opzet en verantwoording.

Saxion Dienst HRM (n.d). Rapportage Certificering: Certificering Saxion docenten.

Furthermore, the information from the interview with the coordinator of the course is used to complement this analysis.

Some aspects of the curricular spider web are focused on more than other aspects. The learning content and goals are the most important aspects, because this is assumed as the minimal current level of the teachers in the discrepancy analysis. Besides this aspect, also the vision, learning activities, role of the teacher and assessment are thoroughly analyzed because this information gives insight in to which form of professional development the honors teachers are used to. The interview also asks for positive reactions and critics of the teachers on the course and the view of the coordinator is on further professional development of the teachers. All this information can be used for the design of the course for honors teaching.

Vision

The course for basic didactical qualification is based on a nationwide protocol, which is not yet specified. The concrete outline is constructed according to the vision of Saxion: ‘‘ Learning is active, constructive, cumulative and context-related’’. The definition of teacher quality used by Saxion is based on the vision on teaching of Stronge (2007). Here, a distinction is made between the quality of the teacher as person and the quality of the professional teaching skills.

The goal of the course is that the teacher has experienced a growth in his development and has developed learnability and that he will keep developing after completing the course. The completion of the BDB course is seen as a starting point for further development. During the course the teachers learn the basic competences for teaching, but most importantly, they learn to act consciously and how they can develop themselves.

Learning content

The learning content is based on the nationwide protocol which contains five core elements of the teacher:

- Teaching (in Dutch; doceren)
- Guidance to students (in Dutch; begeleiden van studenten)
- Educational design (in Dutch; ontwerpen van onderwijs)
- Examination (in Dutch; toetsen)
- Professional attitude as teacher (in Dutch; professioneel docentschap)

Goals

The assessment aspects are based on the five core elements. They need to attain a sufficient score on each assessment item in order to pass the course. Here, a summary of the assessment aspects is given. Teaching: the teacher prepares, gives and evaluates his lessons. The teacher presents the goals clearly, chooses justified methods and uses a variation of methods.

Guidance to students: the teacher guides students in their learning process and promotes transparent interaction, also among students. The teacher has adequate communication skills and motivates the students.

Educational design: the teacher designs education and materials which align with the programme profile, the curriculum and address the perceptions of the students.

Examination: the teacher designs exams which are valid, reliable, transparent. The teacher analyses the test results and test items and writes proposals for improvement.

Professional attitude as teacher: the teacher works systematically on his professional development by reflection and a personal development plan.

According to the coordinator the teachers have most trouble with the justification of their choices based on literature. Their reflection has to be linked to theoretical insights and should not only be based on their feelings and intuition. This is also applicable to the BKE part for a lot of teachers.

Learning activities

The course contains thirteen sessions consisting of nine plenary sessions, two individual appointments and two intervision meetings. Plenary sessions are a start session, workshops, lectures and question sessions. An individual appointment takes place at the start and end of the course. During the intervision sessions video recordings of each other's lessons are being watched and discussed by use questions prepared by the participant who shows his video.

Role of the teacher

The role of the teacher depends on the type of session. When there is a training session, the participants are actively participating, for example in a role play. When the content of the session is very technical, the role of the participants is alternately passive and active during the session. In none of the sessions the participants are only listening for the whole session. The teacher has a restrained role during the intervision sessions. He makes sure there is a safe environment during the session and that the content of the discussion is relevant.

Assessment

First a knowledge test is taken (reproduction of the theory in the literature), so that the teacher can justify his methods, acting and reflection from theory. Passing this test is a prerequisite for submission of the assignments. The final assessment is only with regard to the assignments. The assignment for educational design consists of presenting two video recordings of their own lessons in which an intervention is shown. Teaching and guidance to students are assessed by a report of a classroom observation by an educational scientist. For the element examination, the teacher hand in their BKE-file in which they proof they master all the steps of examination. For the element professional attitude as teacher, they write and justify a personal development plan

The coordinator thinks that the assessment should be seen more as a formative assessment and not just as a summative assessment. This can lead to behaviour of participants that is risk avoiding and that they do not always use the tasks and activities as opportunity to learn optimally. The competences are formulated in such a way that the participants are stimulated to describe their personal learning goals.

Resources and materials, group size, location, time

The learning material for the participants is the book ‘ ‘ Leren (en) Doceren in het Hoger Onderwijs’ ’ of Kallenberg et al. (2000). The groups consist of eight to sixteen participants. The sessions are located at Saxion Enschede or Deventer. The course contains thirteen sessions and takes five months. The estimated workload of the course consists of 240 hours.

Experience of the participants

Overall rating is of participants very positive, between the eight and nine on average. They appreciate the room for reflection and find the learning content useful. Some participants want to see more room for reflection and less theory and some participants want to see the opposite.

Critic of participants is also that the workload is heavy, the combination of attending the course and being a starting teacher. The amount of hours teachers get dispensation to spend on professional development differs per academy and ranges between 80 and 240 hours for this course.

According to the coordinator, most participants are willing to start with the course, because they have the need to learn didactical tools. Some people say they participate because it is obligatory, but those people expect that no activating methods for the participants will be used during the sessions.

Recently, there is more demand for ‘ ‘working examples’ ’ according to the coordinator. A working example could be a teacher who has completed the course and tells about success factors and threat factors.

Personal view of coordinator on further development

Teachers already make more use of the courses provided by Saxion according to the coordinator. He would still like to see that the goals of Saxion are specified into faculty goals and that there is translation of these goals from the supervisor to the teacher. Subsequently, a connection should be made between these goals and the personal goals of the teacher. The goals change over time and new goals are set continuously.

Appendix B Analysis of the perspective of honors teachers at Saxon

The results of the analysis of the perspectives of the honors teachers at Saxon are shown in the table. Here, the ideas or opinions of the teachers on the different aspects of professional development and the number of respondents who mentioned it can be found.

Overview of results about the form of professional development

Answers	Frequency
Vision	
Continuous professional development	5
Professional development for a certain period	2
Basic qualification for new honors teachers	3
Learning activities	
Lectures, workshops or trainings with a certain theme	3
Intervision sessions with colleagues (sharing experiences and ideas)	4
Structured trial and error	1
Classroom visitations among colleagues	5
‘‘Internship’’ with a colleague for one quartile	1
Theater	1
Weekend with teachers and students for inspiration	1
Outdoor activity	1
Coaching among colleagues (one-on-one)	1
Role of teacher	
No teacher needed	3
A teacher who has a coordinative, structuring role.	4
Assessment	
No assessment	1
Knowledge tests	1
Students involved	3
Peer assessment among teachers	4
Job interview with course director for each programme every year	1
Group size/formation	
Teachers from different honors programmes	7
Regular teachers involved	2
Students involved	3
Time	
One period of five months (‘‘internship’’)	1
Two sessions a year.	1
Four sessions a year.	5

Appendix C Analysis of the trajectory for honors teaching of the University of Utrecht

The document ‘‘Honours didactiek in een leergang voor honours docenten’’ of Ten Berge & Van der Vaart (2014) is used as source for this analysis.

Learning content and goals

Obtain knowledge about:

- Evidence based knowledge about honors teaching (characteristics of honors students and honors teaching and teacher characteristics and skills).
- Developments in honors education at the University of Utrecht

Conducting an intervention in practice

Learning activities

At the first session the teachers get to know each other and get information about the course. The characteristics of honors students and honors teaching and the teacher characteristics and skills are discussed by research literature and a guest speaker. Then there are two intervision sessions about the plans for interventions in practice. New developments in honors education at that university are discussed. Subsequently there is time for discussion, informal conversations and taking a look at the reading table. Then the participants conduct their intervention in practice and have an individual meeting with one of the course leaders.

At the second session two themes are discussed by guest speakers. The themes are based on the learning needs indicated by the participants on the evaluation form in the first session. Examples are: community forming, reflection and portfolios in honors education, group work/projects in honors education. Then there is an intervision session to discuss the progress of the intervention. This discussion takes place in small groups of 3 or 4 participants who ask questions and give suggestions. At the end there is time for informal conversations. Then the participants conduct their intervention in practice and have an individual meeting with one of the course leaders again. At the third session the participants present their intervention and discuss the learning outcomes of the course.

Resources and materials

An amount of literature and research findings for inspiration is provided.

Role of the teacher

Two course leaders with a coordinative role according to my interpretation.

Location

Two of the three sessions are at a conference centre to be away from the daily practice. The last session was at the university.

Group size/formation

Teachers from different faculties and departments together in a group of eleven to fourteen participants.

Time

There are three sessions in about four months. The first sessions takes 24 hours, the second session takes one work day (9 am. till 5 pm) and the last sessions takes an afternoon (1 pm till 5 pm).

Experiences of the participants

Reactions of participants were that they got a lot of new insights and tools for improvement of honors teaching and that the transfer of theoretical insights to practice was useful. Learning outcomes of the course according to the participants were that they came more out of their comfort zone and that there was more experimentation and differentiation in their teaching. Other outcomes mentioned were that they dared to be more authentic and had more personal contact with the students.

So, in this trajectory, experts are invited who can provide an overview of state-of-the-art-insights. Besides, there is much time for the participants to talk to each other and get to know each other in an informal way. The participants conduct an intervention in their education simultaneously to the duration of the course and discuss the progress of the intervention during the sessions. This discussion takes place in small groups of 3 or 4 participants who ask questions and give suggestions (intervision method). The experiences of the participants turned out to be very positive.

Appendix D Competence profile of honors teachers at Saxion

1. Vakinhoudelijk grensoverstijgend

- 1.1 Zoekt en beoordeelt (wetenschappelijke) informatie
- 1.2 Gebruikt relevante en actuele kennis uit meerdere disciplines
- 1.3 Integreert nieuwe kennis in bestaande kennis
- 1.4 Zoekt actief naar uitdagende vraagstukken in kenniscentra of de beroepspraktijk
- 1.5 Komt tot nieuwe, originele toepassingen en ideeën in het onderwijs
- 1.6 Kan literatuur koppelen aan actuele (praktijk) ontwikkelingen
- 1.7 Herkent en onderzoekt internationale trends en ontwikkelingen die relevant zijn voor het onderwijs

2. Professioneel inspirerend

- 2.1 Bouwt aan functioneel netwerk
- 2.2 Zet netwerken doelgericht in
- 2.3 Kan samenwerken om problemen samen op te lossen
- 2.4 Zoekt mogelijkheden om problemen samen op te lossen
- 2.5 Stelt het gezamenlijk belang boven het eigen belang
- 2.6 Enthousiasmeert en stimuleert studenten
- 2.7 Is persoonlijk betrokken

3. Professioneel leren en maatschappelijk bewustzijn

- Staat open voor nieuwe kennis, ontwikkelingen en oplossingen uit andere disciplines
- Is continu bezig zichzelf verder te ontwikkelen
- Toont inzet die ambitieus, gedreven en gepassioneerd is, om de student verder te ontwikkelen
- Is communicatief vaardig, schriftelijk en mondeling
- Kan studenten overtuigen van onbekende, nieuwe inzichten
- Onderzoekt nieuwe trends en ontwikkelingen in eigen en andere disciplines
- Heeft oog voor ethische en maatschappelijke vraagstukken
- Zoekt actief naar nieuwe kansen en mogelijkheden voor het onderwijs

4. Methodologische kwaliteit en wetenschappelijke attitude

- Maakt onderbouwde afwegingen
- Evalueert gebruikte onderzoeksstrategieën
- Stelt nieuwe (wetenschappelijke) vragen aan studenten
- Zet analytisch vermogen in om te komen tot nieuwe onderwijsontwikkelingen
- Is in staat om toegepast onderzoek uit te voeren
- Is in staat om onderzoeksresultaten te publiceren

- Doet actief aan kennisoverdracht door eigen kennis en ervaringen te delen met studenten

5. Excellent reflectief vermogen

- Beschikt over metacognitieve (leer)vaardigheden (zoals doelen stellen, plannen, analyseren en evalueren)
- Kan eigen ervaringen kritische evalueren
- Reflecteert op, en beoordeelt bestaande onderwijsmethoden en kennis
- Gaat steeds na of werkzaamheden datgene hebben opgeleverd wat er op voorhand van werd verwacht
- Kan originele oplossingsmogelijkheden ontwikkelen voor onderwijs vraagstukken
- Gebruikt feedback van studenten om vanuit dat gezichtspunt te reflecteren op het onderwijs
- Ziet onderwijsproblemen als een uitdaging
- Kan verbeterdoelen stellen aan zichzelf

6. Gedifferentieerde profielontwikkeling

- Is continu op zoek naar verbetering van zichzelf
- Is continu op zoek naar verbetering van het onderwijs

7. Begeleidingsrelatie docent – student

- Kan zich verplaatsen in de student en zijn/haar vaardigheidsniveau
- Gaat in gesprek met de student over mogelijke verbeterpunten
- Probeert mogelijke toekomstige kansen en problemen van de student te begrijpen
- Kan bij het geven van feedback zichzelf verplaatsen in de student en zijn/haar situatie
- Gaat gelijkwaardig om met studenten

Appendix E Self-scoring list of the competences for honors teachers

Op deze zelfscoringslijst scoort u uw eigen kennis/vaardigheden/houding met betrekking tot uw lesgeven binnen een Honors Programma. Zet bij elk item een kruis in één kolom (1 t/m 5 of n.v.t.). De betekenis van de schaal is volgt:

1. Zeer weinig kennis/vaardigheden
 2. Weinig kennis/vaardigheden
 3. Redelijke kennis/ vaardigheden
 4. Goede kennis /vaardigheden
 5. Heel goede kennis/vaardigheden
- n.v.t. Niet van toepassing

1.	Doceren	1	2	3	4	5	n.v.t.
1.1	Maakt gebruik van activerende werkvormen in zijn onderwijs						
1.2	Maakt gebruik van coöperatieve werkvormen in zijn onderwijs						
1.3	Stimuleert in zijn onderwijs kritisch denken van studenten						
1.4	Doet actief aan kennisoverdracht door eigen kennis en ervaringen te delen met studenten						
1.5	Inspireert studenten door zijn eigen passie te laten zien						
1.6	Zet netwerken doelgericht in voor zijn onderwijs						
2.	Begeleiden van studenten	1	2	3	4	5	n.v.t.
2.1	Gaat gelijkwaardig om met studenten						
2.2	Laat in zijn onderwijs de studenten reflecteren op hun eigen werk en werkwijze						
2.3	Geeft de (individuele) studenten regelmatig feedback						
2.4	Geeft aan hoge verwachtingen van de studenten te hebben						
2.5	Geeft de studenten weinig sturing bij opdrachten						
3.	Ontwerpen van onderwijs	1	2	3	4	5	n.v.t.
3.1	Reflecteert op, en beoordeelt bestaande onderwijsmethoden en kennis						
3.2	Komt tot nieuwe, originele toepassingen en ideeën in het onderwijs						

3.3	Gebruikt relevante en actuele kennis uit meerdere disciplines voor het ontwerpen van onderwijs						
3.4	Zoekt actief naar uitdagende vraagstukken en opdrachten in kenniscentra of de beroepspraktijk						
3.5	Ontwerpt onderwijs waarbij de studenten ruimte krijgen om eigen, nieuwe ideeën te ontwikkelen						
3.6	Ontwerpt onderwijs waarbij studenten interdisciplinair denken/werken						
3.7	Heeft oog voor ethische en maatschappelijke vraagstukken in zijn onderwijs						
4.	Toetsen	1	2	3	4	5	n.v.t.
4.1	Gebruikt toetsvormen die passend zijn bij de leerdoelen binnen honors onderwijs						
4.2	Richt zich bij beoordelingen ook op het proces						
5.	Professioneel docentschap	1	2	3	4	5	n.v.t.
5.1	Kan samenwerken (met collega's en studenten) om problemen samen op te lossen						
5.2	Toont inzet die ambitieus, gedreven en gepassioneerd is, om de student verder te ontwikkelen						
5.3	Herkent en onderzoekt (internationale) nieuwe trends en ontwikkelingen in eigen en andere disciplines die relevant zijn voor het onderwijs						
5.4	Zoekt actief naar nieuwe kansen en mogelijkheden voor het onderwijs						
5.5	Beschikt over metacognitieve (leer)vaardigheden (zoals doelen stellen, plannen, analyseren en evalueren)						
5.6	Kan eigen ervaringen kritisch evalueren						
5.7	Gebruikt feedback van studenten om vanuit dat gezichtspunt te reflecteren op het onderwijs						
5.8	Is continu bezig zichzelf verder te ontwikkelen						

Appendix F Interview schedule honors teachers

Inleiding (5 min)

Uitleg over het onderzoek, het interview, de voorwaarden, bespreken van vragen van de deelnemer en het ondertekenen van het informed consent form.

Het invullen van de zelfscoringlijst door de deelnemer (5 min)

Het bespreken van leerbehoeften aan de hand van de zelfscoringlijst (25 min)

Uitleg van de volgorde ‘‘hoe doe je dit nu?’’, ‘‘hoe zou je het willen doen?’’ en ‘‘wat heb je daarvoor nodig?’’ en dat de focus ligt op ‘‘wat heb je ervoor nodig om van dit punt naar het gewenste niveau te komen?’’

1. Uitgelichte items (1.1-1.3, 2.1/2.2, 3.5/3.6, 4.1, 5.8) en opvallende hoge of lage scores

- Bij 1.1-1.3 en 3.6 eerst:
 - Wat versta je onder activerende/coöperatieve werkvormen/ kritisch denken/ /interdisciplinair denken?
- Hoe komt dat nu voor in je onderwijs? Hoe doe je dat precies?
 - Bij lage scores:
 - Waardoor doe je dit weinig? Vind je dit lastig? Zo ja, waardoor vind je dit lastig?
 - Bij hoge scores:
 - Hoe heb je geleerd om het zo te doen? Ben je daar in gegroeid? Zo ja, hoe ben je daar in gegroeid?
- Hoe zou je het willen zien in het onderwijs?
- Wat heb je daarvoor nodig?

2. Overige leerbehoeften

- Is er nog bepaalde kennis of een houding of zijn er nog vaardigheden die honors docenten volgens jou nodig hebben, maar die ontbraken op de zelfscoringlijst? Welk cijfer zou je jezelf daarop geven? (vervolg met bovenstaande vragen: hoe komt dat nu voor? lage/hoge score etc.)

Het bespreken van de gewenste vorm voor professionalisering (10-15 min)

- Wat zou volgens jou een goede manier zijn om honors docenten te professionaliseren? (qua leeractiviteiten, rol van de docent, groepering, tijd en beoordeling)
 - Hoe wordt de kwaliteit van de competenties van de docenten daarbij gewaarborgd?

Indien nog niet ter sprake gekomen bij bepaalde items:

- Wat zou specifiek voor de aspecten die je net hebt genoemd een goede manier zijn om honors docenten te professionaliseren?

- Wil je verder nog iets kwijt over professionalisering van honors docenten?

5. Afsluiting (1 min)

Bedanken en contactgegevens van onderzoeker geven.

Appendix G Code tree interviews honors teachers

Leerbehoeften

Doceren

Activerende werkvormen
Coöperatieve werkvormen
Kritisch denken
Passie laten zien
Netwerken inzetten

Begeleiden van studenten

Gelijkwaardigheid
Reflectie van student
Feedback geven
Weinig sturing geven

Ontwerpen van onderwijs

Reflecteren op bestaande methoden
Ruimte voor innovatief gedrag
Interdisciplinair werken
Ethische vraagstukken

Toetsen

Professioneel docentschap

Metacognitieve vaardigheden
Eigen kritische reflectie

Overige competenties

Vorm van professionalisering

Visie
Leeractiviteiten
Groepssamenstelling
Rol van docent
Tijd
Assessment

Appendix H Agenda of the evaluation

General impression

1. Wat vond je van de bijeenkomst in het algemeen?
2. In hoeverre heb je de bijeenkomst als nuttig/leerzaam ervaren?
3. In hoeverre kwam het verloop van de bijeenkomst overeen met je verwachtingen?

Learning goals

4. Wat vond je van het doelen de bijeenkomst?
5. In hoeverre heb je de doelen bereikt voor je gevoel?
6. In hoeverre heb je nu praktische handvaten voor in je eigen onderwijs opgedaan? Zou je hier nu direct mee aan de slag kunnen?

Learning activities

7. Wat vond je van de opzet van de sessie?
8. Wat vond je van de activiteiten (met name de brainstormactiviteit en de uitwerkactiviteit)?

Role of the teacher

9. Hoe heb je de rol van de docent ervaren? En wat vond je daarvan?
10. Wat vond je van de instructie van de docent? Was er te veel of te weinig instructie? Was het duidelijk genoeg?
11. Wat vond je van de begeleiding van de docent tijdens de activiteiten? Was er te veel of te weinig begeleiding?

Group formation

12. Hoe vond je het om met docenten van verschillende academies samen deel te nemen?

Time

13. Wat vond je van de totale duur van de bijeenkomst?
14. Wat vond je van de tijdsverdeling over de verschillende activiteiten?
15. Was er genoeg tijd om de activiteiten naar tevredenheid af te ronden?

16. Wil iemand verder nog iets kwijt over de bijeenkomst?